THE ART AND SCIENCE OF HEROISM AND HEROIC LEADERSHIP

EDITED BY: Scott T. Allison, James K. Beggan and Olivia Efthimiou
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THE ART AND SCIENCE OF HEROISM AND HEROIC LEADERSHIP

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Heroism is a rich, elusive phenomenon. Any adequate understanding of heroic behavior requires a new type of scholarly imagination, one that taps into human artistic sensibilities as much as it does the rigors of scientific inquiry. In an important sense, we invoke a meta-version of the call to heroic imagination by Franco, Blau, and Zimbardo (2011), who describe such imagination "as a mind-set" and "a collection of attitudes" (p. 13) that can steer everyday people toward heroic achievement. This eBook also merges our understanding of heroism with heroic leadership, demonstrating that heroic leadership applies the principles of heroism in moving groups toward noble collective goals. This eBook represents an effort by a distinguished group of authors to unleash their own creative mindsets, attitudes, and imaginations in their scholarship on heroism and heroic leadership.

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Editorial: The Art and Science of Heroism and Heroic Leadership

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Editorial on the Research Topic

The Art and Science of Heroism and Heroic Leadership

In July of 2016, the lead editor of this Research Topic, Scott Allison, was privileged to have shared the keynote speaking duties with Peter Le Breton at the First Biennial Heroism Science Conference held in Perth, Australia. The content of these keynote speeches converged on a fundamental truth about studying the rich and elusive phenomenon of heroism: Any adequate understanding of heroic behavior requires a new type of scholarly imagination, one that taps into human artistic sensibilities as much as it does the rigors of scientific inquiry. In an important sense, we were invoking a meta-version of the call to heroic imagination by Franco et al. (2011), who described such imagination "as a mind-set" and "a collection of attitudes" (p. 13) that can steer everyday people toward heroic achievement. In a similar way, Le Breton and I were urging our colleagues in Perth to unleash their own creative mindsets, attitudes, and imaginations in their scholarship on heroism. To acquire a full understanding all of the nuances of heroic action, a deeper trans-paradigmatic approach is needed that integrates the methods and approaches of the arts, the humanities, and the sciences.

The first article in our Research Topic is authored by Kraft-Todd and Rand, who seek to shed light on a centrally important aspect of people's perceptions of heroism. What are the criteria for judging the degree to which a prosocial act is heroic? Kraft-Todd and Rand find that the most heroic acts are not viewed as those benefiting recipients the most; rather, they are acts judged as the most *rare* and *costly* to the hero performing them. The next article in our collection, by Pestana and Codina, also examines people's perceptions of heroes. In doing so, the authors consider three aspects of heroism: the psychological typology of potential leaders, the basic characteristics of people's images of heroism, and the role personal values in shaping hero perceptions. Next, Susan Ross offers an analysis of the hero's personal transformation. Ross shows us how transformation produces an individual who inspires, guides, and protects "something precious." Her analysis illuminates the forces affecting transformation that may further a broader, collective understanding of this important phenomenon.

In a similar vein, Allison et al. provide an overview of the various types of heroic transformation: mental, moral, emotional, spiritual, physical, and motivational. They also propose a number of activities that can promote heroic metamorphosis as well as several activities that hinder it. Our next article, by Igou et al., offers an analysis of the role of regret in predicting people's motivation to act heroically. Igou et al. find that regret correlates positively with a search for the meaning in life. They also discover that regret predicts heroism motivation and that this effect is mediated through one's search for meaning in life. Our next article, authored by Goldschmied et al., suggests that hailing from humble origins can lead to hero worship. Studying participants from China, Israel, and Japan, these scholars uncover cross-cultural evidence that people's adulation for underdogs is a universal phenomenon. The drive to enforce basic principles of fairness based on competency assessments is shown to be at the root of the choice to support underdog heroes.

Van Tongeren et al. then describe two experiments examining how exposure to superhero images influences both people's tendency to show prosocial behavior and their beliefs about meaning in life. The authors find that people who are primed with superhero images report greater helping intentions relative to a control group, and these helping intentions in turn are significantly associated with increases in people's ability to derive meaning in life. Smyth then argues the philosophical point that heroism involves a "non-selfsacrificial practical necessity." Smyth approaches the intentional structure of human action from the perspective of embodiment, focusing especially on the predispositionality of pre-reflective skill. The author crafts a philosophical argument that "practical necessity" as an endogenous existential necessity literally embodies socially affirmed values. Smyth's analysis underscores the importance of merging psychological and philosophical perspectives on heroism.

Next, Sanders and van Krieken examine how audiovisual brand stories both invite and enable consumers to enact heroic archetypes. Drawing from Jungian archetypes that dominate the structure of narratives, these scholars distinguish between stories that *show* a hero's journey from stories that not only show but also *tell* one or more hero's journeys. Next, Costello et al. examine the link between psychopathy and heroism. The authors investigate the relationship between psychopathy (focusing on fearless dominance), pride, and prosocial and antisocial behavior. Their results show that fearless dominance is significantly related to pride. Costello et al.'s research illuminates some of the fascinating ways that heroism and villainy intersect.

Our next article, authored by Jones, presents work that nicely showcases the deeper, more intuition-based approach to heroism science that we advocate. Jones invokes mindful meditational practices to further our understanding of the causes and origins of heroism. He notes that practitioners who have attained expertise in mindfulness exercises can develop supernormal capabilities. The mental mastery of one's consciousness allow for the unfolding of the supernormal potential of Buddhist practitioners. Jones reviews the growing empirical literature suggesting that mindfulness may improve physical and emotional health, as well as promote prosocial behavior.

It is our deepest wish that this Research Topic provides you, the reader, with some insights and inspiration about the pinnacle of human behavior. The study of heroism, in all its many expressions, surely requires a creative, non-dualistic, transdisciplinary approach that will be reflected in future theory and research. The editors of the first *Handbook of Heroism and Heroic Leadership* articulated their dream that the growth of heroism science would spawn new research areas and methodologies that were unimaginable in the twentieth century (Allison et al., 2017). We offer the similar hope that the articles contained in this Research Topic reflect a worthy scholarly effort to bring to life the unimaginable.

AUTHOR CONTRIBUTIONS

SA, JB, and OE all contributed equally to the ideas contained in this article.

REFERENCES

Allison, S. T., Goethals, G. R., and Kramer, R. M. (eds.). (2017). "Setting the scene: the rise and coalescence of heroism science," in *Handbook of Heroism and Heroic Leadership*, (New York, NY: Routledge).

Franco, Z. E., Blau, K., and Zimbardo, P. G. (2011). Heroism: a conceptual analysis and differentiation between heroic action and altruism. *Rev. Gen. Psychol.* 15, 99–113. doi: 10.1037/a0022672

Rare and Costly Prosocial Behaviors Are Perceived as Heroic

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Heroism has only recently become a topic of empirical investigation. Existing research suggests a connection between heroism and four well-documented dimensions of human social behavior: (1) the cost incurred by the actor; (2) the benefit provided to the recipient; (3) the perceived frequency (i.e., descriptive normativity); and (4) the perceived expectation to perform it (i.e., injunctive normativity). In a series of exploratory studies (total $N = 408$), we aim to shed light on how each of these constructs influence lay intuitions about the nature of heroism (i.e., what determines which acts people perceive to be heroic). In Study 1, subjects generated a list of acts they deemed to be heroic. In Study 2, subjects rated the heroicness of the acts from Study 1, revealing considerable variation in the level of heroism. Finally, subjects in Study 3 rated the cost to the actor, the benefit to the recipient(s), the descriptive normativity (i.e., frequency), and the injunctive normativity (i.e., obligatoriness) of ten acts, five of which received particularly high heroism scores in Study 2 ("exemplary" acts of heroism) and five of which received particularly low heroism scores in Study 2 ("ambiguous" acts of heroism). We find that more heroic acts are seen as rarer and more costly to actors—but, interestingly, *not* more beneficial to recipients or less obligatory. These findings help to illuminate what it means to be seen as a hero, and suggest clear future directions for both empirical and theoretical work.

Keywords: heroism, cooperation, social norms, prosocial behavior, altruism

INTRODUCTION

Heroism is the original topic of literature, as evidenced by some of the earliest known human writing from approximately 2100 BC in the Epic of Gilgamesh. Yet, an empirical understanding of heroism is only just emerging. This research has variously investigated types of heroism (Franco et al., 2011), functions of heroism (Kinsella et al., 2015a), traits of heroes (Goethals and Allison, 2012), characteristics of heroes (Kinsella et al., 2015b), and gender differences among heroes (Becker and Eagly, 2004), as well as amalgams of these approaches (Riches, 2018). Allison et al. (2016) summarize a number of dichotomies made in the literature which try to distinguish between two classes of heroes (e.g., emergent vs. sustained; Kraft-Todd and Rand, 2016). In light of this research, an early consensus definition of heroism seems to be *taking extraordinary action in service of the greater good with personal risk of significant sacrifice* (Allison et al., 2016).

Thus articulated, the burgeoning science of heroism appears to sit squarely between two social science literatures: game theory and social norms. Game theory formalizes strategic decision-making between individuals by quantifying the costs and benefits at stake in an interaction

(Von Neumann, 1959). This conceptualization allows for a precise definition of *cooperation*—an individual paying a cost to give another a benefit—which in turn presents a conundrum: why do people cooperate (Rand and Nowak, 2013)? A particularly challenging problem in game theoretic terms is understanding why an individual would pay a cost to give *many others* a benefit, i.e., contribute to public goods (Hardin, 1968)—a pressing problem shared by policy-makers in the real world (Kraft-Todd et al., 2015). In the language of game theory, then, the risk of sacrifice in heroism implies a potentially large cost paid by an actor in order to cooperate or contribute to the public good. Heroism thus may be understood as a special case of cooperation in which the actor incurs (or at least risks) a large cost (akin to extreme altruism; Marsh et al., 2014; Rand and Epstein, 2014). Further, there is good reason to believe that assessment of the costs and benefits might be relevant to our perception of heroism. Adults and children use information about the costs and benefits of others' behaviors to make inferences about their character (Jara-Ettinger et al., 2016). As early as 2 years of age, these evaluations affect our preferences for interacting with others (Jara-Ettinger et al., 2015). Thus, ascriptions of heroism may rely on beliefs about the costs and benefits of an actor's behavior.

Social norms are "rules and standards that are understood by member of a group, and that guide and/or constrain social behavior without the force of laws" (Cialdini and Trost, 1998). Two types of social norms are frequently distinguished: *descriptive* norms, which are about what people think others do; and *injunctive* norms, which are about what people believe others think they *should* do. Colloquially, our conception of what is "normal" lies somewhere between our conception of what is descriptively and injunctively normative (Bear and Knobe, 2016). In the language of social norms, then, the extraordinary action that defines heroism is descriptively *non*-normative (i.e., rare).

Conceptually situated within this overlap of game theory and social norms, four quantifiable dimensions of social perception may help elucidate a clearer empirical understanding of heroic behavior: (1) the cost to the actor; (2) the benefit to the recipient(s); (3) the descriptive normativity of the behavior; and (4) the injunctive normativity of the behavior. In a series of exploratory studies (total $N = 408$), we aim to discover the extent to which these constructs influence people's perceptions (i.e., lay intuitions) of heroism.

Intuitively, it seems likely that the more a behavior is thought to be heroic, the greater would be the perceived cost to the actor and benefit to the recipient, while the lower would be the descriptive and injunctive normativity of the behavior. We use a "ground-up" approach to the concept of heroism, avoiding *a priori* assumptions about what "counts" as heroism (similar to the method of Kinsella et al., 2015a). In Study 1, we therefore ask subjects to generate acts of heroism. In Study 2, we ask a separate group of subjects to rate the extent to which these candidate behaviors are heroic. Finally, in Study 3, we ask yet another group of subjects to rate the extent to which a subset of these candidate behaviors are costly to the actor, beneficial to the recipient, descriptively normative, and injunctively normative.

STUDY 1: SUBJECT-GENERATED ACTS OF HEROISM

Materials and Methods

We recruited 102 subjects from the online labor market Amazon Mechanical Turk (mTurk; Horton et al., 2011; Arechar et al., 2017). We did not collect standard demographics such as age and gender, though previous research has shown that this population is more representative than typical student samples (Berinsky et al., 2012), if not representative of the national population (Paolacci and Chandler, 2014). Subjects completed the study in $m = 5$ min and were paid $0.50 for their participation, commensurate with typical rates on this platform. We prevented subjects from participating repeatedly (both within each study and across studies) by excluding duplicate Amazon worker IDs and IP addresses. Our pre-study procedure (in this and following studies) was to ask subjects to provide their mTurk IDs and transcribe a sentence of difficult-to-read handwritten text (the latter to prevent bot participation and discourage low-effort workers). For Study 1, subjects simply responded to the prompt: "Please name at least 3 and up to 10 real-life acts of heroism" using free-response text boxes.

Data analysis for all studies was completed using STATA 13. Informed and written consent in all studies was obtained from all subjects and was approved by Yale University's Institutional Review Boards protocol 1307012383.

Results and Discussion

Subjects generated on average $m = 4.2$ responses, which were edited for responses which did not answer the question (often because they were the wrong part of speech, e.g., "boldness," "Jon Meis") repeated answers (within subjects), spelling, punctuation, and grammar (see **Supplementary Table S1** for complete list of unedited responses). Responses were further edited for simplicity (e.g., generalizing pronouns such as "woman" and "man" to "person") and semantic commonality ("Entering a burning building to save some one" and "Going into a burning building to rescue people"), yielding a list of 80 unique responses (see **Table 1**). It is worth noting that nearly all behaviors are explicitly prosocial in nature (e.g., contain "saving," "rescuing," "donating," and "protecting," etc.).

Study 1 therefore provided us with a list of potentially heroic behaviors. The purpose of Study 2, then, was to assess lay intuitions about how heroic each of these behaviors is perceived to be.

STUDY 2: VALIDATING CANDIDATE ACTS OF HEROISM

Materials and Methods

We recruited 205 subjects from mTurk who did not participate in Study 1. Subjects completed the study in $m = 3$ min and were paid $0.50 for their participation. Following the same pre-study procedure as in Study 1, subjects rated a randomly selected subset of 20 candidate acts of heroism from the 80

generated in Study 1 (presented in randomized order) on how heroic they were using two scales (also presented in randomized order): a binary measure of whether the candidate behavior qualified as "Heroic" (1) or "Not heroic" (0), and a continuous measure of the extent to which the candidate behavior was heroic (Likert scale, 1: "Not at all heroic" – 7: "Very heroic"). Thus $m = 51$ subjects rated each candidate behavior using both of these scales. These measures were strongly and significantly correlated ($r = 0.95$, $p < 0.001$), so we use the binary measure for ease of exposition, though analyses are robust to using either measure

(see **Supplementary Figure S3** for results of Study 3 using the continuous measure).

Results and Discussion

Across all 80 candidate behaviors, the median percentage of subjects classifying the behaviors as "heroic" was 82% ($m = 75\%$; see **Figure 1**). Thus, subjects from Study 1 appear to have done a satisfactory job of nominating candidate acts of heroism. Critically, however, there was also substantial variation across behaviors in their *level* of heroism.

TABLE 1 | Edited list of all candidate acts of heroism used as stimuli in Study 2 (80 total).

Edited behaviors	
A child standing up for another child being bullied	Helping a choking victim (e.g., the heimlich maneuver)
A dog fighting off a wild animal to safe his or her owner	Helping wounded people in a terrorist attack
A person helping their wife deliver their child	Intervening to prevent a rape
A person jumping on a grenade to save fellow soldiers	Jumping onto subway tracks to lift a person to safety
A person shielding someone during a shooting	Performing a life-saving surgery
Admitting mistakes	Playing it forward (e.g., buying someone else a coffee unprompted)
Adopting an animal	Preventing someone from committing suicide
Adopting and raising foster children	Protecting people in immediate danger
Assisting the elderly	Pulling a person from beneath a collapsed wall
Becoming a rescue worker	Pulling people out of a train wreck
Being a first responder in a natural disaster	Pulling someone out of a burning car
Being a good parent	Pushing someone out of the way of an oncoming car
Being a really good friend for someone with depression	Putting out a fire
Being in a search party	Raising your child well
Bringing food or medicine to the elderly or disabled	Reporting a crime to the police
Bringing someone food	Rescuing someone from a flood
Cancer patients fighting for their lives	Sacrificing yourself so strangers may live
Childbirth	Sacrificing yourself so your children may live
Climbing a tree to rescue a pet	Sacrificing yourself so your family may live
Confronting a gunman to defend others	Saving a child from being kidnapped
Confronting an abusive spouse	Saving a dog from a hot car
Conscientious objectors who refuse to go to war	Saving hostages
Covering your loved ones with your body as a tornado hits your home	Saving someone from drowning
Defending someone from abusive authority figures	Saving someone's life
Defending someone from harm	Saving someone's life when it is not your job
Donating an organ	Saving someone's life when it is your job (e.g., fireman, emergency room doctor)
Donating blood	Utility workers restoring power in the middle of a major storm
Donating bone marrow	Volunteering
Donating clothes, toys, or other consumer goods (not food or money)	Volunteering at a soup kitchen
Donating food	Volunteering at an animal shelter
Donating to charity	Whistle-blowing (i.e., reporting wrong-doings in the organization that you work in)
Dying in the line of fire (in the military)	Working as a doctor
Entering a burning building to save someone	Working as a firefighter
Fighting for your country	Working as a nurse
Fighting wildfires	Working as a policeman
Finding a murder suspect	Working as an inner-city school teacher
Giving CPR to a person that needs it	Working for a charity
Giving someone an interest-free loan when they are poor	Working for a non-profit
Going out on the ice to rescue a person who went through the ice	Working in the coast guard
Going to a protest against injustice	Working in the military

*Raw responses from Study 1 (428 total; see **Supplementary Table S1**) were edited according to which did not answer the question, repeated answers (within subjects), spelling, punctuation, grammar, simplicity, and semantic commonality.*
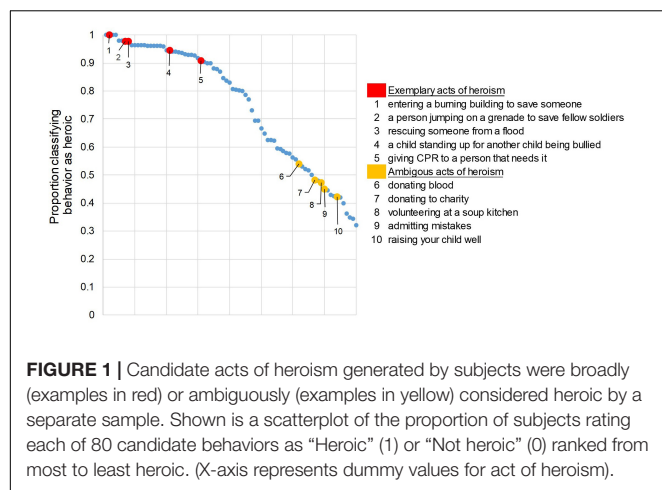
FIGURE 1 | Candidate acts of heroism generated by subjects were broadly (examples in red) or ambiguously (examples in yellow) considered heroic by a separate sample. Shown is a scatterplot of the proportion of subjects rating each of 80 candidate behaviors as "Heroic" (1) or "Not heroic" (0) ranked from most to least heroic. (X-axis represents dummy values for act of heroism).

FIGURE 2 | More heroic acts are seen as *rarer* and *more costly* to actors (though *not* more beneficial to recipients or less obligatory) than ambiguous acts of heroism. Shown are standardized coefficients (with 95% CIs) of subjects' ratings on four measures (0–100 slider scales) predicting the heroicness of the acts as measured on a binary scale (from Study 2).

The goal of Study 3, then, was to understand what explains this variation in heroicness. To do so, we selected ten acts of heroism to investigate in more detail (see **Figure 1** legend). We selected five "exemplary" acts of heroism that demonstrated wide consensus on being perceived as heroic (proportion classifying behavior as heroic >0.9) and five "ambiguous" acts of heroism that were not strongly perceived as heroic or not heroic (proportion classifying behavior as heroic = 0.4–0.6). In selecting these behaviors, we focused on behaviors that were frequently discussed in the contexts of cooperation, prosociality, and heroism; and that were specific, rather than sustained, behaviors (with the exception of "raising your child well").

STUDY 3: WHAT DISTINGUISHES ACTS PERCEIVED AS MORE HEROIC?

Materials and Methods

We recruited 101 subjects from mTurk who completed the study in $m = 5$ min and were paid $0.50 for their participation. Following the same pre-study procedure as in Study 1, subjects rated each of the 5 "exemplary" and each of the 5 "ambiguous" heroism behaviors on *descriptive normativity* ("In your opinion, how many people in your community do this behavior?"), *injunctive normativity* ("In your opinion, how much do people in your community think doing this behavior is what you are supposed to do?"), *benefit to the recipient* ("In your opinion, how much benefit (in terms of money, time, effort, etc.) does the recipient of this behavior receive?"), and *cost to the actor* ("In your opinion, how much cost (in terms of money, time, effort, etc.) does the person who does this behavior incur?"). The 10 behaviors were presented in randomized order and ratings (also presented in randomized order) were completed using sliding scales which ranged from 0 "Very little" to 100 "Very much."

Results and Discussion

First, we investigate the pairwise correlations among our independent variables (**Table 2**; Pearson's correlation coefficient,
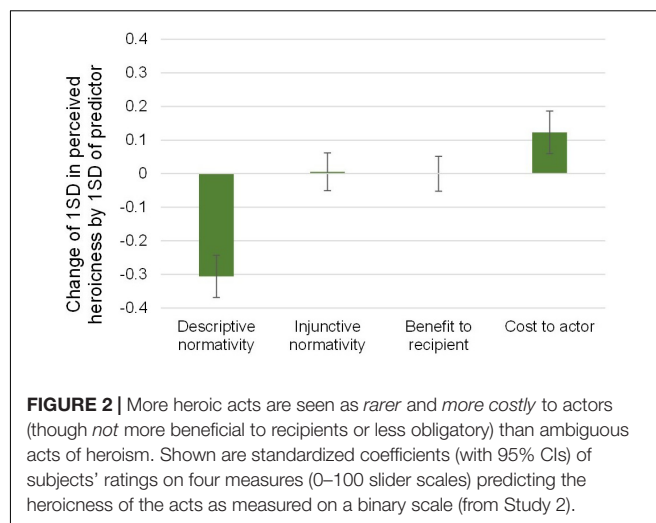
p-values Bonferroni corrected for 6 simultaneous comparisons). Though we observe many significant correlations, they are sufficiently low that it is reasonable to investigate the relationship between heroicness and all independent variables simultaneously in a single model.

Therefore, we investigate differences in perceived heroism based on these four dimensions using OLS regression with proportion of Study 2 participants indicating the behavior was heroic (standardized) as the dependent variable, and (standardized) ratings of costliness, benefit, descriptive normativity, and injunctive normativity as independent variables, clustering standard errors on subject (regression coefficients plotted in **Figure 2**; see **Supplementary Figure S1** for a plot of raw means and **Supplementary Figure S2** for distributions). More heroic acts were perceived as less descriptively normative [$b = -0.31$, 95% CI $(-0.37, -0.24)$, $t(101) = -9.64$, $p < 0.001$] and more costly to the actor [$b = 0.12$, 95% CI $(0.06, 0.19)$, $t(101) = 3.85$, $p < 0.001$]. However, the heroicness of the acts was not significantly related to perceived injunctive normativity [$b = 0.01$, 95% CI $(-0.05, 0.06)$, $t(101) = 0.20$, $p = 0.843$] nor perceived benefit to the recipient [$b = -3.27e-4$, 95% CI $(-0.05, 0.05)$, $t(101) = -0.01$, $p = 0.990$]. These results are robust to Bonferroni correction for four simultaneous comparisons (i.e., all significant *p*-values

TABLE 2 | Our dependent variables are significantly, though weakly correlated.

	Descriptive normativity	Injunctive normativity	Benefit	Cost
Descriptive normativity	X			
Injunctive normativity	0.45***	X		
Benefit	0.09	0.24***	X	
Cost	−0.02	0.09	0.27***	X

***p < 0.001, **p < 0.01, *p < 0.05. p-values Bonferroni corrected for 6 simultaneous comparisons.

are smaller than 0.0125). Because the continuous ratings of heroicness (our dependent measure) are bimodally distributed (by design), we also demonstrate robustness to conducting this analysis using a logistic regression predicting a categorical dependent variable (exemplary vs. ambiguous acts of heroism; see **Supplementary Table S2**).

GENERAL DISCUSSION

Situating an empirical approach to heroism within the game theory and social norms literatures, we conducted three exploratory studies (total $N = 408$) on lay intuitions of heroic acts. We find that acts which are widely agreed upon as being heroic (exemplary heroism) can be distinguished from acts whose heroicness is unclear (ambiguous heroism), with exemplary acts having lower descriptive normativity and higher costliness to the actor—but *not* differential injunctive normativity nor benefit to the recipient. These results extend prior work on heroism by providing empirical evidence supporting the conceptual link between the emerging science of heroism and more established fields in the social sciences, while also clarifying the lay definition of heroism.

Our approach avoids being bound by academic preconceptions of heroism by utilizing subject-generated acts of heroism as our stimuli (Study 1, in which we asked, "Please name at least 3 and up to 10 real-life acts of heroism") in subsequent studies. Though a few empirical studies of heroism employ this method, these investigate other aspects of heroism: e.g., "In your view, what functions do heroes serve?" (Kinsella et al., 2015a) and "What are the features that you associate with heroes and their heroic actions?" (Kinsella et al., 2015b). We believe a comprehensive understanding of heroism will be achieved by exploring various means of eliciting lay perceptions of heroism and finding consensus among them.

One major limitation to our investigation is the extent to which our results depend on the specific ten behaviors from Study 2 we chose to serve as stimuli in Study 3. Future research should test the robustness of our conclusions to the consideration of a wider range of heroic acts, and perhaps conduct additional pretesting to ensure candidate acts of heroism do not differ on dimensions (e.g., familiarity) which might affect variables of interest. In particular, the inclusion of candidate acts of heroism with intermediate values of the proportion of people considering them heroic (compared to relative extremes we investigate here)—and the inclusion of acts considered distinctly *non*-heroic—may shed further light on the relation of perceived heroism and our variables of interest.

Additionally, because our results are drawn from a convenience sample of mTurk workers, they may be culturally specific (in accordance with the WEIRD hypothesis; Henrich et al., 2010). Given that heroism is a socially designated role, it is reasonable to think that lay perceptions of heroism would be influenced by cultural norms; for these reasons, future work might seek to assess this phenomenon cross-culturally. It is worth noting that our investigation is on lay perceptions of heroism, rather than the decision-making process of heroes,

and so future work might also explore the extent to which the variables we consider are relevant this process, or whether they are the result of more generalized intuitions (Glanville and Paxton, 2007; Rand and Epstein, 2014). One other potentially interesting question for future research would be to compare first-order beliefs about heroism (as we do here) with second-order beliefs (i.e., what subjects think others think about heroism), as the latter have been demonstrated to have a greater impact on prosocial behavior than the former (Jachimowicz et al., 2018). Finally, our investigation was exploratory, so replication and confirmatory studies should be conducted to provide greater faith in our findings and their interpretation.

We found the observation that exemplary acts of heroism were *not* perceived as more beneficial to recipients than ambiguous acts of heroism to be surprising, given our intuition that helping others is part what makes an act heroic [e.g., "a person jumping on a grenade to save fellow soldiers" $m = 69.08$ 95% CI (62.51, 75.65) vs. "volunteering at a soup kitchen" $m = 65.84$, 95% CI (60.53, 71.16), $t(200) = 0.76$, $p = 0.45$]. The within-subjects design of Study 3 grants additional credence to this observation: each subject rated all ten of the heroic acts, and so presumably they could have compared one situation to the next and made these judgments relative to each other. Yet, the finding interestingly coincides with other empirical findings. For example, subjects participating in prisoner's dilemmas are highly influenced by the framing of the situation and potential behaviors, beyond the simple material outcomes of the interaction (e.g., Zhong et al., 2007), and so too here might verbal associations weigh more heavily than numerical assessments in subjects' judgments. In charitable giving, the "effective altruism" movement aims to direct giving toward more socially efficient causes—i.e., get more bang for the donor's buck—yet effectiveness information often does not motivate greater giving (Berman et al., 2018). This finding is an example of the broader phenomenon of *scope insensitivity* (Carson, 1997), in which people do not exhibit greater valuation for increased amounts of an economic good. Scope insensitivity has been repeatedly demonstrated in the domain of prosociality (Desvousges et al., 1993; Hsee and Rottenstreich, 2004; Small et al., 2007). Thus, our findings are in a sense the converse: while previous research has shown that people do not value (via monetary donations) causes which provide a greater benefit to others, we show that people do not perceive a greater benefit to others from behaviors that are more valued (via judgments of heroism). Further, and more relevant to the characterological judgment nature of heroism, this (non)relation of social benefit to valuation is consistent with findings that people *do not* prefer consequentialist agents who are willing to inflict harm to provide a greater social benefit (Everett et al., 2018). Taken together, these many potential reasons for our surprising finding that exemplary acts of heroism were not perceived as more beneficial to recipients than ambiguous acts of heroism suggest a promising avenue for future research.

Our finding that judgments of heroism are linked to the cost to the actor but not the benefit to the recipient suggests numerous questions regarding the proximate mechanism of

heroism perception. First, when a decision-maker is attempting to distinguish whether another's behavior is heroic or not, it could be that the costs to the actor are more salient than the benefits to the recipient if this judgment is accomplished via imagining what it is like to be in the actor's shoes (rather than the recipient's). For example, it could be that when you are trying to decide whether "entering a burning building to save someone" is heroic or not, you engage in perspective-taking not with the person who might be saved, but with the person entering the burning building. Second, it could be that the costs of heroism are simply more observable than the benefits because calculating the latter requires an extra step of contrapositive reasoning: i.e., it requires knowing *what would have happened if the hero had not intervened*. For example, when a child stands up for another child being bullied, we know that child steps in the way of the bully's fists, but we don't know whether the bully would have broken the victim's nose or just taken their lunch money.

Our finding that judgments of heroism are linked to the *descriptive* normativity of the action but not the *injunctive* normativity was also surprising to us, as our intuition was that "going above and beyond" was an important part of being seen as heroic. Our data indicate, however, that this is not the case. Many of the proposed acts of heroism in Study 1 included professions where taking risks to help others is part of the job expectations (e.g., military, firefighter; see **Table 1** and **Supplementary Table S1**). Thus, for these people acting heroically may not be unexpected (i.e., is injunctively normative), but it still may be *rare* (i.e., is descriptively non-normative). The fact that such actions were still judged to be heroic indicates that unexpectedness (or injunctive normativity) does not appear to be a crucial component of lay perceptions of heroism.

Heroism, understood as rare (i.e., non-normative) and costly cooperation is a particularly timely concept to understand as the need to promote innovative solutions to global social challenges becomes increasingly clear (Kraft-Todd et al., 2018). We hope

our conceptualization of heroism can help connect the emerging science to such pressing real-world issues. Heroism needn't be confined to our cultural mythologies (Campbell, 1949/2008); we may find that we can cultivate it more effectively if we celebrate it in our science as well as in our stories.

DATA AVAILABILITY STATEMENT

All data are publicly available at: https://osf.io/be8mn/.

AUTHOR CONTRIBUTIONS

GK-T and DR designed the online experiments. GK-T conducted the online experiments and analyzed the results. GK-T and DR wrote the manuscript.

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REFERENCES

Allison, S. T., Goethals, G. R., and Kramer, R. M. (2016). "Setting the scene : the rise and coalescence of heroism science," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge). doi: 10.4324/9781315690100

Arechar, A. A., Kraft-Todd, G. T., and Rand, D. G. (2017). Turking overtime: how participant characteristics and behavior vary over time and day on Amazon Mechanical Turk. *J. Econ. Sci. Assoc.* 3, 1–11. doi: 10.1007/s40881-017-0035-0

Bear, A., and Knobe, J. (2016). Normality: part descriptive, part prescriptive. *Cognition* 167, 25–37. doi: 10.1016/j.cognition.2016.10.024

Becker, S. W., and Eagly, A. H. (2004). The heroism of women and men. *Am. Psychol.* 59:163. doi: 10.1037/0003-066X.59.3.163

Berinsky, A. J., Huber, G. A., and Lenz, G. S. (2012). Evaluating online labor markets for experimental research: amazon.com's mechanical turk. *Polit. Anal.* 20, 351–368. doi: 10.1093/pan/mpr057

Berman, J. Z., Barasch, A., Levine, E. E., and Small, D. A. (2018). Impediments to effective altruism: the role of subjective preferences in charitable giving. *Psychol. Sci.* 29, 834–844. doi: 10.1177/0956797617747648

Campbell, J. (1949/2008). *The Hero With a Thousand Faces*. Novato, CA: New World Library.

Carson, R. T. (1997). "Contingent valuation surveys and tests of insensitivity to scope," in *Determining the Value of Non-Marketed Goods*, eds R. J. Kopp, W. W.

Pommerehne, and N. Schwarz (Berlin: Springer), 127–163. doi: 10.1007/978-94-011-5364-5_6

Cialdini, R. B., and Trost, M. R. (1998). "Social influence: social norms, conformity and compliance," in *The Handbook of Social Psychology*, eds S. T. F. D. T. Gilbert and G. Lindzey (New York, NY: McGraw-Hill), 151–192.

Desvousges, W. H., Johnson, R. F., Dunford, R. W., Wilson, N. K., and Boyle, K. J. (1993). "Measuring natural resource damages with contingent valuation," in *Contingent Valuation: A Critical Assessment*, ed. J. A. Hausman (Bingley: Emerald Group Publishing Limited), 91–164. doi: 10.1016/B978-0-444-81469-2.50009-2

Everett, J. A. C., Faber, N. S., Savulescu, J., and Crockett, M. J. (2018). The costs of being consequentialist: social inference from instrumental harm and impartial beneficence. *J. Exp. Soc. Psychol.* 79, 200–216. doi: 10.1016/j.jesp.2018.07.004

Franco, Z. E., Blau, K., and Zimbardo, P. G. (2011). Heroism: a conceptual analysis and differentiation between heroic action and altruism. *Rev. Gen. Psychol.* 15, 99–113. doi: 10.1037/a0022672

Glanville, J. L., and Paxton, P. (2007). How do we learn to trust? a confirmatory tetrad analysis of the sources of generalized trust. *Soc. Psychol. Q.* 70, 230–242. doi: 10.1177/019027250707000303

Goethals, G. R., and Allison, S. T. (2012). "Making heroes: the construction of courage, competence, and virtue," in *Advances in Experimental Social Psychology*, ed. J. M. Olson (New York, NY: Elsevier), 183–235. doi: 10.1016/B978-0-12-394281-4.00004-0

Hardin, G. (1968). The tragedy of the commons. *Science* 162, 1243–1248. doi: 10.1126/science.162.3859.1243

Henrich, J., Heine, S. J., and Norenzayan, A. (2010). The weirdest people in the world? *Behav. Brain Sci.* 33, 61–83. doi: 10.1017/S0140525X0999152X

Horton, J. J., Rand, D. G., and Zeckhauser, R. J. (2011). The online laboratory: conducting experiments in a real labor market. *Exp. Econ.* 14, 399–425. doi: 10.1007/s10683-011-9273-9

Hsee, C. K., and Rottenstreich, Y. (2004). Music, pandas, and muggers: on the affective psychology of value. *J. Exp. Psychol. Gen.* 133:23. doi: 10.1037/0096-3445.133.1.23

Jachimowicz, J. M., Hauser, O. P., O'brien, J. D., Sherman, E., and Galinsky, A. D. (2018). The critical role of second-order normative beliefs in predicting energy conservation. *Nat. Hum. Behav.* 2, 757–764. doi: 10.1038/s41562-018-0434-0

Jara-Ettinger, J., Gweon, H., Schulz, L. E., and Tenenbaum, J. B. (2016). The naïve utility calculus: computational principles underlying commonsense psychology. *Trends Cogn. Sci.* 20, 589–604. doi: 10.1016/j.tics.2016.05.011

Jara-Ettinger, J., Tenenbaum, J. B., and Schulz, L. E. (2015). Not so innocent: toddlers' inferences about costs and culpability. *Psychol. Sci.* 26, 633–640. doi: 10.1177/0956797615572806

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015a). Lay perspectives on the social and psychological functions of heroes. *Front. Psychol.* 6:130. doi: 10.3389/fpsyg.2015.00130

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015b). Zeroing in on heroes: a prototype analysis of hero features. *J. Pers. Soc. Psychol.* 108, 114–127. doi: 10.1037/a0038463

Kraft-Todd, G. T., Bollinger, B., Gillingham, K., Lamp, S., and Rand, D. G. (2018). Credibility-enhancing displays promote the provision of non-normative public goods. *Nature* 563, 245–248. doi: 10.1038/s41586-018-0647-4

Kraft-Todd, G. T., and Rand, D. G. (2016). "Adaptive foundations of heroism: social heuristics push advantageous everyday ethical behavior to heroic extremes," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Kraft-Todd, G. T., Yoeli, E., Bhanot, S., and Rand, D. G. (2015). Promoting cooperation in the field. *Curr. Opin. Behav. Sci.* 3, 96–101. doi: 10.1016/j.cobeha.2015.02.006

Marsh, A. A., Stoycos, S. A., Brethel-Haurwitz, K. M., Robinson, P., Vanmeter, J. W., and Cardinale, E. M. (2014). Neural and cognitive characteristics of extraordinary altruists. *Proc. Natl. Acad. Sci. U.S.A.* 111, 15036–15041. doi: 10.1073/pnas.1408440111

Paolacci, G., and Chandler, J. (2014). Inside the turk: understanding mechanical turk as a participant pool. *Curr. Dir. Psychol. Sci.* 23, 184–188. doi: 10.1177/0963721414531598

Rand, D. G., and Epstein, Z. G. (2014). Risking your life without a second thought: intuitive decision-making and extreme altruism. *PLoS One* 9:e109687. doi: 10.1371/journal.pone.0109687

Rand, D. G., and Nowak, M. A. (2013). Human cooperation. *Trends Cogn. Sci.* 17, 413–425. doi: 10.1016/j.tics.2013.06.003

Riches, B. R. (2018). What makes a hero? exploring characteristic profiles of heroes using Q-method. *J. Humanist. Psychol.* 58, 585–602. doi: 10.1177/0022167817716305

Small, D. A., Loewenstein, G., and Slovic, P. (2007). Sympathy and callousness: the impact of deliberative thought on donations to identifiable and statistical victims. *Organ. Behav. Hum. Decis. Process.* 102, 143–153. doi: 10.1016/j.obhdp.2006.01.005

Von Neumann, J. (1959). On the theory of games of strategy. *Contribut. Theory Games* 4, 13–42. doi: 10.1515/9781400882168-003

Zhong, C.-B., Loewenstein, J., and Murnighan, J. K. (2007). Speaking the same language: the cooperative effects of labeling in the Prisoner's dilemma. *J. Confl. Resolut.* 51, 431–456. doi: 10.1177/0022002707300834

Being Conscious of One's Own Heroism: An Empirical Approach to Analyzing the Leadership Potential of Future CEOs

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From the disciplinary field of the science of heroism, there is a need to deepen the processes that this science comprises, and at the same time, to test methods of inquiry to account for the variety of processes associated with this science. Linked to this sensitivity, the objective of this contribution is to jointly analyze, in a sample of future CEOs, what they imagine about heroism, their psychological types, and their values orientation. The sample consisted of 45 students (21 men and 24 women) between 22 and 47 years old (M = 26.69, SD = 4.47), who were part of a master's program oriented toward training future CEOs to be leaders. The analytical instruments were the Myers-Briggs Type Indicator (MBTI), a story that each participant developed about him/herself as the main hero or heroine, and a questionnaire on personal values. In the psychological types observed, the functions of thinking and sensing predominated, with intuition and feeling residing at a lower level of consciousness. With regard to the stories, the majority of the sample offered tales in which the hero/heroine was confronted with a mystery to solve (or mission to fulfill), faced difficulties, and, finally, achieved harmony between the personal and the collective. Regarding the values, significant associations are observed between the gender, the characteristics of the psychological types, and the content of the story about their own hero/heroine. In sum, the research carried out offers an empirical approach to the study of the subjective elements of heroism, combining quantitative and qualitative aspects in an educational setting, and broadening the perspectives on the science of heroism.

Keywords: heroism, methodology, Myers-Briggs Type Indicator, leadership, interaction, psychological types

INTRODUCTION

The science of heroism has broadened the field of scientific explanations for leadership, due to the fact that it is not limited to unilaterally considering personal or social aspects as the main explanations for this process. Efthimiou and Allison (2017, p. 11) define heroism science as "a nascent multidisciplinary field which seeks to reconceptualize heroism as its correlates (the hero's journey, heroic leadership, heroic imagination, everyday heroism, resilience, courage, altruism, etc.) through a close examination of the origins, types and processes of these interrelated phenomena."

In fact, heroism science has reformulated the bases on which the main tendencies in the analysis of leadership have been established, that is: (1) the tendency that analyses leadership based on leaders' personal characteristics; (2) the research on leadership that rests on the situation as an explanatory variable in this process; and (3) the most recent approaches that, starting from the notion of prototypicality and social identity, have gone beyond the one-directional analysis of the influence of the leader or the context, instead calling attention to what occurs between them.

After highlighting the contributions of heroism science in each of these three perspectives, we will examine heroism by considering the Analytical Psychology founded by C. G. Jung on the unconscious (personal, collective) and the psychological types – with values as a complementary indicator that shows the intersection between individual and social elements.

Introducing concepts of Analytical Psychology in the research of leadership as heroic accomplishment examines a perspective related to the foundational work by Campbell (1949/2004), offering an empirical approach to the study of the subjective elements of heroism (Allison et al., 2017) that combines qualitative and quantitative aspects. The qualitative data come from an *ad hoc* questionnaire where each participant told a story in which s/he was the main hero or heroine. The quantitative data come from two instruments: the Myers-Briggs Type Indicator (MBTI) and the Personal Values questionnaire. Albeit the MBTI is not universally accepted as a strong psychological measure, it is the only scale that the field of Analytical Psychology utilizes, and does so to explore the psychological types – the limitations and particularities of such testing is acknowledged and will be discussed later.

REVIEW OF LITERATURE

Heroism Science. Broadening the Foundations of the Main Analysis on Leadership

The Leader, a Gifted Person?

Throughout its history, humanity has created leaders and caused them to emerge. This is demonstrated by the innumerable stories of gods, heroes, kings, great figures, and leaders who, depending on the case, have performed miracles, amazing feats, or successes (as well as meanness, stinginess, or failures). However, with the advance of the social sciences, a body of knowledge has been developed that, among other aims, tries to explain what makes leaders special. In this case, we are faced with a one-sided tendency that analyses leadership based on leaders' personal characteristics – with what is known as charisma being the first.

The term charisma was used by Weber (1921/1946, p. 245) to highlight that: "The natural leaders in distress have been holders of specific gifts of the body and spirit; and these gifts have been believed to be supernatural, not accessible to everybody." This specific characteristic of leaders was unrelated to historical and social circumstances – as it is a personal characteristic that few people have. After identifying leaders as gifted people with

charisma – a term still commonly used outside the scientific field – studies were carried out on the personality of leaders (Judge et al., 2002; Bono and Judge, 2004; Neira Vaque et al., 2018; Zaccaro et al., 2018). These studies tried to define their profiles, aspiring to stimulate these traits in tomorrow's leaders. Criticisms of this one-sided tendency focus on the little importance given to the effect of a certain historical moment on the profile of leaders. For example, consider historical figures in the past who, although leaders in their time, today would be rated negatively due to their ideas, behaviors, or both.

The incorporation of heroism into the explanation of leaders' behavior has shown that the individual basis for what is heroic encompasses not only a certain personality profile, but also a series of features (categories, prototypes, self-representations: Shahar, 2013; Kinsella et al., 2015b; Israeli et al., 2018) that can be learned or fostered (or both). Moreover, heroes have been known to fulfill a series of functions that can be a powerful social influence for other individuals (Kinsella et al., 2015a). There is no doubt about the knowledge enrichment stemming from conceiving the leader as a hero; however, this analysis has also led to revisiting the importance of the context in shaping heroic leaders.

From the Person to the Environment: The Context of the Leader

Focusing on what leaders do and the way their actions are received by their followers, psychosocial knowledge has an undisputable point of departure in two classic studies: the one by Lewin and Lippitt (1938) and the one by Lewin et al. (1939). In these studies, six groups of 10- and 11-year-old boys experienced three leadership styles – autocratic, democratic, and *laissez-faire* – in order to demonstrate the effect of each style on the atmosphere and productivity of the groups, in addition to showing the subordinates' flexibility and ability to respond to their leaders' proposals. These experiments were fundamental in the development and consolidation of the other one-sided perspective in the research on leadership: the one that rests on the situation as an explanatory variable in this process.

After these pioneer researches, studies were developed that were oriented toward defining which contextual variables would favor leadership (Fiedler, 1964; Hill, 1969; Ayman et al., 1995). However, as far as leadership is concerned, an explanation that focuses exclusively on the context was not free of criticism (Graeff, 1997). In fact, this one-sided tendency involved a risk that was synthesized in the image of the film character Forrest Gump: the risk that anyone, regardless of his/her personal deficiencies, could become a leader if called upon to perform specific tasks at a certain moment in time.

From heroism science, the context has acquired a double value with regard to leadership: as a social situation that favors heroic behaviors and as an educational setting that foments heroism in day-to-day life. In fact, "the heroic learner's journey is an inspirational tool that shows how a learner could undergo transformation in the field of education. The educational transformation of the heroic learner can benefit all members of society, including at-risk learners" (Pascoe, 2018, p. 63). Thus, the context in which the leader is shaped and develops must try to

foment an approximation to the idea of "heroism as embedded and embodied in the everyday" (Efthimiou, 2017, p. 158), as the transformation process of the hero – which is particular in each case: Allison and Goethals (2017).

Between the Personal and the Social Realms: Leadership as Transformational and Identitary

In more recent years, interpersonal relationships in the leadership process have been acquiring greater relevance. Specifically, it is no longer a question of performing a one-directional analysis of the influence of the leader or the context, but rather of calling attention to what occurs between them. Examples of this can be found in the theories on transformational/charismatic leadership and social identity theory.

Transformational leadership has reformulated the idea of charisma – or the attraction exerted by a person: Lowe et al. (1996), Avolio and Bass (1999), and Sun et al. (2017). Unlike the conception of charisma as a gift or virtue of leaders – as stated by Weber (idem) – this proposal understands charisma to be an attribution made by the followers. Thus, the followers will consider their leader to be charismatic to the extent that s/he: emphasizes the importance of the effort made and its symbolic value; increases the expectations about achieving the objectives and the importance of reaching the proposed goal; transmits faith in a better future; and makes a personal commitment, leading by example (Molero, 2011). Moreover, transformational leadership is a style that predicts behavioral outcomes – such as task performance – and attitudinal outcomes in the subordinates (such as creativity, organizational commitment, or empowerment, among others: Banks et al., 2016).

The centrality of interpersonal relationships, consubstantial to transformational / charismatic leadership, has increased its explanatory power with the incorporation of the basic proposals of the two most influential theories in European social psychology: social identity theory (proposed by H. Tajfel) and self-categorization theory (whose main representative has been J. C. Turner) – Hogg (2001) and Haslam et al. (2011a,b). According to these theories, leadership is understood as a process in which it is fundamental to belong to a group and feel that this belonging is important to our self-perception.

Thus, effective leadership is conceived as the result of: considering the leader to be part of the group s/he represents; the leader's defense of the group, as far as s/he is just another member (although perhaps the most prototypical); reminding the group who they are and where they are headed; and creating a future scenario that responds to the group identity (Haslam et al., 2017). These characteristics are summarized in the conception that "effective leadership is always an *identitary leadership*" (Haslam et al., 2011a: 108 —original emphasis).

With the reinterpretation of leadership in terms of social identity, there is a balance between personal and situational components in the analysis of the phenomenon, which should not be confused with its stability. In this regard, Haslam et al. (2011a) insists on the processual and transitory nature of leadership, which simply means accepting that the person who leads the group today may be substituted by another member of the group tomorrow. In our opinion, this nuance about its transitory nature adds a characteristic to identitary leadership that is not explicitly stated in previous contributions: the fact that one theory contemplates why a person comes to occupy a position of leadership, as well as the way the leader stops being one.

The incorporation of identity in the analysis of leadership has represented an advance that includes both this process and Social Identity Theory, on which it is based. However, the dynamic leader-follower identity interplay remains relatively unexplored (Epitropaki et al., 2017; Kramer, 2017). With regard to the idea of prototypicality, the studies by Shahar (2013) and Kinsella et al. (2015a,b), mentioned above, warned about the complexity of the traits and functions of the hero.

Based on the idea of the depth – individual and social – that heroism can reach in everyday life, our study incorporates Analytical Psychology. This perspective, related to the foundational study by Campbell (1949/2004), offers theoretical and empirical elements that can contribute developments on the well-known subjective aspect of heroism (Allison et al., 2017).

Leadership as a Heroic Accomplishment: A Contribution From Analytical Psychology

In the Analytical Psychology founded by Jung (1952/1976, §251), the hero is a basic figure of the collective unconscious, that is, of the repository of symbolic contents that accompany humanity throughout its history: "The finest of all symbols of the libido is the human figure, conceived as a demon or hero (§251)... What we seek in visible human form is not man, but superman, the hero or god, that *quasi-human* being who symbolizes the ideas, forms and forces which grip and mold the soul (§259 – original emphasis)." This conception places Analytical Psychology among the orientations that understand that "mental images and conceptions of heroism are... hardwired into us" (Allison et al., 2017, p. 9).

For Jung (1959/1980, §284), in the different stories that describe the hero's adventures, whose core and characteristics were synthesized by Campbell (1949/2004 – see **Table 1**), the "main feat is to overcome the monster of darkness: it is the long-hoped-for and expected triumph of consciousness over the unconscious." In this regard, every story whose plot has mobilized psychic energy from early times reveals those contents that, from the collective unconscious, are connected to the personal unconscious.

The need to integrate the contents of the unconscious (collective, personal) into the conscious is precisely what underlies the active imagination, "a sequence of fantasies produced by deliberate concentration" (Jung, 1959/1980, §101). From the contemplation of some fragment that is significant to the person, a sudden awareness can occur about a psychic content that had previously been ignored. This awareness can be observed through the analysis of stories: both in stories that have transcended to different periods (von Franz, 1980, 1995, 1997), as well as in current narratives about heroism that mobilize psychic processes in those who read them (Sanders and van Krieken, 2018). This psychic movement can be explained by the two functions that the hero stories fulfill (Allison and Goethals,

TABLE 1 | Contents of the hero/heroine story (based on Campbell, 1949/2004).

Contents

Departure

The Call to Adventure	Appearance of a mystery that must be solved.
Refusal of the Call	Difficulties in giving up one's own interests when faced with the mission to be fulfilled.
Supernatural Aid	Appearance of a protector figure (and his/her lucky charms, amulets) to help at the beginning of the mission.
The Crossing of the First Threshold	First step taken within the sacred area.
The Belly of the Whale	Staying in the sphere of rebirth or metamorphosis.

Initiation

The Road of Trials	Facing difficulties.
The Meeting with the Goddess	Appearance of a presence that announces everything that can be known about the mission.
Woman as the Temptress	Appearance of a presence that can interfere with the mission to be carried out.
Atonement with the Father	Having a transcendent vision after accepting what is one's own.
Apotheosis	Divine state after overcoming ignorance.
The Ultimate Boon	Adventure that the chosen one carries out with ease.

Return

Refusal of the Return	Rejection of returning with the trophy won.
The Magic Flight	Flight with miraculous obstacles.
Rescue from Without	Call from the Society to re-join it.
The Crossing of the Return Threshold	First step taken in starting the return trip.
Master of the Two Worlds	Transition between the world or dimensions of the universe known before and during the mission.
Freedom to Live	Reconciliation between the individual conscience and the universal will, that is, integrating the achievements of the mission in the original context.

2014, p. 170): the *epistemic* function ("the knowledge and wisdom that hero stories impart to us") and the *energizing* function ("the ways that hero stories inspire us and promote personal growth").

However, it should be noted that each individual becomes conscious depending on his / her psychic activity, known as psychological types. When describing the types, the main distinction Jung (1921/1976) makes is the one corresponding to extraversion and introversion. Both make up various adaptive relationships based on the way the subject and object relate to each other. In the conscious attitude related to *extraversion*, it has been observed that the "orientation by the object predominates in such a way that decisions and actions are determined not by subjective views but by objective conditions" (Jung, 1921/1976, §563). By contrast, the extraverted unconscious attitude includes subjective impulses that are not recognized. In the case of introversion, it "is naturally aware of external conditions, [but] selects the subjective determinants as the decisive ones... Whereas the extravert continually appeals to what comes to him

from the object, the introvert relies principally on what the sense impression constellates in the subject" (Jung, 1921/1976, §621). In this case, the introverted unconscious attitude is characterized by an intensification of the object.

In addition to the extraversion-introversion distinction, there are four psychological functions, two rational (thinking, feeling) and two irrational (sensing, intuition):

— *Thinking* (T), "following its own laws, brings the contents of ideation into conceptual connection with one another" (Jung, 1921/1976, §830).
— *Feeling* (F) includes two processes: on the one hand, attributing to an object "a definite value in the sense of acceptance or rejection ('like' or 'dislike')"; on the other hand, experiencing a mood that also implies "a valuation; not of one definite, individual conscious content, but of the whole conscious situation at the moment, and, once again, with special reference to the question of acceptance or rejection" (Jung, 1921/1976, §724).
— Without being held to the laws of reason, *sensing* (perception, S) "mediates the perception of a physical stimulus... [and] is related not only to external stimuli but to inner ones, i.e., to changes in the internal organic processes" (Jung, 1921/1976, §792).
— And, finally, *intuition* (I)
"mediates perceptions in an *unconscious way*. Everything, whether outer or inner objects or their relationships, can be the focus of this perception... In intuition a content presents itself whole and complete, without our being able to explain or discover how this content came into existence" (Jung, 1921/1976, §770 – original italics).

An example that synthesizes the predominance of one psychological function or another can be found in Guggenbühl-Craig (1980/2008, p. 68 – italics added):

"A *sensation* type is affected by the color of a woman's skirt. A *feeling* type is depressed and irritable in the same woman's presence. An *intuitive* [type] suspects that the woman has just criticized him to a mutual friend, while a *thinking* type considers why it is that the woman blushed slightly on seeing him."

The instrumentalization of this typology has been made possible through the application of the MBTI (Briggs Myers, 1985/2000; a historical review of the development of this instrument at: https://www.myersbriggs.org/). This scale offers data on polarities related to introversion-extraversion, thinking-feeling, and sensation- intuition; moreover, the MBTI incorporates judging (J) and perceiving (P) as attitudes to approach the outside world. From the combinations of these aspects, a total of 16 profiles are derived that can vary throughout life, with their comprehension leading to better self-understanding (Briggs Myers and McCaulley, 1985; Briggs Myers, 1993).

The accumulated scientific evidence based on this instrument includes arguments in favor of and against its use. Supporting the MBTI, Lloyd (2015) highlights the importance of its structure for pairs or polarities – consistent with its Jungian base – compared to other nomenclatures that can lead to biased

ratings due to social desirability (regarding certain personality factors that are considered positive); in the words of Furnham (1996), the issue would be to warn and take into account the differences among the conceptions of personality in terms of types and traits, respectively. With regard to criticisms of the MBTI, they usually come from those who defend the use of the instrument supporting the Five-Factor Model of Personality (FFM: McCrae and Costa, 1989), which is an equivalent open-source assessment-tool that scholars are free to use and cite, with numerous contributions certifying its suitability in the study of the personality (Cooper et al., 2017).

Between these two extremes, some authors suggest accompanying the administration of the MBTI with other scales, in order to prevent the possible weaknesses of this instrument (Persky et al., 2015). In our case, in the present study, we undertake the analysis of the psychological types along with the analysis of values – as a concept that shows the degree to which an individual is linked to what is socially predominant in his/her time. This particular aspect of values is similar to the different psychological types, given that for each individual it is possible to contemplate different forms of identification and awareness of the elements of the collective unconscious.

Values are cognitive representations that respond to needs transformed into goals (Schwartz et al., 2001), guiding human actions (Gouveia et al., 2015). In addition to this, values are sensitive to historical and cultural aspects. For example, at certain times, there may have been a predominance of individualistic (with values such as Achievement, Power, Self-direction, Stimulation and Hedonism), collective (Conformity, Tradition, Benevolence), or mixed (Universalism, Security) interests. With regard to leadership, the importance of values has been shown (Schwartz and Sagie, 2000; Krishnan, 2001; Sosik, 2005; Nader and Castro, 2007, 2009), although they have only been partially analyzed and in specific settings such as military institutions.

From what is presented here – and to synthesize – we can highlight the two main ideas underlying this study:

- The science of heroism, in spite of being in its early stages, has contributed alternative and novel interpretations to the main tendencies in the analysis of leadership, such as the personal attributes of the leader, the social situations that favor certain leaderships, or the ways leaders and followers relate to each other (linked mainly to identitary phenomena).
- Due to its interstitial nature between the individual and social realms, leadership as heroic accomplishment is susceptible to being analyzed from Analytical Psychology, in particular, based on the relationships between the psychological types, the collective imagination about heroism, and the value orientations. This incorporation makes it possible to approach deeper content that can support what is heroic in the daily lives of leaders.

Based on these ideas, this research has the objective of jointly analyzing, in a sample of future CEOs, what they imagine about heroism, their psychological types, and their values orientation.

In fact, considering a sample of future CEOs is relevant given that this role can integrate leadership and heroism (Decter-Frain et al., 2017), with a sphere of influence that can range from the work team, which is coordinated with the rest of an organization – and, as the case may be, reaching an impact on society as a whole. By doing so, we aim to contribute a vision of leadership that, similar to the idea of wholeness as an attribute of heroism (Efthimiou et al., 2018), broadens the base of this emerging science.

MATERIALS AND METHODS

Participants

Participants were 45 students (21 men and 24 women) between 22 and 47 years old ($M = 26.69$ years; $SD = 4.47$), who were part of a master's program oriented toward training future CEOs as leaders. Participation in the study was voluntary, i.e., no payment or academic rewards (such as extra marks for subjects or course credits) were given.

Instruments

Data were collected using three instruments, along with the necessary demographics: the MBTI, an *ad hoc* questionnaire where each participant told a story in which s/he was the main hero or heroine, and the Personal Values questionnaire (adaptation of the Schwartz Value Survey to the Spanish-speaking context). This combination of instruments integrates qualitative and quantitative data, and so it offers a holistic view of the subjective aspects of leadership as heroic accomplishment.

Myers-Briggs Type Indicator

This questionnaire corresponds to the Spanish version of form G with 126 items (117 items with two response options, and the other nine with three) from the test that specifies the psychological typology developed by C. G. Jung. It considers the distinction between extraversion-introversion and the four functions of the psyche: thinking (T), feeling (F), sensation (S), and intuition (N). Depending on the person's degree of awareness of each of these functions, they are considered primary, auxiliary, tertiary, and lower functions. In addition to what was presented above about the MBTI as an instrument to analyze the psychological types, the suitability and validity of the MBTI – particularly for the case at hand – have been documented in studies that have used it to analyze leader profiles (Brown and Reilly, 2009; Mattare, 2015), student typologies (Carlson, 1985; Ribeiro Filho et al., 2010; Bak, 2012; Ihm et al., 2017; Mohammadi et al., 2018), and even learning styles (Daisley, 2011). In the present study, the information obtained was analyzed according to the prevalence of the 16 psychological types, as well as the four axes (or main characteristics) on which these types are organized: focusing the attention (extraversion-introversion), making decisions (thinking-feeling), orientation toward the outer world (judging-perceiving), and taking in information (sensing-intuition).

Story About One's Own Hero/Heroine

This *ad hoc* questionnaire consisted of writing a story in which the respondent was the protagonist. Responses were told to include a beginning, a development (rising and falling action), and an end (denouement), but they were free to choose the topics and the degree of realism of the story elements, in order to obtain an approximation to the degree to which heroism could be articulated – with a greater or lesser degree of consciousness – into the life narratives (Walker, 2017). In other words, the hero /heroine could, for example, have special powers or have his/her adventures in different eras or contexts. The stories were analyzed according to the characteristics described by Campbell (1949/2004) regarding the three core parts of the hero's adventure: *Departure* (The call to adventure, Refusal of the call, Supernatural aid, The crossing of the first threshold, The belly of the whale); *Initiation* (The road of Trials, The meeting with the goddess, Woman as the temptress, Atonement with the father, Apotheosis, The ultimate Boon); and *Return* (Refusal of the return, The magic flight, Rescue from without, The crossing of the return, Threshold, Master of the two worlds, Freedom to live). Specifically, for each core part of the participant's story, its predominant characteristics were identified. For example: if the part corresponding to the Departure gives more weight to the Refusal of the call, this characteristic was awarded a frequency of 1 (and so on for the other two core parts of the story – Initiation and Return). **Table 1** summarizes the contents of the core parts and their characteristics.

Personal Values Questionnaire

This instrument is the Spanish adaptation of the Schwartz Value Survey (Schwartz, 1992), carried out by Abella García et al. (2017) based on the suggestions of Schwartz and Boehnke (2004). This version consists of 50 items that evaluate the following 10 values (five items per value): Tradition, Security, Stimulation, Conformity, Hedonism, Achievement, Benevolence, Power, Self-direction, and Universalism. Each item can be scored from 1 ("I have it very little or not at all") to 7 ("I have it a lot or to a high degree"). The score for each value is obtained by adding up the points on the five items, yielding a range between 5 (in the case of giving the lowest score to the five value items) and 35 points (if all the items in the same value were given a score of seven). The results obtained were analyzed using descriptive statistics and Student's *t*-test.

Procedure

Data collection was carried out in paper format, before class time – in order to avoid interfering with the participants' master's degree classes – and in person. It took three sessions (one per instrument). The information was collected during the Fall Semester of the 2017–2018 academic year, beginning 1 month after classes started and ending 15 days before the final exams. This timing was important: it was intended to prevent contagion by outside variables such as extra academic work, tiredness, and class absenteeism. Data collection was carried out by members of the research team who were previously trained in the application of the set of research instruments.

With the consent of the teaching staff at the center, and after the research project had been introduced, the students filled out the instruments voluntarily after signing the informed consent. In each data collection session, the time required to fill out the instrument was less than 1 h. Confidentiality of the data was guaranteed, and the data were processed using version 24 of the SPSS program.

RESULTS

The data obtained in this study refer to the predominant psychological types, the main characteristics of the stories of the participants as heroes / heroines, and the orientation in terms of personal values.

Psychological Types

The analysis of the psychological types (**Table 2**) shows the predominance of two types over the others: the ESTJ profile (Extraverted Thinking with Introverted Sensing: $n = 9$, equivalent to 25.7% of the participants) and the ISTJ profile (Introverted Sensing with Extraverted Thinking: $n = 7$, representing 20.0% of the sample). Both profiles share sensing and thinking as dominant and auxiliary functions: in the case of the ESTJ profile, thinking is the dominant function, and sensing is auxiliary – contrary to what occurs in the ISTJ profile. This same relationship is observed in the tertiary and lower functions, which are Intuition and Feeling, respectively, for ESTJ (in the inverse order for ISTJ). As the main differential trait between these profiles, it can be observed that whereas the focus of attention of the ESTJ is extraverted, in the case of the ISTJ it is introverted.

Considering the psychological types according to their four main basic characteristics (**Table 3**), the highest frequencies are observed: in focusing the attention, Extraversion ($n = 20$, 57.1%); in making decisions, Thinking ($n = 31$, 88.6%); in orientation toward the outer world, Judging ($n = 22$, 62.9%); and in taking

TABLE 2 | Percentage of participants according to their Psychological Types.

Psychological types	*n*	%
ISTJ / Introverted Sensing with Extraverted Thinking	7	20.0
ISFJ / Introverted Sensing with Extraverted Feeling	0	–
ESTP / Extraverted Sensing with Introverted Thinking	3	8.6
ESFP/ Extraverted Sensing with Introverted Feeling	2	5.7
INTJ / Introverted Intuition with Extraverted Thinking	2	5.7
INFJ / Introverted Intuition with Extraverted Feeling	0	–
ENTP / Extraverted Intuition with Introverted Thinking	2	5.7
ENFP / Extraverted Intuition with Introverted Feeling	0	–
ISTP / Introverted Thinking with Extraverted Sensing	3	8.6
INTP / Introverted Thinking with Extraverted Intuition	3	8.6
ESTJ / Extraverted Thinking with Introverted Sensing	9	25.7
ENTJ / Extraverted Thinking with Introverted Intuition	2	5.7
ISFP / Introverted Feeling with Extraverted Sensing	0	–
INFP / Introverted Feeling with Extraverted Intuition	0	–
ESFJ / Extraverted Feeling with Introverted Sensing	1	2.9
ENFJ / Extraverted Feeling with Introverted Intuition	1	2.9

TABLE 3 | Percentage of participants according to the basic characteristics of the Types.

Characteristics of the Types	n	%
Focusing the attention		
Extraversion	20	57.1
Introversion	15	42.9
Making decisions		
Thinking	31	88.6
Feeling	4	11.4
Orienting toward the outer world		
Judging	22	62.9
Perceiving	13	37.1
Taking in information		
Sensing	25	71.4
Intuition	10	28.6

TABLE 4 | Percentage of participants according to the main tendencies in each part of the hero/heroine story.

Part of the hero/heroine story	n	%
Departure		
The Call to Adventure	23	65.7
Refusal of the Call	5	14.3
Supernatural Aid	4	11.4
The Crossing of the First Threshold	0	–
The Belly of the Whale	2	5.7
N/A	1	2.9
Initiation		
The Road of Trials	24	68.6
The Meeting with the Goddess	2	5.7
Woman as the Temptress	1	2.9
Atonement with the Father	1	2.9
Apotheosis	4	11.4
The Ultimate Boon	0	–
N/A	3	8.6
Return		
Refusal of the Return	1	2.9
The Magic Flight	0	—
Rescue from Without	0	—
The Crossing of the Return Threshold	4	11.4
Master of the Two Worlds	7	20.0
Freedom to Live	19	54.3
N/A	4	11.4

in information, Sensing ($n = 25$, 71.4%). The differentiation of these tendencies based on gender shows significant associations (information not tabulated) for taking in information ($\chi^2 = 5.53$, $p = 0.019$). Specifically, the percentage of men is 52.9% for the sensing type and 47.1% for the intuitive type; however, for the women, these percentages are 88.9 and 11.1%, respectively.

Stories About Their Own Hero/Heroine

With regard to the stories described by the participants, in which they were the leading heroes / heroines (**Table 4**), a tendency predominates in each part of the story. Specifically, Departure is

mainly characterized by The Call of Adventure ($n = 23$, 65.7%), Initiation by The Road of Trials ($n = 24$, 68.6%), and Return by Freedom to Live ($n = 19$, 54.3%).

As examples of each of the predominant tendencies in each part of the stories collected, we present the following (the extension of the text tries to situate the reader in the context of the story, highlighting in italics the fragment that illustrates the corresponding tendency):

The Call of Adventure/Departure

"It is a winter night. A group of fishermen and their leader were on the open sea doing their work. It was the third night of their journey, and everything was going very well, just as planned.

The problem arose on the fifth night, when an accident on the boat caused technical damage . . . *the question was whether to risk the lives of the fishermen and fulfill their mission satisfactorily – as they had been doing, or to return, having failed in their task. It was in this situation where the leader developed his/her skills.*"

Initiation/the Road of Trials

"R was a young man who had the gift of changing the size of things just by thinking about it . . . One day they arrived at a place where a witch, seeing happy people, looked for the reason, and she cast a spell whereby, instead of changing the size, things would disappear by making them very small. *After thinking a lot about how to use the spell to his advantage, R thought that perhaps by reducing the size of the witch, her powers would no longer work, until disappearing completely. But because he did not know if this would work, he did not want to risk annoying the witch.*"

Return/Freedom to Live

"Immediately, the aliens landed on the Earth, kidnapping the bad guys and explaining to humanity the truth and hidden secret throughout history. *Humanity, thanks to this, entered a cycle of illumination and creation of better futures.*"

For the tendency found in each part of the story, we went on to dichotomize the categories in the following way: in Departure, The Call of Adventure-Other departures; in Initiation, The Road of Trials-Other initiations; and in Return, Freedom to Live-Other returns. This recategorization made it possible to observe significant associations between the contents of the stories about their own hero/heroine and the predominant values of the participants.

Values

Regarding values (**Table 5**), the highest scores are observed on Benevolence ($M = 29.51$, $SD = 3.59$), Self-direction ($M = 28.94$, $SD = 3.36$), and Conformity ($M = 28.20$, $SD = 3.51$). By contrast, the values with the lowest scores were Power ($M = 24.51$, $SD = 4.36$), Universalism ($M = 25.66$, $SD = 4.33$), and Tradition ($M = 25.11$, $SD = 3.65$). Comparing these tendencies by gender (**Table 5**), significant differences were obtained on Tradition ($t = -2.36$, $p = 0.024$), Conformity ($t = -2.28$, $p = 0.029$), and Universalism ($t = -2.34$, $p = 0.025$); in all cases, the women had higher scores than the men.

In addition to the gender differences, the emphasis on certain values was also observed depending on the main characteristics

TABLE 5 | Types of values. Differences according to gender.

Values	Total sample (n = 35)		Men (n = 17)		Women (n = 18)		t	p
	M	SD	M	SD	M	SD		
Tradition	25.11	3.65	23.71	3.31	26.44	3.53	−2.36	0.024
Security	26.91	3.35	26.24	3.53	27,56	3,485	−1.17	0.250
Stimulation	26.14	4.25	26,06	3,864	26,22	4,710	−0.11	0.911
Conformity	28.20	3.51	26.88	4.09	29.44	2.35	−2.28	0.029
Hedonism	28.06	3.76	27.76	4.35	28.33	3.21	−0.44	0.662
Achievement	27.91	4.19	28.12	5.03	27.72	3.35	0.27	0.785
Benevolence	29.51	3.59	28.76	3.15	30.22	3.91	−1.20	0.236
Power	24.51	4.36	24.53	5.00	24.50	3.82	0.02	0.984
Self-direction	28.94	3.36	28.65	3.75	29.22	3.04	−0.49	0.623
Universalism	25.66	4.33	24.00	4.10	27.22	4.03	−2.34	0.025

Values, means on a scale of 7 to 35 (see section "Materials and Methods").

TABLE 6 | Types of values. Differences according to the main characteristics of the Psychological Types.

| | Total sample (n = 35) | | Focusing the attention | | | | | | Making decisions | | | | | |
			Extraversion (n = 20)		Introversion (n = 15)		t	p	Thinking (n = 31)		Feeling (n = 4)		t	p
Values	M	SD	M	SD	M	SD			M	SD	M	SD		
Tradition	25.11	3.65	25.40	3.50	24.73	3.93	−0.52	0.601	25.00	3.70	26.00	3.55	−0.51	0.614
Security	26.91	3.35	26.85	3.04	27.00	3.83	0.12	0.898	26.94	3.54	26.75	1.50	0.18	0.855
Stimulation	26.14	4.25	26.35	4.64	25.87	3.81	−0.33	0.738	25.97	4.24	27.50	4.72	−0.67	0.506
Conformity	28.20	3.51	28.05	3.73	28.40	3.31	0.28	0.775	28.10	3.68	29.00	1.82	−0.80	0.450
Hedonism	28.06	3.76	27.65	4.08	28.60	3.35	0.75	0.456	28.26	3.60	26.50	5.19	0.87	0.387
Achievement	27.91	4.19	28.40	3.84	27.27	4.68	−0.78	0.437	28.55	3.84	23.00	3.91	2.71	0.011
Benevolence	29.51	3.59	29.80	3.69	29.13	3.54	−0.54	0.592	29.68	3.47	28.25	4.78	0.74	0.463
Power	24.51	4.36	25.48	3.98	23.27	4.68	−1.48	0.146	24.90	4.11	21.50	5.80	1.49	0.145
Self-direction	28.94	3.36	28.40	3.76	29.67	2.71	1.10	0.277	29.29	3.28	26.25	3.09	1.74	0.090
Universalism	25.66	4.33	25.20	4.06	26.27	4.74	0.71	0.479	25.84	4.45	24.25	3.30	0.86	0.430

| | Total sample (n = 35) | | Orienting toward the outer world | | | | | | Taking in information | | | | | |
			Judging (n = 22)		Perceiving (n = 13)		t	p	Sensing (n = 25)		Intuition (n = 10)		t	p
Values	M	SD	M	SD	M	SD			M	SD	M	SD		
Tradition	25.11	3.65	25.73	3.75	24.08	3.35	1.34	0.190	25.08	3.74	25.20	3.61	−0,08	0.931
Security	26.91	3.35	27.32	2.85	26.23	4.10	0.92	0.362	27.24	3.12	26.10	3.92	0.90	0.372
Stimulation	26.14	4.25	25.27	4.35	27.62	3.79	−1.66	0.106	25.40	4.29	28.00	3.74	−1.77	0.091
Conformity	28.20	3.51	28.77	2.81	27.23	4.41	1.26	0.214	28.76	3.00	26.80	4.41	1.52	0.138
Hedonism	28.06	3.76	26.95	4.06	29.92	2.29	−2.76	0.009	27.84	3.18	28.60	5.10	−0.53	0.597
Achievement	27.91	4.19	28.41	3.69	27.08	4.97	0.90	0.372	28.36	3.56	26.80	5.53	0.99	0.328
Benevolence	29.51	3.59	30.50	3.24	27.85	3.64	2.23	0.033	30.28	3.56	27.60	3.02	2.24	0.036
Power	24.51	4.36	24.86	4.54	23.92	4.15	0.62	0.537	24.76	4.40	23.90	4.43	0.51	0.610
Self-direction	28.94	3.36	28.82	3.40	29.15	3.43	−0.28	0.781	23.90	4.43	29.80	3.45	−0.95	0.349
Universalism	25.66	4.33	26.41	4.14	24.38	4.50	1.35	0.185	26.44	3.80	23.70	5.12	1.74	0.091

Values, means on a scale of 7 to 35 (see section "Materials and Methods").

of the psychological types (**Table 6**). Specifically, Achievement obtained higher scores in those with a predominance of Thinking ($t = -2.71$, $p = 0.011$), Hedonism was greater in those with a predominance of Perceiving ($t = -2.76$, $p = 0.009$), and Benevolence was stronger in profiles corresponding to Judging ($t = 2.23$, $p = 0.033$) and Sensing ($t = 2.24$, $p = 0.036$). Finally,

the values of Power ($t = 1.85$, $p = 0.073$) and Self-Direction ($t = 2.07$, $p = 0.047$) obtained higher scores in participants who, in their story about their own hero/heroine, wrote a Return with a predominance of Freedom to Live content (information not tabulated).

DISCUSSION AND CONCLUSION

The results obtained offer an empirical base that considers three aspects together: the psychological typology of potential leaders, the basic characteristics of their images of heroism, and the personal values that orient them. Specifically, this process has been investigated in an educational setting where heroic leaders of the future can be shaped.

The psychological types observed – in particular, the predominance of the functions of thinking and sensing, with intuition and feeling being at a lower level of consciousness – can orient the training of future leaders. Following the characterization by Jung (1921/1976), in the case at hand, we have professionals whose psyche devotes its energy to conceptually structuring what is perceived – whether through extraversion or introversion. Consequently, this situation entails the need to make conscious the feelings that accompany life experiences, while attending to the contents that represent alternative images of reality – that is, intuition. From the perspective of Analytical Psychology, our findings can complement analyses such as the one carried out by Samuels (2000, p. 40) with regard to the good-enough leader: a person who, aware of his/her limitations, forms a constellation of archetypal contents that can respond to the profiles of erotic leader (who "brings out and reflects back the healthy self-love and self-admiration that exists in everyone"), trickster-as-leader (producing attraction toward his/her visionary ideas), and sibling leadership (establishing alliances through decentralization and shared work in networks).

The training of future leaders based on the psychological types employed must also take gender differences into account; thus, equality between men and women – in addition to responding to quotas in forming teams – would be complemented by the diversity stemming from incorporating other psychological types to develop teamwork. In a more general sense, the data obtained corroborate the usefulness of the MBTI in the study of leaders (Brown and Reilly, 2009; Mattare, 2015) or students similar to those in our sample (Ribeiro Filho et al., 2010; Bak, 2012; Mohammadi et al., 2018).

When analyzing the stories in which the participants were the protagonists, the use of the contents established by Campbell (1949/2004) revealed a basic structure of the heroic when carrying out this active imagination activity. Specifically, the majority of the sample offered stories in which the hero / heroin was confronted with a mystery to solve (or mission to fulfill), faced difficulties, and, finally, achieved harmony between the personal and the collective. The stronger presence of these basic contents encourages reflection about the need to make other contents visible that can be present in one's image of heroism; for example, by being aware of the transformations that can take place or the distractors that can appear while carrying out the

mission itself. Additionally, another element that can help to make our inner hero/heroine visible is the incorporation of the archetypal images as energizers of our psyche (as in studies like those by Sanders and van Krieken, 2018), as well as the epistemic and the energizing functions that the hero stories fulfill (Allison and Goethals, 2014).

Considering values as an interstitial concept between the collective and the individual has revealed the importance, in the group studied, of both individualist (Self-direction) and collectivist (Benevolence) values – with women significantly more oriented toward two of the collectivist values (Conformity, Tradition) and one of the mixed-type values (Universalism) (Schwartz et al., 2001; Abella García et al., 2017). These gender differences also suggest incorporating personal values as another element to take into account when analyzing the profiles of leaders, especially because differences were observed based on the main characteristics of the psychological types and the content of the story about their own hero/heroine (particularly those who wrote a Return in which they reconciled the individual and the universal). In sum, the set of instruments used in this study appears to be useful for future studies, given the information they provide about the profile of leaders, their imaginary hero, and the values that orient them.

LIMITATIONS AND FUTURE AGENDA

The findings of this study must be considered in light of its limitations. The size of the sample studied and the procedure through which the participants joined the study partly restrict the explanatory power of the results, pointing to the need for statistical controls – in addition to the employees – in the research process. This will positively affect the comparison of our data with those from broader studies at a more collective level. Regarding the individual level, future studies will have to include the process of raising consciousness about one's own heroism in leadership – and how heroism is integrated into people's daily lives.

This awareness is susceptible to being investigated through a longitudinal study, taking into account that the entire process of self-awareness has fluctuations that can influence the stability of the measures. In this regard, the instruments used must respond to both an adequate statistical functioning and ontological coherence in its use, that is, making the measures serve the underlying theory of the study – rather than the contrary. As an example of this reflection, future applications of the MBTI in longitudinal studies must take into account the individuation process of those who respond– in the direction of what was described by Myers (2016) – and the need for greater dialog between this instrument and others, such as the FFM – as mentioned in the studies by Lloyd (2015) or Cooper et al. (2017).

In a more general sense, this exploration of the heroic element of leadership is consistent with contributions linked to the so-called *moral modeling* or *moral career*, that is, by offering guidelines that influence the way one might lead his/her own life (Allison and Goethals, 2015; Kinsella et al., 2017; Nakamura and Graham, 2017; Walker, 2017). This task itself – which is heroic – will take shape, represented by establishing the bases of heroic

wellbeing (Efthimiou et al., 2018; Williams, 2018), and reminding us that every life transition has the potential to be transcendent.

ETHICS STATEMENT

All subjects gave written informed consent prior to the collection of the research data. The ethical requirements of the Ethics Committee of the University of Barcelona were applied to the current study, which meant that additional approval for the research was not required because the data obtained did not involve animal or clinical experimentation. Additionally, this study complies with the recommendations of the General Council of Spanish Psychological Associations (Consejo General de Colegios de Psicólogos) and the Spanish Organic Law on Data Protection (15/1999: Jefatura del Estado, 1999).

AUTHOR CONTRIBUTIONS

JP conceived and designed the research, drafting the work, and revising it critically for important intellectual content. NC was responsible for the analysis and interpretation of data gathered during the research, revising it critically for important intellectual content.

REFERENCES

Abella García, V., Lezcano Barbero, F., and Casado Muñoz, R. (2017). Evaluación de la jerarquía de los valores humanos de schwartz en la adolescencia: diferencias de género e implicaciones educativas [Evauation of the hierarchy of human values by schwartz in adolescence: gender differences and educational implications]. *Rev. Bras. Educ.* 22, 123–146. doi: 10.1590/s1413-24782017226807

Allison, S. T., and Goethals, G. R. (2014). ""Now he belongs to the ages": the heroic leadership dynamic and deep narratives of greatness," in *Conceptions of Leadership: Enduring Ideas and Emerging Insights*, eds G. R. Goethals, S. T. Allison, R. M. Kramer, and D. M. Messick (New York, NY: Palgrave Macmillan), 166–183.

Allison, S. T., and Goethals, G. R. (2015). Hero worship: the elevation of the human spirit. *J. Theor. Soc. Behav.* 46, 187–210. doi: 10.1111/jtsb.12094

Allison, S. T., and Goethals, G. R. (2017). "The hero's transformation," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 379–400.

Allison, S. T., Goethals, G. R., and Kramer, R. M. (2017). "Setting the scene: the rise and coalescence of heroism science," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 1–16.

Avolio, B. J., and Bass, B. M. (1999). Re-examining the components of transformational and transactional leadership using the multifactor leadership questionnaire. *J. Occup. Organ. Psych.* 72, 441–462. doi: 10.1348/096317999166789

Ayman, R., Chemers, M. M., and Fiedler, F. (1995). The contingency model of leadership effectiveness: its levels of analysis. *Leadersh. Q.* 6, 147–167. doi: 10.1016/1048-9843(95)90032-2

Bak, S. (2012). Personality characteristics of South Korean students with visual impairments using the myers-briggs type. *J. Vis. Impair. Blind.* 106, 287–298.

Banks, G. C., McCauley, K. D., Gardner, W. L., and Guler, C. E. (2016). A meta-analytic review of authentic and transformational leadership: a test for redundancy. *Leadersh. Q.* 27, 634–652. doi: 10.1016/j.leaqua.2016.02.006

Bono, J. E., and Judge, T. A. (2004). Personality and transformational and transactional leadership: a meta-analysis. *J. Appl. Psychol.* 89, 901–910. doi: 10.1037/0021-9010.89.5.901

Briggs Myers, I. (1993). *Introduction to Type. A Guide to Understanding Your Results on the Myer-Briggs Type Indicator*, 5th Edn. Palo Alto, CA: Consulting Psychologists Press.

Briggs Myers, I., and McCaulley, M. H. (1985). *Manual, a Guide to the Development and Use of the Myers-Briggs Type Indicator*. Palo Alto, CA: Consulting Psychologists Press.

Briggs Myers, I. (1985/2000). *MBTI Inventario Tipológico, Forma G [MBTI Tipology Inventory, Form G*, 3rd Edn. Madrid: TEA Ediciones, S.A.

Brown, F. W., and Reilly, M. D. (2009). The myers-briggs type indicator and transformational leadership. *J. Manag. Dev.* 28, 916–932. doi: 10.1108/02621710911000677

Campbell, J. (1949/2004). *The Hero with a Thousand Faces*. Princeton, NJ: Princeton University Press.

Carlson, J. G. (1985). Recent assessments of the myers-briggs type indicator. *J. Pers. Assess.* 49, 356–365. doi: 10.1207/s15327752jpa4904-3

Cooper, C. A., Campbell-Bridges, W., and McCord, D. M. (2017). Personality and the teaching of public administration: a case for the big five. *J. Public Aff. Educ.* 23, 677–690. doi: 10.1080/15236803.2017.12002278

Daisley, R. J. (2011). Considering personality type in adult learning: using the myers-briggs type indicator in instructor preparation at pricewaterhousecoopers. *Perform. Improv.* 50, 15–24. doi: 10.1002/pfi.20196

Decter-Frain, A., Vanstone, R., and Frimer, J. A. (2017). "Why and how groups create moral heroes," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 120–138.

Efthimiou, O. (2017). "The hero organism: advancing the embodiment of heroism thesis in the twenty-first century," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 139–162.

Efthimiou, O., and Allison, S. T. (2017). Heroism science: frameworks for an emerging field. *J. Hum. Psychol.* 58, 556–570. doi: 10.1177/0022167817708063

Efthimiou, O., Allison, S. T., and Franco, Z. E. (2018). "Conclusion. definition, synthesis, and applications of heroic wellbeing," in *Heroism and Wellbeing in the 21st Century. Applied and Emerging Perspectives*, eds O. Efthimiou, S. T. Allison, and Z. E. Franco (New York, NY: Routledge), 210–239.

Epitropaki, O., Kark, R., Mainemelis, C., and Lord, R. G. (2017). Leadership and followership identity processes: a multilevel review. *Leadersh. Q.* 28, 104–129. doi: 10.1016/j.leaqua.2016.10.003

Fiedler, F. (1964). A contingency model of leadership effectiveness. *Adv. Exp. Soc. Psychol.* 1, 149–190. doi: 10.1016/S0065-2601(08)60051-9

Furnham, A. (1996). The big five versus the big four: the relationship between the myers-briggs type indicator (MBTI) and NEO.PI five factor model of personality. *Pers. Indiv. Diff.* 21, 303–307. doi: 10.1016/0191-8869(96)00033-5

Gouveia, V., Milfont, T. L., Vione, K. C., and Santos, W. S. (2015). Guiding actions and expressing needs: on the psychological functions of values. *Psykhé* 24, 1–14. doi: 10.7764/psyche.24.2.884

Graeff, C. L. (1997). Evolution of situational leadership theory: a critical review. *Leadersh. Q.* 8, 153–170. doi: 10.1016/S1048-9843(97)90014-X

Guggenbühl-Craig, A. (1980/2008). *The Emptied Soul. On the Nature of the Psychopath.* Putnam, CT: Spring Publications.

Haslam, A. A., Steffens, N. K., Peters, K., Boyce, R. A., Mallet, C. J., and Fransen, K. (2017). A social identity approach to leadership development. The 5R program. *J. Pers. Psychol.* 16, 113–124. doi: 10.1027/1866-5888/a000176

Haslam, S. A., Reicher, S. D., and Platow, M. J. (2011a). "El liderazgo como gestión de la identidad social [Leadership as social identity management]," in *Liderazgo: Hecho y Ficción*, Coords. Edn, eds F. Molero and J. F. Morales (Madrid: Alianza Editorial), 77–116.

Haslam, S. A., Reicher, S. D., and Platow, M. J. (2011b). *The New Psychology of Leadership: Identity, Influence and Power.* New York, NY: Psychology Press.

Hill, W. (1969). A situational approach to leadership effectiveness. *J. Appl. Psychol.* 53, 513–517. doi: 10.1037/h0028667

Hogg, M. A. (2001). A social identity theory of leadership. *Pers. Soc. Psychol. Rev.* 5, 184–200. doi: 10.1207/S15327957PSPR0503_1

Ihm, J. J., An, S. Y., and Seo, D. G. (2017). Do dental students' personality types and group dynamics affect their performance in problem-based learning? *J. Dent. Educ.* 81, 744–751. doi: 10.21815/JDE.017.015

Israeli, H., Itamar, S., and Shahar, G. (2018). The heroic self under stress: prospective effects on anxious mood in Israeli adults exposed to missile attacks. *J. Res. Pers.* 75, 17–25. doi: 10.1016/j.jrp.2018.05.003

Jefatura del Estado. (1999). Ley orgánica 15/1999, de 13 de diciembre, de proteccioìn de datos de caraìcter personal [Organic law 15/1999, of December 13, protection of personal data]. *Boletín Oficial del Estado* 298, 43088–43099.

Judge, T. A., Bono, J. E., Ilies, R., and Gerhardt, M. W. (2002). Personality and leadership: a qualitative and quantitative review. *J. Appl. Psychol.* 87, 765–780. doi: 10.1037/0021-9010.87.4.765

Jung, C. G. (1921/1976). "Psychological types," in *The Collected Works of C. G: Jung*, eds H. Read, M. Fordham, G. Adler, and W. McGuire (New York, NY: Princeton University Press), 6.

Jung, C. G. (1952/1976). "Symbols of transformation. an analysis of the prelude to a case of schizophrenia," in *The Collected Works of C. G: Jung*, eds H. Read, M. Fordham, G. Adler, and W. McGuire (New York, NY: Princeton University Press), 5.

Jung, C. G. (1959/1980). "Archetypes and the collective unconscious," in *The Collected Works of C. G: Jung*, eds H. Read, M. Fordham, G. Adler, and W. McGuire (New York, NY: Princeton University Press), 9.

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015a). Lay perspectives on the social and psychological functions of heroes. *Front. Psychol.* 6:130. doi: 10.3389/fpsyg.2015.00130

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015b). Zeroing in on heroes: a prototype analysis of hero features. *J. Pers. Soc. Psychol.* 108, 114–127. doi: 10.1037/a0038463

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2017). "Attributes and applications of heroes: a brief history of lay and academic perspectives," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 19–35.

Kramer, R. M. (2017). "To become or not to become? existential courage and the quest for identity," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 262–282.

Krishnan, V. R. (2001). Value systems of transformational leaders. *Leadersh. Org. Dev. J.* 22, 126–132. doi: 10.1108/01437730110389274

Lewin, K., and Lippitt, R. (1938). An experimental approach to the study of autocracy and democracy: a preliminary note. *Sociometry* 1, 292–300. doi: 10.2307/2785585

Lewin, K., Lippitt, R., and White, R. K. (1939). Patterns of aggressive behaviour in experimentally created "social climates". *J. Soc. Psychol. Bull.* 10, 271–299.

Lloyd, J. B. (2015). Unsubstantiated beliefs and values flaw the five-factor model of personality. *J. Beliefs Values* 36, 156–164. doi: 10.1080/13617672.2015.1033209

Lowe, K. B., Kroeck, K. G., and Sivasubramaniam, N. (1996). Effectiveness correlates of transformational leadership: a meta analytic review. *Leadersh. Q.* 7, 385–425. doi: 10.1016/S1048-9843(96)90027-2

Mattare, M. (2015). Revisiting understanding entrepreneurs using the myers-briggs type indicator. *J. Mark Dev. Comp.* 9, 114–119.

McCrae, R. R., and Costa, P. T. (1989). Reinterpreting the myers-briggs type indicator from the perspective of the five-factor model of personality. *J. Pers.* 57, 17–40. doi: 10.1111/j.1467-6494.1989.tb00759.x

Mohammadi, S. D., Rahmatinejad, P., Seyedtabaee, S. R., and Akbari, V. (2018). The correlation between early maladaptive schemas and myers-briggs personality dimensions in medical students. *QOM Univ. Sci. Med. J.* 11, 87–94.

Molero, F. (2011). "Liderazgo transformacional y carismático [Transformational and charismatic leadership]," in *Liderazgo: Hecho y Ficción*, Coords. Edn, eds F. Molero and J. F. Morales (Madrid: Alianza Editorial), 117–144.

Myers, S. (2016). Myers-briggs typology and Jungian individuation. *J. Anal. Psychol.* 61, 289–308. doi: 10.1111/1468-5922.12233

Nader, M., and Castro, A. (2007). Influencia de los valores sobre los estilos de liderazgo: un análisis según el modelo de liderazgo transformacional - transaccional de Bass [Influence of values on leadership styles: an analysis according to Bass' transformational-transactional leadership model]. *Univ. Psichol.* 6, 689–698.

Nader, M., and Castro, A. (2009). Relacioìn entre los estilos de liderazgo, valores y cultura organizacional: un estudio con liìderes civiles y militares [Relationship between leadership styles, values and organizational culture: a study with civilian and military leaders]. *Anu. Psicol.* 40, 237–254.

Nakamura, J., and Graham, L. (2017). "The impact of heroism on heroes and observers: stories of elevation," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 417–437.

Neira Vaque, D. C., Cárdenas Echeverria, H. A., and Balseca Villavicencio, N. I. (2018). Influencia de la personalidad en los estilos de liderazgo [Influence of personality in leadership styles]. *Univ. Soc.* 10, 334–338.

Pascoe, J. (2018). "The heroic learner. engaging and inspiring students through the art of heroism," in *Heroism and Wellbeing in the 21st Century. Applied and Emerging Perspectives*, eds O. Efthimiou, S. T. Allison, and Z. E. Franco (New York, NY: Routledge), 61–71.

Persky, A. M., Henry, T., and Campbell, A. (2015). An exploratory analysis of personality, attitudes, and study skills on the learning curve within a team-based learning environment. *Am. J. Pharmaceut. Educ.* 79, 1–20. doi: 10.5688/ajpe79220

Ribeiro Filho, J. F., Lopes, J. E. D. G., Almeida, L. B. D., Pederneiras, M. M. M., and Ribeiro, M. T. J. D. B. (2010). Características da personalidade de estudantes de ciências contábeis: análise do conhecimento baseado no modelo myers-briggs type indicator (MBTI) [Personality characteristics of accounting sciences students: analysis of knowledge-based model myers-briggs type indicator (MBTI)]. *Contab. Gest. Gov.* 13, 51–64.

Samuels, A. (2000). "The good-enough leader," in *The Vision Thing. Myth, Politics and Psyche in the World*, ed. T. Singer (London: Routledge), 34–49.

Sanders, J., and van Krieken, K. (2018). Exploring narrative structure and hero enactment in brand stories. *Front. Psychol.* 9:1645. doi: 10.3389/fpsyg.2018.01645

Schwartz, S. H. (1992). "Universals in the content and structure of values: theory and empirical tests in 20 countries," in *Adv. Exp. Soc. Psych*, ed. M. Zanna (New York, NY: Academic Press), 1–65.

Schwartz, S. H., and Boehnke, K. (2004). Evaluating the structure of human values with confirmatory factor analysis. *J. Res. Pers.* 38, 230–255. doi: 10.1016/S0092-6566(03)00069-2

Schwartz, S. H., Melech, G., Lehman, A., Burgess, S., Harris, M., and Owens, V. (2001). Extending the cross-cultural validity of the theory of basic human values with a different method of measurement. *J. Cross Cult. Psychol.* 32, 519–542. doi: 10.1177/0022022101032005001

Schwartz, S. H., and Sagie, G. (2000). Value consensus and importance: a cross-national study. *J. Cross Cult. Psychol.* 31, 465–497. doi: 10.1177/0022022100031004003

Shahar, G. (2013). The heroic self: conceptualization, measurement, and role in distress. *Int. J. Cogn. Ther.* 6, 248–264. doi: 10.1521/ijct.2013.6.3.248

Sosik, J. J. (2005). The role of personal values in the charismatic leadership of corporate managers: a model and preliminary study. *Leadersh. Q.* 16, 221–244. doi: 10.1016/j.leaqua.2005.01.002

Sun, J., Chen, X., and Zhang, S. (2017). A review of research evidence on the antecedents of transformational leadership. *Educ. Sci.* 7:15. doi: 10.3390/educsci7010015

von Franz, M.-L. (1980). *The Psychological Meaning of Redemption Motifs in Fairytales*. Toronto: Inner City Books.

von Franz, M.-L. (1995). *Shadow and Evil in Fairy Tales*. Boulder, CO: Shambhala Publications Inc.

von Franz, M.-L. (1997). *Archetypal Patterns in Fairy Tales*. Toronto, ON: Inner City Books.

Walker, L. J. (2017). "The moral character of heroes," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 99–119.

Weber, M. (1921/1946). "The sociology of charismatic authority," in *Max Weber: Essays in Sociology*, eds H. H. Gerth and C. W. Milles (New York, NY: Oxford University Press), 245–252.

Williams, C. (2018). "The hero's journey: a mudmap to wellbeing," in *Heroism and Wellbeing in the 21st Century. Applied and Emerging Perspectives*, eds O. Efthimiou, S. T. Allison, and Z. E. Franco (New York, NY: Routledge), 72–89.

Zaccaro, S. J., Green, J. P., Dubrow, S., and Kolze, M. J. (2018). Leader individual differences, situational parameters, and leadership outcomes: a comprehensive review and integration. *Leadersh. Q.* 29, 2–43. doi: 10.1016/j.leaqua.2017.10.003

Heroic Helping: The Effects of Priming Superhero Images on Prosociality

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Two experiments examined how exposure to superhero images influences both prosociality and meaning in life. In Experiment 1 ($N = 246$) exposed individuals to scenes with superhero images or neutral images. Individuals primed with superhero images reported greater helping intentions relative to the control group, which, in turn, were associated with increased meaning in life (indirect effect only; no direct effect). In Experiment 2 ($N = 123$), individuals exposed to a superhero poster helped an experimenter in a tedious task more than those exposed to a bicycle poster, though no differences were found for meaning in life. These results suggest that subtle activation of superhero stimuli increases prosocial intentions and behavior.

Keywords: heroes, meaning in life, prosocial, helping, priming

INTRODUCTION

"Unconsciously we all have a standard by which we measure other men, and if we examine closely we find that this standard is a very simple one, and is this: we admire them, we envy them, for great qualities we ourselves lack. Hero worship consists in just that. Our heroes are men who do things which we recognize, with regret, and sometimes with a secret shame, that we cannot do. We find not much in ourselves to admire, we are always privately wanting to be like somebody else. If everybody was satisfied with himself, there would be no heroes."

—Mark Twain

Heroes play important roles at the intrapersonal, interpersonal, and cultural levels. For many, heroes are inspirational moral exemplars that demonstrate extraordinary courage and live profoundly meaningful lives. Since the earliest literary works, heroes have been extolled and worshipped (e.g., Epic of Gilgamesh), and they occupy a valuable place in many societies. Heroes typically are paragons of prosociality, often going to great lengths to help others, even when doing so endangers themselves or comes at a high cost. But do their prosocial examples influence prosocial actions, and if so, how? In two experiments, we explored whether the subtle activation of heroic images increases prosocial intentions and behaviors, and whether those prosocial inclinations helped enhance one's perception of meaning in life.

A Function of Heroes

Heroes serve a variety of social and cultural functions. Previous research has highlighted how heroes may serve an important motivational role of inspiring individuals toward prosocial or altruistic actions (Franco et al., 2016). One of the functions of heroes is to model certain moral behaviors that

others should emulate (Kinsella et al., 2015a). Heroes demonstrate behaviors that align with moral principles and inspire individuals to live meaningful and purposeful lives (Allison and Goethals, 2011). Indeed, researchers have converged on the idea that heroism may play an important role in the pursuit and experience of a meaningful life (Green et al., 2017; Kinsella et al., 2017). Thus, heroes are often extolled as morally virtuous individuals who live, or have lived, meaningful lives.

This research suggests that heroes may affect individuals' perceptions on two related domains. First, because heroes are moral exemplars (Kinsella et al., 2015a,b), exposure to heroes may affect people's intentions to act prosocially (Franco et al., 2016). Because heroes are defined, in part, by their moral courage and conviction, and their ability to do the right thing in the face of considerable adversity, we suspect that heroes play an important role in prosocial processes. Second, heroes live meaningful lives (Green et al., 2017; Kinsella et al., 2017) and inspire others to do the same (Allison and Goethals, 2011). Some have argued that the motivation for meaning leads to affirmation of heroes, contending that there is a strong link between perceptions of meaning and heroes (Coughlan et al., 2017). Prior work has linked prosociality and meaning in life (Van Tongeren et al., 2016; Klein, 2017), as well as documented that specific prosocial or virtuous behaviors, such as helping others or expressing gratitude, provide a sense of meaning (e.g., Van Tongeren et al., 2015). Accordingly, it is possible that the prosocial nature of heroes is precisely what makes their lives so meaningful. Their sacrifice and prioritization of the needs of others gives their existence meaning. Thus, we sought to focus on how heroes affect prosociality and perceptions of meaning in life.

The Motivational Function of Heroes

Heroes can be either actual individuals who lived meaningful lives or abstract archetypes that are embedded in myths, folklore, or comic books. Both types of heroes likely possess similar characteristics of virtue and valor. Fictional superheroes, such as Superman, embody courage and conviction, and they are moral exemplars who help, defend, or save those in need (Kinsella et al., 2015b). However, their lofty, otherworldly example is often unattainable. According to social comparison theory (Festinger, 1954), when making an upward comparison toward those that outperform people on a particular domain (e.g., morality), people are motivated to emulate such behaviors when there is little psychological closeness (or in this case, realism), but they may feel threatened when there is greater psychological closeness (or realism). Put another way, we hypothesize that the realism or psychological closeness of the hero will determine whether an assimilation versus contrast effect occurs (Suls et al., 2002). Superheroes may, then, represent an ideal (prosocial) motivational standard for individuals. That is, when being reminded of a superhero, individuals can protect their self-esteem and preserve self-evaluation by recalling that such individuals are not real; thus, they pose little psychological threat and are instead inspirational, motivating them to emulate their noble actions.

Looked at differently, heroes represent part of an individual's ideal self, at least in some domains (Sullivan and Venter, 2005, 2010). When the representation of this is abstract and embodied in a fictional superhero, individuals may be motivated toward achieving this ideal self. Accordingly, abstract heroes should be particularly motivational (Tesser, 1988) and should prompt individuals to aspire toward their characteristics. We focused on how a reminder of superheroes may elicit greater prosocial intentions and behaviors, which, in turn, may provide individuals with a sense of meaning in life. Given that superheroes are ubiquitous in societies today (e.g., comic book superhero movies have earned billions per year recently, and related television shows have proliferated), this investigation is timely and pertinent.

OVERVIEW AND HYPOTHESIS

Based on previous research, superheroes embody aspirational lives that are fictional and unattainable; accordingly, superheroes likely serve a motivational feature as they are exemplars of prosocial and meaningful lives. Our central prediction was that priming abstract superhero images should result in increased prosocial behavior, which, in turn, should be associated with greater meaning in life. Specifically:

Hypothesis 1: Exposure to superhero images will increase prosocial behavior.
Hypothesis 2: Exposure to superhero images will increase meaning in life.
Hypothesis 3: The effect of exposure to superhero images on meaning in life will occur via increased prosocial behavior (i.e., increased prosocial behavior will mediate the influence of exposure to superhero images on meaning in life).

Previous research has identified numerous methodological challenges with studying heroes, and researchers have suggested that experimental methodology is necessary to advance research in this domain (Franco et al., 2016). Toward that end, we designed two experiments to test our central hypothesis. In Experiment 1, participants were exposed to superhero-related versus neutral images, then completed assessments of behavioral intentions to help and reported their meaning in life. In Experiment 2, participants completed tasks in a laboratory room that had a picture of a superhero versus a neutral image, and they subsequently were asked to help the experimenters with a task, then completed an assessment of meaning in life.

In all experiments, we report all conditions and all measures, as well as whether or not any participants were excluded from the analysis. For all studies, we sought to obtain enough participants to detect a medium effect with an alpha of 0.05 (Cohen, 1992). This translated to 64 participants per condition (N = 128) for Experiment 1, so we gathered more than 200 participants. In Experiment 2, 87 participants were required; thus, we sought at least 120 participants and continued collecting data until the conclusion of the academic semester. The studies were carried out in accordance with the recommendations of the Belmont Report and the Collaborative Institutional Training Initiative guidelines.

The protocol was approved by the Human Subjects Review Board at Hope College. All subjects gave electronic (Study 1) or written (Study 2) informed consent prior to participation.

EXPERIMENT 1: PROSOCIAL INTENTIONS

Method

Participants were 246 community members (110 females, 136 males) recruited from Amazon's Mechanical Turk who completed the study for financial compensation. Data from four participants were excluded because they skipped the priming induction. All procedures were completed online. Participants read and agreed to a consent form informing them that their participation was voluntary and that they could quit at any time without penalty. We randomly assigned participants to the superhero condition ($n = 123$) or neutral condition ($n = 119$). In both conditions, participants viewed four everyday household scenes: two desks, one garage and one bedroom. Participants were instructed to find four specific objects in each picture and write one word describing each object once they found it. They were instructed to spend no more than 30 s on each scene. Though each scene contained enough objects to make the task engaging, each object could be easily found in the 30 s timeframe. In the superhero prime condition, the pictures were edited so that one of the target objects in each scene contained an easily recognizable superhero logo or image (e.g., Superman, Spiderman). This acted as a subtle superheroes prime. The scenes otherwise were identical to the control condition (which did not have any superhero images).

Participants next completed a self-reported altruism scale (SRAS; Rushton et al., 1981; $\alpha = 0.90$), and a self-reported virtues scale (Berry et al., 2005; $\alpha = 0.93$). We assessed helping intentions whereby participants read six scenarios and indicated their likelihood to help on a 100-point scale (0 = *definitely would not help* to 100 = *definitely would help*). The scenarios involved helping a stranded motorist, recovering a lost dog, donating to charity, returning lost money, shoveling an elderly neighbor's snowy driveway, and helping a lost stranger with directions. The six items were averaged for composite helping intentions score ($\alpha = 0.74$).

Meaning in life was assessed using the widely used Meaning in Life Questionnaire (Steger et al., 2006), which is a 10-item self-report measure assessing the presence of meaning (5 items; $\alpha = 0.93$) and search for meaning ($\alpha = 0.96$). Consistent with our primary hypothesis, we focused on the presence of meaning.

Finally, we assessed participants' knowledge of and interest in superheroes via three items: "How would you rate your knowledge of popular superheroes?" (assessed on a 4-point scale), "How much time do you spend watching/reading/playing superhero-related entertainment?" (assessed on a 7-point scale), and "How interested are you generally in superheroes?" (assessed on a 7-point scale). These items were averaged to calculate a mean interest in superheroes ($a = 0.76$; $M = 3.04$, $SD = 1.11$). Participants were also asked to name three of the superheroes used in the study. Nearly every participant named all three

superheroes correctly, and every participant correctly identified at least one of the three. Finally, participants indicated what they thought the nature of the study was about (no participants guessed correctly) and were fully debriefed.

Results

First, to test Hypothesis 1, we examined the effect of the superhero priming condition on helping intentions. To ensure that our results were not simply an artifact of how familiar participants were with the priming stimuli or generally interested in superheroes, we statistically controlled for prior knowledge of superhero characters. In support of Hypothesis 1, participants primed with the superhero images ($M = 65.27$, $SE = 1.69$) reported significantly higher helping intentions than those primed with the neutral images ($M = 60.45$, $SE = 1.69$), $F(1,236) = 4.07$, $p = 0.045$, partial eta$^2 = 0.02$. (This effect was marginal when not controlling for superhero knowledge, [$F(1, 237) = 3.57$, $p = 0.060$, partial eta$^2 = 0.02$].

Hypothesis 2 was not supported: there were no differences on meaning in life between participants primed with the superhero images ($M = 4.80$, $SE = 0.15$) and those primed with the neutral images ($M = 4.93$, $SE = 1.14$), $F(1,236) = 0.44$, $p = 0.508$, partial eta$^2 = 0.00$. However, we proceeded to test the mediation hypothesis (Hypothesis 3) because it is not uncommon to find a significant indirect effect (in this case, from superhero prime to meaning via helping intentions) even in the absence of a direct effect, and testing these indirect effects is vital to theory development (Hayes, 2009).

Data were analyzed using PROCESS (Hayes, 2012) to test an indirect effects model (i.e., Hypothesis 3) from the priming condition to meaning in life via helping intentions across 5,000 bootstrapping iterations. Critically, there was a significant indirect effect from priming condition to meaning in life through helping intentions (completely standardized estimate = 0.03, $SE = 0.02$, 95% $CI = 0.001$ to 0.078), in support of Hypothesis 3. This suggests that priming individuals with abstract superhero images is associated with increased behavioral intentions to help, which, in turn, is associated with greater meaning in life.

We also examined whether the effect on helping intentions was moderated by trait level differences in prosociality. The effect on condition on helping intentions was not moderated by self-reported virtuousness [$F(1,223) = 0.25$, $p = 0.615$] or self-reported altruism [$F(1,224) = 0.69$, $p = 0.408$]. Thus, the prime appears to similarly influence people of varying levels of dispositional prosociality. Although, the prime did not directly affect self-reported virtuousness [$F(1,227) = 1.29$, $p = 0.258$], those in the superhero prime condition self-reported greater altruism ($M = 3.74$, $SD = 0.66$) than those in the neutral condition ($M = 3.55$, $SD = 0.76$), $F(1,225) = 4.05$, $p = 0.045$, which is consistent with the findings regarding self-reported helping intentions.

Discussion

Even relatively superficial exposure to symbols of heroes increases perceptions of helpfulness and meaning in life. The results of Experiment 1 demonstrated that implicit priming of superhero images was associated with increased self-reported helping

intentions. It also revealed a significant positive correlation between helping intentions and meaning in life, suggesting that those participants that reported higher helping intentions also reported significantly higher meaning in life. These results confirm our hypothesis that an abstract superhero prime would increase prosocial behavior in participants and therefore increase their meaning in life. The priming of heroic symbols had an indirect effect on meaning in life through helping intention (though the direct effect from heroic symbols to meaning in life was not significant). Heroic symbols appear to enhance participants' reporting of greater helping intentions and meaning in life.

One possible drawback of Experiment 1 was its reliance on self-reported helping intentions. We sought to address this limitation in Experiment 2 by examining actual helping behavior. Experiment 2 also used a different (and arguably more ecologically valid) prime of heroic symbols.

EXPERIMENT 2: PROSOCIAL BEHAVIOR

Method

Participants were 123 students (84 females, 36 males, 3 did not report) enrolled in introductory psychology courses at a small, private Midwestern college. No data were excluded. After providing consent, participants were ushered into a small laboratory room with a small poster of Superman (superhero priming condition; $n = 62$) or a bicycle (neutral condition; $n = 61$) affixed to the wall, with a note indicating that this poster was for a different "media images" study, run by a different faculty member in the department, and was to be left undisturbed. Superman was selected because he is a very well-known superhero in American culture. The neutral condition room included a poster of a bicycle–which was similar in color and size to the Superman poster–affixed to the wall.

Participants completed a paper packet with the materials used in Experiment 1, with a notable addition. To make the poster image cognitively salient, participants were first prompted to write a brief description of their surroundings and how it made them feel. This packet, which included the same two measures of dispositional prosociality from Experiment 1 (SRAS: $\alpha = 0.63$; virtues scale: $\alpha = 0.83$), was intentionally kept brief (i.e., it was completed by participants in less than 10 min), and participants signed up for a 30-min research time-slot, leaving them 20 additional min to potentially help (and avoid the possibility that they did not help because they did not have time).

Following completion of the packet, participants were told that they had completed the study, but if they would like to help, they could participate in a 20-min pilot study (for no additional credit) that was still "in development." They also were told that their assistance would be extremely helpful to the researchers. If participants agreed to help, they were directed into another room to complete a boring task of rating up to 60 geometric shapes (e.g., hexagons) along several dimensions (e.g., "how geometrically soothing is the image?"). The experimenter informed them that they could stop at any time. After rating each shape on several dimensions, participants read a screen that thanked them for
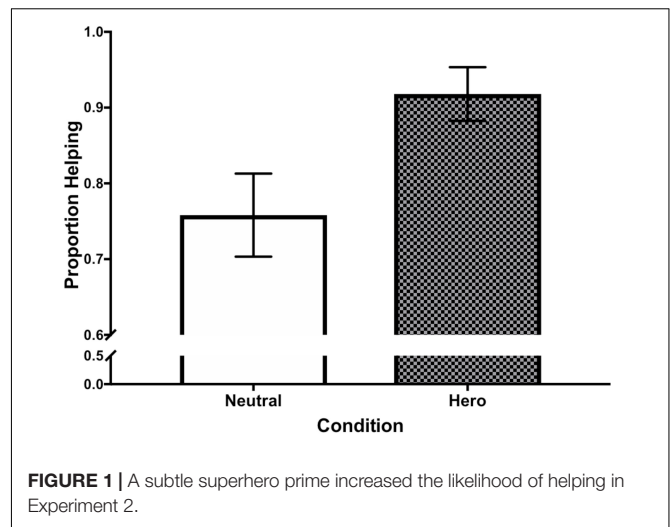
FIGURE 1 | A subtle superhero prime increased the likelihood of helping in Experiment 2.

helping, and asked if they would like to continue helping by rating the next shape. This continued for up to 60 iterations. All participants were stopped after a maximum of 15 min if they were still working on the task. Upon cessation or when they were stopped by the experimenter, participants completed the MLQ measure of meaning in life ($\alpha = 0.89$). Finally, participants indicated what they thought the nature of the study was about (no participants guessed correctly) and were fully debriefed.

Results

We examined whether the priming condition affected actual helping behavior and self-reported meaning in life. Providing support for Hypothesis 1, participants primed with the superhero poster were significantly more likely to help (91.80%) than those primed with the neutral poster (75.80%), $\chi^2 = 5.78$, $p = 0.016$ (see **Figure 1**)[1]. Contrary to Hypothesis 2, there was no effect of priming condition on meaning in life, $t(121) = 0.57$, $p = 0.571$, $d = 0.10$. Moreover, there was no effect of helping (vs. not helping) on meaning in life, $t(121) = 0.22$, $p = 0.832$, $d = 0.04$.

As in experiment 1, the effect on condition on helping behavior was not moderated by self-reported virtuousness [$F(1,119) = 0.03$, $p = 0.877$] or self-reported altruism [$F(1,119) = 0.03$, $p = 0.868$]. Thus, once again, the prime appears to work similarly for people of varying levels of dispositional prosociality. The subtle prime did not affect self-reported virtuousness [$F(1,121) = 1.69$, $p = 0.196$] or altruism [$F(1,227) = 0.047$, $p = 0.829$].

Discussion

The results of Experiment 2 demonstrated that subtle priming of superhero images was associated with increased helping behavior, confirming our hypothesis and conceptually replicating Experiment 1. Those primed with a Superman poster were

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[1] However, examining those that helped, the priming condition did not affect how long participants helped, $t(101) = 0.1.24$, $p = 0.218$, $d = 0.25$, or how many images they rated, $t(99) = 0.97$, $p = 0.334$, $d = 0.20$. Moreover, when including only those participants in the experimental condition who explicitly wrote about the Superman poster, the effect remained significant, $\chi^2 = 6.33$, $p = 0.012$.

significantly more likely to help than those primed with a bicycle. Interestingly, the prime influenced the decision to help, but did not influence the amount of helping. Obviously, that initial decision point is the most critical and future research should investigate more closely how heroes and images of heroes might influence different aspects of prosocial behaviors.

However, partially inconsistent with the findings of Experiment 1, the priming images had no significant effects on meaning in life. We see several possible reasons for this. First, the helping behavior may not have been perceived by the participant as particularly valuable; simply assisting an experimenter may not serve the same function as coming the aid of someone in need. Thus, the link between this particular helping behavior and meaning may be rather weak. A second possibility is that there may have been too much time between the prime and the assessment of meaning in life, given that the helping behavior took a relatively long amount of time (e.g., Dijksterhuis and Bargh, 2001). Nonetheless, these results confirmed the hypothesis that even a subtle superhero priming would increase prosocial behavior in participants. The motivational nature of superheroes appears to increase helping behavior.

GENERAL DISCUSSION

Exposure to heroes can confer both intrapersonal and interpersonal benefits. Two experiments examined the variation in the effect of heroes on prosocial intentions and behaviors, as well as meaning in life. Experiment 1 demonstrated that subtle priming of superheroes increases prosocial intentions: after viewing images with superhero symbols embedded into them, participants reported greater likelihood to help in hypothetical situations in which people were in need. These helping intentions were associated with meaning in life. Experiment 2 demonstrated that subtly priming a superhero (i.e., Superman) via an image led to increased behavioral helping. However, contrary to predictions and the results of Experiment 1, the priming of a heroic image did not influence meaning in life.

These experiments highlight how even the subtle activation of heroic constructs through visual images of superheroes may influence intentions to help as well as actual helping behavior. Although we drew attention to the superhero image as a way of activating related constructs in the minds of the participants, such exposure was undoubtedly less potent than other behaviors that involve greater cognitive attention (e.g., watching a movie, reading a comic book)–this makes it a strong test of our hypothesis. These priming effects need not be explicit to exert an influence on motivations and behaviors. However, future work could advance this work by employing a subliminal priming method, though we return to this point in the General Discussion. This work is consistent with prior work linking heroes and prosociality (Kinsella et al., 2015a,b; Franco et al., 2016) as well as the association between prosociality and meaning (Van Tongeren et al., 2016). Moreover, it suggests that heroes may serve an important cultural purpose of motivating coalitional behavioral that strengthens the prosociality of a society.

Limitations and Suggestions for Future Research

Building on previous research on prosocial behavior, we sought to understand the influence of fictional heroes on helping behavior and meaning in life. However, heroes come in many forms: real versus fictional, known personally versus unknown, paragons of virtue versus flawed characters. The manner in which we are exposed to heroes also varies: relatively subtle and implicit versus explicit, images versus deliberate thought, etc. Future work should explore the effects of more supraliminal (i.e., explicit) priming of superheroes, such as talking about or writing about a hero, as well as a more subtle activation of constructs, such as using a subliminal priming methodology (e.g., see Van Tongeren and Green, 2010 for an example). Future research also should explore the effects of priming real heroic individuals as well as symbolic/fictional superheroes. As articulated in the introduction, it is possible that some real heroes may confer a threat or social comparison contrast effect under some conditions that might not result in increased helping or meaning in life. Relatedly, past research has found that being primed with extreme exemplars on a judgment category (e.g., Hitler or the Pope on hostility/kindness) may result in contrast effects (Herr, 1986; Dijksterhuis et al., 1998). In sum, we advocate for extending this research into related heroes arenas rather than assuming that these findings necessarily apply across various dimensions of heroes.

Experiment 1 measured helping intentions through self-reported hypothetical helping scenarios. Therefore, in Experiment 2 we sought to measure actual helping behavior by asking participants to participate in a pilot study. A limitation of Experiment 2 was that experimenters were not blind to experimental condition. Although the implicit priming of superheroes did increase helping behavior, the helping behavior did not affect the reported meaning in life (as it did in the Experiment 1). This may have been due to the characteristics of the helping behavior: Participants rated their meaning in life after completing a relatively tedious task of rating abstract pictures on numerous dimensions. Thus, though the task was deemed helpful by the experimenters, it may have left the participants feeling bored rather than feeling like they had actually been helpful. Moreover, in Experiment 1, the helping intention questions related were both *social* (i.e., directed toward another person with whom the participant would hypothetically interact) and *necessary* (i.e., assisting someone in need who would otherwise be disadvantaged). Agreeing to assist a professor, who was not present and who could ostensibly find help from other participants for this task and was not in any danger, may not have qualified as a strong helping behavior in Experiment 2. [It is also possible that our theorizing is not correct, but ample previous research linking prosocial actions and increased meaning in life (e.g., Van Tongeren et al., 2016) makes us first look to flawed methodology.] Future helping behavior should involve stronger or more relational helpful behavior (i.e., donating to charity or helping an individual in need) before measuring meaning in life. Perhaps helping behavior that *rescues* or *saves* is more strongly

associated with meaning in life. Future work could explore this possibility.

The experiments here also measured only short-term effects on helping behavior. Future work should examine how heroes affect individuals' behavior long-term. For example, would chronic activation of heroes via reading a biography or frequently using a mug with a hero's image on it elicit a relatively enduring increase in prosociality? Relatedly, it may be beneficial to also examine how recalling heroic historical figures (e.g., Rosa Parks, Gandhi, Winston Churchill), may have an effect on helping behavior. Also, we do not know much about the exact mechanism by which these priming effects work; future work could determine which schemas were activated by measuring the cognitive accessibility of related words or concepts (e.g., morality, virtue). Finally, these effects were not moderated by dispositional levels of self-rated prosociality, though these assessments came after the prime and not before it in order to avoid inadvertently activating virtue-related schemas. Future work could examine these constructs before the priming induction.

CONCLUSION

Heroes loom large as exemplars of morality. They often embody virtues that we wish to express in our lives. Our findings suggest that heroic images–even relatively subtle images of superheroes– may increase one's intentions to help and actual helping behavior. As superheroes become an increasing large and accessible part of the symbolic cultural narrative, their role in inspiring virtuous and meaningful lives may become more robust. As this occurs, we may, as Mark Twain wrote, continue our fascination with, and perhaps even worship of, heroes.

AUTHOR CONTRIBUTIONS

All authors wrote the manuscript. DVT, AC, and JG led the design of the experiments. DVT oversaw the running of the experiments and conducted the data analyses. RaH, ME, EJ, KD, HN, AS, and RuH ran the experiments.

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REFERENCES

Allison, S. T., and Goethals, G. R. (2011). *Heroes: What They do and Why we Need Them.* New York, NY: Oxford University Press.

Berry, J. W., Worthington, E. L. Jr., Wade, N. G., Witvliet, C. V. O., and Kiefer, R. (2005). Forgiveness, moral identity, and perceived injustice in crime victims and their supporters. *Humboldt J. Soc. Relat.* 29, 136–162.

Cohen, J. (1992). A power primer. *Psychol. Bull.* 112, 155–159. doi: 10.1037/0033-2909.112.1.155

Coughlan, G., Igou, E. R., van Tilburg, W. A. P., Kinsella, E. L., and Ritchie, T. D. (2017). On boredom and perceptions of heroes: a meaning-regulation approach to heroism. *J. Hum. Psychol.* doi: 10.1177/0022167817705281

Dijksterhuis, A., and Bargh, J. A. (2001). "The perception-behavior expressway: automatic effects of social perception on social behavior," in *Advances in Experimental Social Psychology*, Vol. 33, ed. M. P. Zanna (San Diego: Academic Press), 1–40.

Dijksterhuis, A., Spears, R., Postmes, T., Stapel, D. A., Koomen, W., van Knippenberg, A., et al. (1998). Seeing one thing and doing another: contrast effects in automatic behavior. *J. Pers. Soc. Psychol.* 75, 862–871. doi: 10.1037/0022-3514.75.4.862

Festinger, L. (1954). A theory of social comparison processes. *Hum. Relat.* 7, 117–140. doi: 10.1177/001872675400700202

Franco, Z. E., Allison, S. T., Kinsella, E. L., Kohen, A., Langdon, M., and Zimbardo, P. G. (2016). Heroism research: a review of theories, methods, challenges, and trends. *J. Hum. Psychol.* 58, 382–396. doi: 10.1177/0022167816681232

Green, J. D., Van Tongeren, D. R., Cairo, A. H., and Hagiwara, N. (2017). "Heroism and the pursuit of meaning," in *Handbook of Heroism and Heroic Leadership*, eds S. Allison, R. Kramer, and G. Goethals (New York, NY: Routledge/Taylor & Francis), 507–524. doi: 10.1037/a0034726

Hayes, A. F. (2009). Beyond baron and kenny: statistical mediation analysis in the new millennium. *Commun. Monogr.* 76, 408–420. doi: 10.1080/03637750903310360

Hayes, A. F. (2012). *PROCESS: A Versatile Computational Tool for Observed Variable Mediation, Moderation, and Conditional Process Modeling [White Paper]*. Available at: http://www.afhayes.com/public/process2012.pdf

Herr, P. M. (1986). Consequences of priming: judgment and behavior. *J. Pers. Soc. Psychol.* 51, 1106–1115. doi: 10.1037/0022-3514.51.6.1106

Kinsella, E. L., Igou, E. R., and Ritchie, T. D. (2017). Heroism and the pursuit of a meaningful life. *J. Hum. Psychol.* doi: 10.1177/0022167817701002

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015a). Lay perspectives on the social and psychological functions of heroes. *Front. Psychol.* 6:130. doi: 10.3389/fpsyg.2015.00130

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015b). Zeroing in on heroes: a prototype analysis of hero features. *J. Pers. Soc. Psychol.* 108, 114–127. doi: 10.1037/a0038463

Klein, N. (2017). Prosocial behavior increases perceptions of meaning in life. *J. Posit. Psychol.* 12, 354–361. doi: 10.1080/17439760.2016.1209541

Rushton, J. P., Chrisjohn, R. D., and Fekken, G. C. (1981). The altruistic personality and the self-report altruism scale. *Pers. Individ. Differ.* 2, 293–302. doi: 10.1016/0191-8869(81)90084-2

Steger, M. F., Frazier, P., Oishi, S., and Kaler, M. (2006). The meaning in life questionnaire: assessing the presence and search for meaning in life. *J. Counsel. Psychol.* 53, 80–93. doi: 10.1080/00223891.2013.765882

Sullivan, M. P., and Venter, A. (2005). The hero within: inclusion of heroes into the self. *Self Identity* 4, 101–111. doi: 10.1080/13576500444000191

Sullivan, M. P., and Venter, A. (2010). Defining heroes through deductive and inductive investigations. *J. Soc. Psychol.* 150, 471–484. doi: 10.1080/00224540903366602

Suls, J., Martin, R., and Wheeler, L. (2002). Social comparison: why, with whom, and with what effect? *Curr. Dir. Psychol. Sci.* 11, 159–163. doi: 10.1111/1467-8721.00191

Tesser, A. (1988). "Toward a self-evaluation maintenance model of social behavior," in *Advances in Experimental Social Psychology*, Vol. 21, ed. L. Berkowitz (New York, NY: Academic Press), 181–227.

Van Tongeren, D. R., and Green, J. D. (2010). Combating meaninglessness: on the automatic defense of meaning. *Pers. Soc. Psychol. Bull.* 36, 1372–1384. doi: 10.1177/0146167210383043

Van Tongeren, D. R., Green, J. D., Davis, D. E., Hook, J. N., and Hulsey, T. L. (2016). Prosociality enhances meaning in life. *J. Posit. Psychol.* 11, 225–236. doi: 10.1080/17439760.2015.104 8814

Van Tongeren, D. R., Green, J. D., Hook, J. N., Davis, D. E., Davis, J. L., and Ramos, M. (2015). Forgiveness increases meaning in life. *Soc. Psychol. Pers. Sci.* 6, 47–55. doi: 10.1177/194855061454 1298

Who Put the Super in Superhero? Transformation and Heroism as a Function of Evolution

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Transformation and heroism are reciprocally related. Transformation produces an individual that others may call hero; one who inspires, guides, and protects something precious—an ordinary extraordinary person, master of the self. Heroes exhibit the further reaches of human development by transforming into entirely new, resplendent individuals that demonstrate valuable capacities whiles still being mortal. Because transformation is the means through which heroes are made, a more thorough understanding of the forces affecting transformation may advance collective understanding of the demands upon the individual. Founded on the scholarship of seminal authors of depth psychology, East Indian spirituality, anthropology, physics, mythology, Hermetic science, and other disciplines, this paper argues that a hero develops through both natural and supernatural processes, which can eventually produce a transhuman or superhero—depending on one's perspective, one who is natural (bound by nature) and supernatural (beyond nature). If this psychospiritual proposition has merit, advancement from ordinary to hero and from hero to super hero—each resulting from trans-form-ation—constitutes a subtle yet fundamental change in form, a microevolution of a subsect of individuals. The progressive framework begins with a description of patterns of evolution salient to heroism and transformation; an exploration of four key "laws" that govern the realm of matter, which support and delimit the budding hero as an earth-bound human; and an examination of four "supernatural" abilities the initiate must cultivate and enact in order to transform. The heart of the paper is a detailed guide identifying when during the process of transformation, the initiate can expect to receive the support of natural processes, when to be vigilant for beyond nature or Divine intervention, and when to intervene with "supernatural" activities. The framework culminates with an elucidation of how the ordinary yet heroic individual becomes a superhero or transhuman as outlined by spiritual teacher Sri Aurobindo, through three transformations of biopsychosocial maturation and spiritual realization.

Keywords: spiritual growth, evolution-cosmology, supernatural, psychological transformation, transpersonal anthropology, alchemy, hero's journey, Aurobindo

Transformation and heroism are reciprocally related. Transformation produces an individual that others may call hero; one who inspires, guides, and protects something precious—an ordinary extraordinary person, master of herself[1]. The mere thought of one's hero lifts the spirit, enlivens the heart, illumines the mind, and rouses the body to move courageously into previously unknown territories. Heroes inspire ordinary people through the trials of transformation because they demonstrate it is possible to emerge as triumphant; to inhabit valuable capacities while still being mortal.

Scholars and untrained people alike have gained considerable understanding about the making of heroes (van Gennep, 1909/1960; Eliade, 1958/2005; Campbell, 1968; Turner, 1969; Franco and Zimbardo, 2006; Allison et al., 2017; Ross, 2017), and yet our collective knowledge of "how heroes are created…remains a critical area of future research" (Jayawickreme and di Stefano, 2012, p. 174). Because transformation is the means through which heroes are made, a more thorough understanding of the forces affecting transformation, may advance collective understanding of the demands upon the individual. Specifically, it is not known if the process of transforming from ordinary person to hero follows the laws of nature that govern human development, causing heroic aspirations to be within everyone's grasp. Or, if heroism is a progression beyond nature (supernatural), a transcendental process that only the fortunate can apprehend. Or, a combination of the two possibilities. Furthermore, the progression to become a hero constitutes human advancement and as such, it is plausible that the hero will, one day, endeavor once again to transcend all that she knows. If she does, will she remain a hero in the eyes of those who love her or advance and become a superhero and if so, how will we distinguish her? One postulation suggests that super heroism is not simply a fantasy but a certainty; that the average person is "a transitional being….not final….the step from man to superman is the next approaching achievement in the earth's evolution" (Sri Aurobindo, 1972, p. 7).

This article contributes to the literature gap on how heroes are created by exploring the following proposition: heroism and human transformation require evolutionary processes that are both *natural* (limited to the laws of nature) and *supernatural* (above nature, pertaining to the Divine). Together, these produce a hero: a human who is literally part natural and part supernatural. This analysis draws upon discourse in depth psychology (Jung, 1988), anthropology (Turner, 1969), mythology (Campbell, 1968), Hindu spirituality (Sri Aurobindo, 1972), physics (Prigogine, 1997), and the Hermetic Sciences (Eberly, 2004). This inquest contains three main sections: (1) a discussion of select concepts and terms pertaining to the qualities and movement of evolution, natural, and supernatural phenomena as related to transformation; (2) an explanation of the timing, in terms of when transformation processes are governed by nature, when the hero must grow beyond nature and act with super-natural capacities, and when Divine forces

intervene; and finally, (3) a conceptualization of evolution from novice, to hero, to superman or superwoman, as achieved through three substantial transformations of biopsychosocial maturation and spiritual realization.

EVOLUTION AS IT PERTAINS TO TRANSFORMATION

Because initiates become heroes through transformation, and transformation results in a refined, more evolved creature, it is useful to review some fundamental concepts related to the purpose and movements of evolution. Each point will be elaborated in a later discussion. First, what is the initiate evolving *from* and *toward*? Philosopher and teacher G. I. Gurdjieff explains, "In order to know one cosmos [reality], it is necessary to know the two adjoin cosmoses" (Ouspensky, 1949/2001, p. 206). Ancient and modern cosmologies and depth psychology uphold an ontology that humans have access to and can even exist (albeit for most, unconsciously) within three worlds: the world of matter within which we live; a lower or inner world that can be qualified as the shadow, underworld, darkness, or subconscious; and an upper, celestial, heavenly world of a higher or increased consciousness (Ouspensky, 1949/2001; Sri Aurobindo, 1972; Jung, 1988).

Second, what aspect of the initiate is evolving or transforming? Seminal authors across diverse disciplines agree that the transforming feature is primarily the initiate's *consciousness* (Ouspensky, 1949/2001; Newman, 1978; Jung, 1988; Wilber, 1996; Prigogine, 1997), which is defined here as a force or power comprised of two binary capacities or compositions: discrimination and unity (Sri Aurobindo, 1972). These two capacities cause a dynamic tension—an individual possessing consciousness will have capacities to discriminate between that which is self and that which is not self. Prior to consciousness, the entity projects self onto objects, and there is no distinction between self and object. The projection, due to a lack of consciousness, is the seed of all opposites, including the notion of good and evil. Despite these abilities of division, a person with consciousness will also be able to sense through division and experience the unity inherent in all, and will be able to unify perceptions and self (Sri Aurobindo, 1972; Jung, 1988).

Third, what is the *context within which the initiate is developing*? East Indian spiritual teacher and author Sri Aurobindo offers an understanding of the evolution of the universe that also describes the evolution of individual consciousness as an inevitable and natural process. According to Aurobindo, all of existence is an eternal and infinite "Unmanifested Supreme" (Sri Aurobindo, 1972, p. 24), the Divine or God identified by many religious and secular names across time. In this Unmanifested state, the original Divine (a substance-force) initiated evolution that began with involution: a descent of itself as consciousness into matter (Ouspensky, 1949/2001, p. 134). When consciousness emerged out of unconscious matter for the first time, the world split into an endless assortment of pairs of opposites. Once consciousness arrived into the lowest point, into all of the darkest, most

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[1]As the assumed default pronoun is "he", "he or she" is awkward, and gender is a spectrum, in this paper "she" is used to refer to and include individual humans of all genders.

unconscious, inert, and motionless of substances on earth, it began a great, slow ascent outward and upward, liberating the "latent indwelling spirit" existing within matter (Sri Aurobindo, 1972, p. 19). Because consciousness is moved by its impulse to emerge (Wautischer, 2008, p. 476) from that within which it dwells, everything in existence will eventually blossom because the Divine "aspires to become its real self by transcending its apparent self" (Sri Aurobindo, 1972, p. 53). From these perspectives, the impulse to transcend, go beyond the known self, is impelled by an evolutionary compulsion.

This explanation of evolution supports Jung's proposition that "All initiations we know by history or by experience are the external manifestation of a *natural* inner process which is *always* happening" (italics added; Jung, 1988, p. 236). Like nature, Jung explains, a person's unconscious mental faculties are in "a process of continuous transformation" (p. 236) of which nothing is realized because the unconscious material is not made conscious:

> No crops are brought home by nature; only the consciousness of man knows about crops. He gathers the apples under the trees for they simply disintegrate if left to themselves. And that is true of our unconscious mental process: it revolves within itself. It builds up and it pulls down; it integrates and disintegrates—and then integrates again. (p. 236)

Here Jung describes rhythms of nature and uses the word *integration* to describe an organic process where life coagulates to produce fruit—different from integration as a psychospiritual process of incorporating experience and energy into the psyche and body. Jung (1988) identifies the continuous ebb and flow of creation as unconscious, "a building up and pulling down, integration and disintegration without end" (p. 236); the birth-death-rebirth succession that "needs our conscious interference to bring it to a goal….Otherwise, it is like the eternal change of the seasons in nature…from which nothing comes unless a human consciousness interferes and realizes the result" (p. 237); by the harvesting of crops. Jung's analogy demonstrates how the initiate can actively engage in her own evolution by paying attention to her inner world and by contemplating and incorporating insights—as they arise and emerge from the unconscious—into her ontology, her experience of what is real or true.

In a context of growth, as caused by a descent of consciousness into matter and an emergence of consciousness out of matter, the hero-initiate is innately compelled to become conscious, to allow consciousness to emerge from within. Evolution causes the initiate to grow, learn, and encounter life-changing experiences—albeit unconsciously at first—and to eventually become a master herself, a hero. The drive to learn and grow, to become a healthier, happier, more triumphant self is, according to these perspectives, the impulse that drives and enables the initiate to be grounded in and limited to the middle or natural world, able to sink inward to the lower world or shadow, and also to rise beyond (or above) the self into the upper world or Divine. In order to set the four "super-natural" abilities necessary for this process of hero-transformation, I first describe four rules of nature that support and delimit the initiate.

Rules of Nature Affecting Hero-Transformation

Humans view activity as supernatural (above nature) when the action does not comply with the "laws of nature," but those laws are part of a particular perspective. From the outlook of the lower world, our own (middle) world is above or beyond what is natural, and from the viewpoint of the world above human life—the supernatural realm—ours appears lower or unconscious. With this distinction in mind, this section reviews four "rules" of nature (as viewed from the realm of matter) that influence and constrain the hero. These "rules" in particular serve as the source of the hero's earth-bound humanness. The hero is restricted in that, in the end, the hero remains human and yet the task is to apprehend the undifferentiated Divine; meaning humans are "rendered frustrate by the very organs through which the apprehension must be accomplished (Campbell, 1968, p. 258).

The first relevant "rule" of nature, as shown by the Nobel Prize winning theory of Dissipative Structures, states that *chaos is critical to the transformation of a system*—that "dynamical instability provides only those conditions necessary to generate evolutionary patterns of nature" (Prigogine, 1997, p. 128). Just as elements of the universe transform through chaos, so too must the initiate enter "dynamical instability" or personal challenges in order to transform. Interestingly, this theory shows how matter that is close to equilibrium (a period of peaceful balance) is "'blind,' but far from equilibrium…[in the midst of chaos or liminal state] it begins to 'see'" (p. 67). This knowledge translates into social science (Prigogine, 1997), and in a heroism context, indicates that the hero-transformation process must include instability and disequilibrium.

The second "rule" of nature relevant to transformation is that *the initiate is continuously affected by unforeseen circumstances arising from the unconscious self*, best described by Gurdjieff as "the law of accident" (Ouspensky, 1949/2001, p. 199). In this esoteric teaching, humans who are unconscious (i.e., not awakened in consciousness) are subject to moment-by-moment encounters with incidents and activities that arise organically, due to pure chance. For example, an individual might have a plan to go to the grocery store, but later visit a relative when unforeseen circumstances arise—her car needed more gasoline, the store was out of the item she needed, and it began to rain heavily—all of which caused a delay in her plans. Gurdjieff states that an unconscious individual maintains an illusion of having the ability set a goal and achieve tasks and aspirations, when in actuality, she is at the mercy of myriads of circumstances, none of which is within her control. This ontology is similar to what Jung referred to as the "building up and pulling down" (1988, p. 236) referred to earlier, meaning the unconscious ebb and flow of creation. Inclusive of the "law of accident" are the two phases of nature, variously described as "ascending and descending….contraction and expansion" (Burckhardt, 1997, p. 44), integration and disintegration" (Jung, 1988, p. 1402), and "dissolution and coagulation" (Burckhardt, 1997, p. 123). As a part of nature, humans participate in these continuous movements of the "undulating sea of the unconscious" (Burckhardt, 1997, p. 153). The potential is for the hero-initiate to transform to the degree that she supersedes

the law of accident, which allows her to live deliberatively, co-creating her moment-to-moment living.

A third "rule" pervades all levels of existence and is integral to the heroic journey: *the primordial cycle of life, death, and rebirth.* The anthropologist Eliade (1958/2005) explains that the desire to transform is "far more than the obscure desire of every human soul to renew itself periodically" rather, the desire to transform is embedded in universal passages of life-death-rebirth, just "as the cosmos is renewed" (p. 135). This cycle is exhibited in the "two phases of nature," which are "dissolution and coagulation," where new life dissolves until it's death and coagulates to reform new life. This universal cycle sustains the movement of physical and psychological realms that encumber shifting from darkness into light and back again into darkness.

The ubiquitous Daoist symbol Yin Yang depicts this natural rhythm using symbols of the Chinese classic *Book of Changes*, known as the I-Ching. As Jung explains, in this philosophy,

Yang eats the Yin, and from the Yang, Yin is reborn; it bursts forth again, and then Yin envelops the Yang, and so on. *That is the course of nature.* . . . .spirit eats the flesh and then the flesh eats the spirit. (emphasis added; Jung, 1988, p. 67)

The alchemical symbol of the snake eating its tail, *ouroboros*, reflects the cyclical nature of the endless drawing together of creation into a substance and then dissolving back unto itself (van der Sluijs and Peratt, 2009). Sometimes depicted as a circle or an infinity shape, it is also a symbol of individuation and exemplifies wholeness as exhibited in the Model of a Complete Transformation (Ross, 2017).

The fourth and most concrete "rule" is that *the hero has physical (mental and emotional) limitations and as such, she depends upon the earth and others, to survive.* Humans have naturally occurring personal weaknesses, which they may or may not overcome. It has been suggested that that the body, mind, and psyche must be made ready for transformation—that a person cannot withstand transformation unless she advances her holistic health through disciplined action (Ouspensky, 1949/2001; Sri Aurobindo, 1972; Jung, 1988). In the end, our frailties—the aspects of self of which we are less capable—define our humanness. Although "nature seeks and demands a gradual attainment of perfection, and a gradual approximation to the highest standard of purity and excellence" (Henry, 1893/2012, p. 16), the imperfection existing in the realm of matter—and in us all as human beings—remains critically grounding. Our limitations can indeed be our commonality, what connects us one to another as humans. Accepting weaknesses helps the hero-initiate not only to cultivate compassion and humility, but also to develop supernatural capacities that transform limitations into strengths. By knowing and accepting her humanness, the initiate is poised to develop skills to go above or beyond nature, into the super-natural.

Supernatural Abilities Necessary to Hero-Transformation

Because humans can act with unconsciousness or consciousness, routes toward transformation are optional—an initiate must draw on supernatural abilities in order to complete her transformation into a hero. When an individual survives unconsciously, she is at the mercy of and pace of natural evolution (Jung, 1988; Prigogine, 1997)—but when an initiate chooses to open into vulnerability towards personal growth (caused by a lack of control) she will eventually transform, and be liberated into active co-creation of the self. According to Sri Aurobindo (1972), two aspects of human beings are "supernatural," existing beyond the realm of nature in the upper world: consciousness and ego (p. 57). This is so because, to our knowledge, living entities other than humans do not demonstrate the capacity for self-reflexivity or an ego. Evolution (and therefore transformation) must engage the growth of both, because consciousness is a structure of the universe and ego is a structure of the human. Initiates hoping to transform can accelerate the process by taking action that is supernatural (Jung, 1988). In my investigation, I found four human abilities that engage consciousness and ego, and are therefore supernatural and support transformation.

The first supernatural ability occurs when the initiate has *moment(s) of self-awareness.* The impulse to learn about one's self, heal wounds, and mature psychologically comes from the emerging consciousness within, that desires "to be wholly aware of its objects. . .and the first [object] is the self" (Sri Aurobindo, 1963/1990, p. 119). Because the ego begins as an unconscious entity, it "resides" in the lower world of the unconscious. Jung explains that the premature ego "has no feeling of its own existence" (Jung, 1988, p. 935), and thus the goal of ego integration is for the ego to be established and secure that it exists. In order for the ego to know that it lives, it must be separate from nature, go against nature; "a certain amount of immorality and disobedience is absolutely necessary" (Jung, 1988, p. 936). In order for the ego to develop and mature, for example, one must go beyond the self into another "object" (i.e., step into someone else's shoes), to gain perspective and in so doing, become more aware or conscious of one's self. Any time a person acts with consciousness as in this example, as opposed to unconsciously led action, she goes outside of natural conditions.

The second supernatural ability builds upon the first, and occurs when a person *knowingly chooses to participate in a frightening activity in order to gain a growth-producing experience.* Jung describes this ability as "doing the things of which one is afraid, which only a human being will do" (Jung, 1988, p. 938), and offers the following example in nature.

Animals refrain from doing things they are afraid of, while man quite naturally asserts the Divine quality of his ego by doing just the things he is afraid of. That is so very much against nature that it is the strongest evidence of the autonomous existence of the ego and of the freedom of the human will. (p. 938)

Jung suggests that fearless action toward personal growth is the best evidence of an autonomous ego. In order for the ego to develop and consciousness rise, the initiate must face her shadow (rejected or shunned aspects of the self), again and again, in order to witness and eventually accept all aspects of her unconscious as part of herself. The process of seeing rejected and wounded aspects of the self is psychologically painful and causes suffering. Interestingly, Jung characterizes suffering as "detachment from nature, from unconsciousness, from the animal and the plant" (Jung, 1988, p. 938). Humans instinctively fear suffering and

tend to avoid it at all costs. Yet, moving toward this fear and into suffering—the hurts and pains that are inevitable by virtue of being human—is integral to development and paramount to transformation. It is so integral, in fact, that consciousness cannot come into existence without this type of emotional suffering (Sri Aurobindo, 1972; Jung, 1988; Burckhardt, 1997). So, choosing to step into or accept fear in order to grow is a supernatural ability that supports transformation.

The third supernatural capacity necessary to hero-transformation is *creative activity* (Ouspensky, 1949/2001; Jung, 1988; Campbell, 1991; Prigogine, 1997), meaning any thought or action that is inspired from within and results in idea(s), word(s), or object(s) that did not previously exist *in the initiate's personal "world."* This latter point is significant: she might create an idea that has been imagined by someone else previously, but the key to supernatural activity is that fact that *she created the thought within herself*; that the thought was authentically her own and not that the idea is unique in the world. Physicist Prigogine (1997) states that "human creativity and innovation can be understood as the *amplification of the laws of nature* already present in physics or chemistry" (emphasis added; p. 71), confirming cosmological ontologies which state that creativity is beyond or stretches the bounds of what is natural (Ouspensky, 1949/2001; Sri Aurobindo, 1963/1990; Jung, 1988). Jung says, "the human ego cannot live without creativeness; it proves its existence by inventing something, by doing something on its own out of the ordinary" (1988, p. 938). The danger of this type of growth, Jung warns, is that with every creative act there is inflation of the ego. When the initiate engages in creative activity, she strengthens her ability to engage in the supernatural activity of co-creation—bringing something into existence—allowing consciousness to emerge and extend beyond her into a new creation. When the initiate becomes a superhero and galvanizes this capacity, she will bring into existence ideas and objects that change entire communities, countries, or even the world.

Finally, with this fourth supernatural ability, the initiate must *produce outcomes deemed by self or others to be miraculous.* A *miracle* is defined as an event that is not understood based on natural or scientific laws; miracles are the realm of the Divine and are often considered the province of saints and angels. If, however, miraculous events are viewed from the perspective of the three different worlds discussed above, other considerations become possible. Gurdjieff and others explain that "[t]he broadening of consciousness does not proceed in one direction only, that is, in the direction of the higher cosmoses; in going above, at the same time it goes below" (Ouspensky, 1949/2001, p. 207). In other words, although there is an impulse upward when humans evolve, that growth moves in both directions. Thus, the hero-turned-superhero lives in three worlds and can operate under the differing and even opposing laws of the above and below. When she takes an action that is congruent to the upper or lower realm, it would appear to others in the middle realm as being contrary to natural laws. Perhaps this is why the ancient Peruvian Incan cosmology states that the aim of human development is to become a tree: it drinks light from the sun (upper world), is sustained by the minerals and water of the earth (lower world) and lives on earth (personal conversation, Juan Nuñez del Prado, May 2010).

NATURAL, DIVINE, AND SUPERNATURAL FORCES IN HERO-TRANSFORMATION: A MATTER OF TIMING

In order to achieve a transformation from hero to superhero, it is helpful to know when the time is ripe to use and develop one's supernatural capacities. In order to talk about that timing, I first make explicit the other "players" that contribute to the process. A careful analysis of literature revealed that the process of hero-transformation requires three "participants" or forces: nature or the natural world, the Divine, and humans with their capacity for supernatural actions (as discussed above). Each of these forces is primary to particular phases of transformation; understanding how these forces interact with the process of transformation does much to illuminate how initiates become heroes and when they play an active role.

In my previous work, I identified a process of transformation that unfolds in the shape of a "Figure 8" or upright infinity symbol, with the upper loop (or cycle) as the transformative journey containing a transformative peak or trauma, and the lower loop as an integrative pathway that includes dismemberment (and death of some aspect of the self), healing, and rebirth (Ross, 2017) (**Figure 1**). This theory of transformation consists of 13 phases, 4 in the upper loop that develop and refine one's masculine, and 9 in the lower loop that develop and refine one's feminine (Ross, 2017).

The primary purpose of transformation is to transmute the ego, mind, or body and thereby re-create the structure of the self (Ross, 2019). During the upper transformative loop, the initiate expands beyond her body—beyond form—through a *trans-form*-ative experience where she contacts her soul (in the upper world), returns into the body (middle world of matter), and then journeys into her darkness or unconscious (lower world). The lower world experience leads to dissolution of the outdated structure of the self, and integration of both internal opposites and the expanded consciousness received during the transformative peak or trauma experience. **Table 1** lists the 13 phases of a complete transformation and the primary forces for each.

Timing for Natural Processes

Nine of the 13 phases of transformation are governed by patterns heavily reliant upon the unconscious or latent consciousness of nature. Therefore, these phases transpire with little to no conscious effort: the initiate can enjoy the momentum and influences of nature as it incrementally progresses her. Phases 1–6 serve an important function of preparing the initiate's consciousness and ego for a transformation of the ego (or the mind or body, as discussed below). Phases 11–13 solidify the new ego through experiences that refine personally unique capacities and the knowledge that she has cultivated (and integrated) throughout the transformation process.

FIGURE 1 | Phases and movement of a complete transformation. Copyright Susan Ross, 2018.
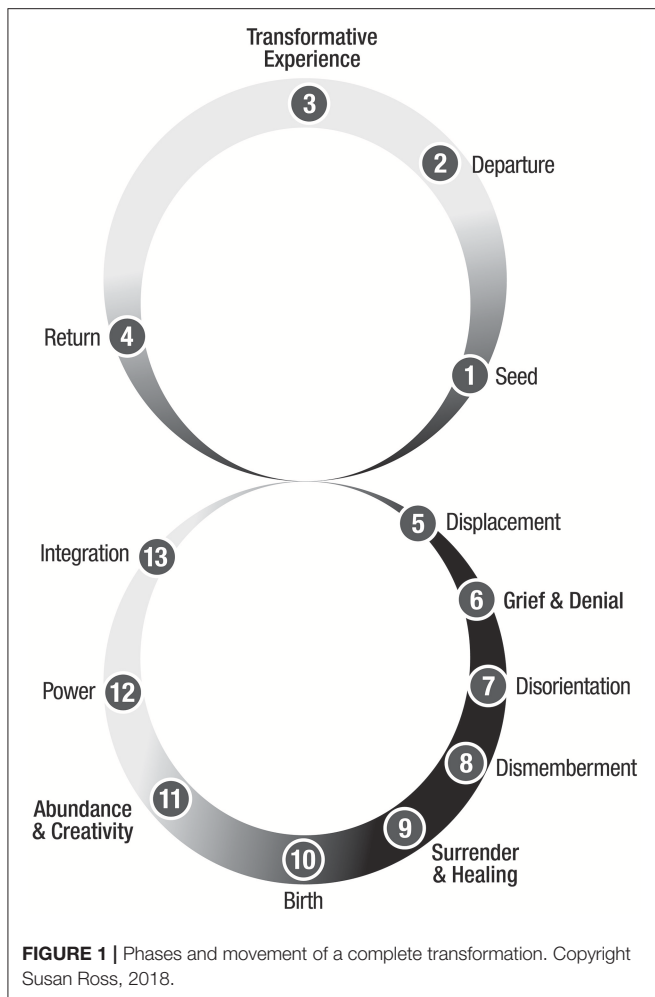
The upper transformative loop (phases 1–4) can be a cyclical pathway of expanding personal development, healing, and learning that incrementally progresses skills, consciousness, self-awareness, and the power to create and influence—all-the-while, cultivating the ego to maturity or integration (Loevinger, 1976). Humans depend on the ego in order to remain coherent in character, in separateness, and in "a sense that you exist in yourself" (Sri Aurobindo, 2002, p. 107), such that premature annihilation would mean "melting away…dissolving in a common mass of physical vibrations" (Sri Aurobindo, 2002, p. 107). For this reason, the first undertaking toward transformation is to develop the ego, which involves the challenging task of finding "a real personality in all… [the] forces movements, desires, [and] vibrations" that do not originate from within (Sri Aurobindo, 2002, p. 111).

The challenge with the ego is that as soon as it attains some semblance of strength, the individual can be misled by a false "sense of their importance and their ability [such] that they no longer even think at all of getting rid of their ego" (Sri Aurobindo, 2002, p. 105). Jung warns that an important part of the problem is an untamed or undisciplined mind that jumps from moment to moment, consumed by whatever is

demanding attention. This type of constant movement "settles down and bounces off in the next moment" (Jung, 1988, p. 1391), and when all the activity commences, there is no change in consciousness. Jung cautions that the initiate will "never reap their crops…they plant their fields and then leave them behind before they are ready for harvest" (p. 1391), also dodging the responsibility of tending the crops and land while the crops grow. If nature is left to its usual progression, it "would be a movement without sequence [chaos]," lacking a "light [awareness and understanding] to its own mystery" (Sri Aurobindo, 1972, p. 19), or in other words, "If left to itself the [natural] process would come to nothing" (Jung, 1988, p. 237).

If the ego and consciousness are not developed enough to endure Dismemberment in phase 8, the transformation cycle is aborted and the initiate will again begin moving through phases 1–6. To maintain steady progress, Jung emphasizes, the initiate must pay attention to bodily "sensation[s]" (1988, p. 1392), the ways in which the body communicates emotions and psychological insights or awareness about others and one's self. He warns the initiate not to "overleap the body" (p. 1392), and instead to care for and tend to the body as she would a loved one. Incremental healing and growth reconfigure the ego, mind, and body for a complete transformation with the hope that consciousness emerges before "the ego becomes not only useless but harmful" (Sri Aurobindo, 2002, p. 108). Fortunately, Jung (1988) notes that if the initiate misses the opportunity for development and does not apprehend the transformative creation (i.e., self-awareness or in the case of the metaphor, harvesting the crop), the "same revelations [of fruiting crops or insight arise again at another time] without any issue" (p. 236). In the future, she can be confident that, due to nature, there will be countless small (yet important) opportunities to break through the bounds of unconsciousness and grow, as well as a number of life-changing opportunities where she can access wisdom and transform.

Nature also plays a dominant role during the final phases of transformation. During Abundance and Creativity (phase 11), Power (phase 12), and Integration (phase 13), the initiate reaps the rewards of having accomplished changes internally and in one's daily life. Again, the movement of nature carries the initiate forward: she needs simply to live life to the fullest, and natural circumstances will guide her through the final three phases to integration and the realization of a complete transformation.

Timing for Divine Intervention

Four of the 13 phases of transformation (1, 3, 8, and 10) require Divine input as a catalyst. The evolutionary spark of consciousness emerging out of body, mind, or soul inspires insight, awakened sensations, awe, beauty, truth, or other experiences of illumination. Only the Divine has the ability to break "through the barrier of createdness" (natural laws) so that "humanness merges into divinity" (Mechthild, 1963/1993, p. 55). Hermetic science (also called alchemy) was the ancestor of modern chemistry and influenced the development of Western

TABLE 1 | Phases and forces of transformation.

No.	Title	Description	Forces
UPPER TRANSFORMATIVE LOOP—DEVELOPS AND REFINES THE MASCULINE			
1	Seed	The seed that rests within the unconscious—and contains the latent yet complete version of the new self—awakens.	Nature, Divine
2	Departure	The initiate leaves home literally or figuratively to embark on a journey to find the self.	Nature
3	Transformative Catalyst	The initiate expands or shatters into and intermingles with the soul.	Nature, Divine
4	Return	The initiate moves homeward toward ordinary routine life.	Nature
LOWER INTEGRATIVE LOOP—DEVELOPS AND REFINES THE FEMININE			
5	Displacement	Upon return, the initiate is relieved and pleased to be in the familiar.	Nature
6	Denial and Grief	The initiate vacillates between denial and heartache, either that the experience is over (peak) or that it happened (trauma).	Nature
7	Disorientation	The initiate becomes disillusioned about his or her identity and about much if not most of his or her reality (i.e., purpose, relationships, career).	Supernatural
8	Dismemberment	Life circumstances cause the individual to lose a sense of control and to descend into a deeply distressing period of darkness, loss, and coming to terms with inner truths.	Divine, Supernatural
9	Surrender and Healing	The initiate releases ingrained dysfunctional patterns, and life circumstances help heal emotional pain and suffering.	Supernatural
10	Birth	Conceived during the peak or trauma, the new self is born.	Divine
11	Abundance and Creativity	The initiate receives support, resources, and relationships to engage in creative endeavors which he or she loves.	Nature
12	Power	The initiate achieves self-realization and the complete blossoming of his or her gifts, work, and relationships.	Nature
13	Integration	The initiate enjoys an inner state of homeostasis, balance, harmony, and bliss that permeate his or her outer life circumstances.	Nature

understanding of the world through figures such as Ralph Waldo Emerson (Emerson and Versluis, 1997), Carl Jung (1988), and Stokes (2010). According to this science, "Ancient and spiritual epitaphs propose that transformation requires divine aid… [where the goal] is obtained not by the might of man, but by the grace of god" (Olsen, 1992, p. 74). Aligned with Jung's teachings 1988, the same author forewarns that humans "can do nothing but sow, plant, and water: God must give the increase" (Olsen, 1992, p. 36).

Phase 1: Divine aid is what originates the process of transformation in the initial Seed phase, where the dormant, entirely whole, but not yet manifested self is triggered to awaken. In the Seed phase, the initiate is the "substance that is to be transformed" (Jung, 1988, p. 1407) and is "made ready… by the creator" (Henry, 1893/2012, p. 250). The Seed phase is, for most if not all individuals, entirely unconscious.

Phase 3: During Transformative Catalyst (phase 3), the initiate has a transformative experience, peak, or crisis. From a psychospiritual perspective, the life-changing event is a catalyst because "a descent of the Divine Nature can alone divinize the human receptacle" (Sri Aurobindo, 1972, p. 71). The transformative experience places the initiate in direct contact with a previously unavailable world:

> Human consciousness can only attain dominion over the undulating sea of the unconscious with the awakening of a creative power within it, which derives from a higher sphere than that of ego–consciousness. This higher sphere… is pure undivided

light…inaccessible to psychological observation. (Burckhardt, 1997, p. 153)

When this exchange with the "higher sphere" or Divine occurs, the body, mind, and spirit are prepared, but the initiate is not yet transformed.

Phase 10: Birth (phase 10) also necessitates Divine intervention. Of the thirteen phases, Birth offers the first visible, tangible sign that deep within the initiate, evolution has been unfolding. In the context of personal transformation, this phase constitutes the transition between involution (the infiltration of the Divine into the initiate's body) and evolution, "a gradual emergence of higher powers of consciousness leading to an even greater manifestation of the Divine consciousness-Force" (Sri Aurobindo, 1963/1990, p. 137) In other words, the new self is made manifest. When the soul replaces the ego and is seated in the body, the initiate has a direct connection to the ultimate source—"You carry the Divine within you, you have only to enter within yourself and you will find Him" (Sri Aurobindo, 2002, p. 94). When this happens, as Jung says, "Now we have reached something" (Jung, 1988, p. 237).

Timing for Superhuman Action

Three phases of transformation *require* humans to take supernatural (or conscious) action. Throughout Disorientation (phase 7), Dismemberment (phase 8), and Surrender and Healing (phase 9), the initiate must partake in supernatural efforts to achieve the culminating and rigorous task of dissolving the ego.

In particular, the initiate must regularly apply the supernatural skills of *conscious awareness* during honest self-appraisal and of *facing fears*, in order to apprehend the shadow and cause the ego to see itself.

Phase 7: Disorientation engages the initiate's experiences of facing fears as the ego becomes destabilized through challenges that cause confusion and instability, mainly about self-identity. Many situations arise for self-appraisal that cause the initiate to either enact desired healthier habits that are aligned with the emerging identity or revert backwards into unhealthy choices made into habit by the outgoing, dissolving identity. The initiate is overwhelmed and ill equipped to consummate what she truly desires, because she has not yet birthed the emerging identity that is capable of completing the goal. If the initiate's consciousness and ego develop through this demanding period, there is a juncture or bifurcation (Prigogine, 1997) and she advances, naturally, into the next phase.

Phase 8: Heroes must be conceived, and this "conception must comply with the same laws that Nature prescribes…dissolve and coagulate" (Eberly, 2004, p. 16). Readiness to enter into Dismemberment (phase 8) or dissolution, depends entirely on the initiate's previous conscious development, or ego strength. If the initiate requires further ego and consciousness maturity, she will unknowingly end this transformative process and soon begin a new transformation cycle.

> The structures [i.e., the ego in this case] will not self-destruct simply because the soul has seen the light [during phase 3]. This is due to the fact that these structures and issues have mostly unconscious underpinnings. Unconscious elements of the psyche are not impacted by conscious experience directly, except maybe in exposing them to consciousness in some occasions. These structures are impacted only by awareness of them and complete understanding of their content. (Almaas, 2004, p. 194)

Thus, although revealed in phase 3, the ego structures will not dissolve (as required for transformation) until they are witnessed by the self during integrative processes of phases 7-9; the ego must become aware of itself fully.

If the initiate enters Dismemberment, she must enact the supernatural capacities of facing fears and witnessing consciously, as the self and life that she has known die. These processes ensure that "all that is impure and unsuitable…[is] purged off, and rejected like dross" (Henry, 1893/2012, p. 64). There is no way to avoid a nadir of suffering, because its purpose is to dissolve a human structure (ego, mind, and/or body) where "the body becomes the vessel for an incarnation of which we become one" (Jung, 1988, p. 200), meaning an integrated whole, a conscious being. Although no one wishes to endure such experiences, "entry into this obscurity, this void, this silence is only the passage to a greater existence" (Sri Aurobindo, 1963/1990, p. 122).

Phase 9: During Surrender and Healing (phase 9), the initiate discovers that when all "resistance is utterly gone, then the manifestation of the new symbol [the new ego, mind, or body structure] can take place" (Jung, 1988, p. 976). This phase also asks the initiate to face fears through surrender to circumstances that offer the potential for growth, and to engage in conscious awareness of the inner and outer worlds of synchronicities, feelings, sensations, and insights, but is considerably less painful than the previous phase. From the perspective of Hermetic Science, the initiate "*solve et coagula*, he dissolves the imperfect coagulations of the soul, reduces the latter to its *materia* [its most irreducible essence], and crystallizes it anew in a nobler form" (Burckhardt, 1997, p. 123). Importantly, the initiate requires help "by means of a natural vibration of the soul which awakes….and links the human and cosmic domains" (Burckhardt, 1997, p. 123). The initiate exits this phase when the new structure (i.e., ego, mind, or body) has been placed into order, constructed in its new configuration but not yet fully developed.

The interplay of these three forces in the processes of transformation illustrates the significance of the Divine. If left unaccompanied, humans and nature cannot alone make a hero or a superhero; "True man—the spiritual man—is not given, is *not the result of a natural process*. He is 'made' by the old masters, in accordance with the models revealed by Divine Beings and preserved in the myths" (Eliade, 1958/2005, p. 132). With this understanding of how transformation unfolds and how the forces at play commingle to cause evolutionary change, I now turn to the final discussion of how initiates are made into heroes, and how heroes transition to become superheroes.

TRIPLE TRANSFORMATION: EVOLVING FROM HUMAN TO TRANSHUMAN

In this final section, I complete the framework by describing how an ordinary person becomes a transhuman, meaning living beyond or past the ordinary human experience, a beyond-human, or a superhero, through three progressive, *substantial* transformations. According to spiritual texts (Sri Aurobindo, 1963/1990), psychology (Jung, 1988), Hermetic science (Eberly, 2004), and others, the ultimate purpose of human life is to receive and integrate the Divine into one's body, mind, and spirit, and in so doing, to accomplish the "spiritualization of matter and the materialization of the Holy Spirit" (Eberly, 2004, p. 4). Aurobindo conceptualized a biopsychospiritual pathway of human development he names the *triple transformation* that yields a self-realized and evolved human. In the context of heroism science, the culminating human is a superhero—one with capacities that are both human and beyond human.

One way this goal is conceptualized is through a progression of three great transformations, unfolding in this order: ego, mind, and body (Sri Aurobindo, 1963/1990). The first transformation involves the dissolution or death of the ego because "the hero of yesterday becomes the tyrant of tomorrow, unless he crucifies himself today (Campbell, 1968, p. 353) so the ego can be replaced by the soul, also called the true ego (Sri Aurobindo, 1963/1990). According to this approach to development, the *soul* is the part of the human that is luminous, immortal, and evolves and is personally unique. Mythology reveals that the soul is "identical in form with the universe" (Campbell, 1968, p. 385). The spark of the Divine, seeded in the soul, gives humans a direct connection

to the Divine, which is consciousness itself. Individuals can directly sense the soul during moments of inward surrender and unveiled intimate honesty that cause the feeling, 'this is me.' The spark of the Divine found at the center of the soul is what "makes [a hu]man an exceptional being" (Sri Aurobindo, 2002, p. 94).

Although it is not within the scope of this paper to attempt to outline processes of ego development, a few key actions relate to this discussion. As a first condition of ego development, the heart, mind, and will/action must grow. Experiences that involve learning about one's self or healing are extremely important, as well as indwelling and self-analysis, because these activities increase self-awareness; "the ego has an imperative need to know it exists" (Temple-Thurston and Laughlin, 2000, p. 57). This growth propels the individual "in a line of an ascent" and can be cultivated by seeking that which is naturally alluring: truth, good, and beauty (Sri Aurobindo, 1963/1990, p. 66). These three turn the individual toward that which is inherently spiritual. These are activities help the ego to see itself more fully and as such aid in its dissolution. For the innermost change, which constitutes the ego's consummation, the ego must make direct contact with "spiritual Reality" because "nothing else can so deeply touch the foundations of our being and stir it or cast the nature by it stir into a ferment of transmutation" (Sri Aurobindo, 1963/1990, p. 66). This transformation constitutes a shift from a self that is founded on ignorance and narrowness, to a self-grounded in conscious awareness of self.

Once the initiate completes their first journey through the entire Figure 8 and the soul has taken on a bodily existence or structure by becoming the central organizing structure of the self; the soul is said to be "firm…fixed and eternal and cannot be burned" (Jung, 1935/1968, p. 27), meaning that the soul cannot be dissolved through the fires of transformation. After this momentous achievement, the individual enjoys "an influx of spiritual experiences of all kinds" (Sri Aurobindo, 1963/1990, p. 71), and all subsequent transformations are much less laborious (Sri Aurobindo, 1972).

The second transformation is of the mind, achieved when "consciousness of the mental creature is…turned wholly into the consciousness of the spiritual being" (Sri Aurobindo, 1963/1990, p. 76) when she is "left alone" with "ultimate openness….into which the mind must plunge alone and be dissolved" (Campbell, 1968, p. 258). The result of this transition endows the mind with "new forces of thought or sight and a greater power of direct spiritual realization that is more than thought or sight, a greater becoming in the spiritual substance of our present being" (p. 75). When the initiate opens up to the "boundless self" (Sri Aurobindo, 1963/1990, p. 73) and when a Divine intervention transfigures ignorance, darkness is dispelled. This transformation is equivalent to what is generally termed 'enlightenment' and the capacity to put "all in order" (p. 75).

Only upon the third transformation of the body (having already transformed the ego and mind), does the burgeoning hero-in-transformation become supernatural; through "initiation—dismemberment …resurrection … and new birth, obtaining a new, supernatural body" (Eliade, 1958/2005, p. 108). This perfected state transpires upon these achievements:

> To embrace individuality after transcending it is the last and divine sacrifice. The perfect [result] is he who is able to live simultaneously in all these three apparent states of existence, elevate the lower into the higher, receive the higher into the lower, so that he may represent perfectly in the symbols of the world that with which he is identified in all parts of his being, —the triple and triune Brahman (Sri Aurobindo, 1972, p. 396).

This final transformation grounds the spirit (the truest self) into the physical realm of matter by purifying, incarnating, and spiritualizing the body, causing the initiate to become a supramental being—a superman or superwoman. In this great descent, the initiate must "empty" herself "by actively embracing God's absence (kenosis)… [to cause] autonomy of the self in the face of an otherwise all-encompassing other [the Divine] …to free herself from a dependency on ecstatic communion" (Mechthild, 1963/1993, p. 42). This is made possible by "realistic and courageous acceptance of pain and loneliness [due to the absence of an] ecstatic state of fusion with the divine." (p. 43). The hero-in-transformation strengthens the descent of spirit during her transformation through the continuous "choice to embrace the whole gamut of spiritual experience rather than to depend only on the heights of ecstasy" (p. 43).

> When she has ascended to the highest that can happen to her while she is still connected to her body, and sunk down into the greatest depth that she can find, then she is fully grown in virtues and holiness. Then she must be adored with the pain of long waiting (Mechthild, 1963/1993, p. 4).

Aurobindo explains that this third transformation causes one to be *supramental*, to have consciousness of the infinite (Divine), which is not accessible to the ordinary mind that founds itself on consciousness of the finite and uses division and construction as a means of understanding unity. Although the mind is also transfigured in this final transformation, the body is the primary framework that becomes spiritualized with consciousness. The goal of this final transformation is a "soul [that bases its] consciousness, its life, its power and form [body] of manifestation on a complete and completely effective self-knowledge" (Sri Aurobindo, 1963/1990, p. 76), which is attained through continued inward focus and analysis. When an initiate triumphs in her journey of the third transformation, "a new world appears that is born and *contained* in this world of Matter and yet *surpasses* it in its true dynamic nature" (italics added; Sri Aurobindo, 1972, p. 17). Perhaps this is what the contemporary spiritual author and teacher Tolle (2008) intended when he titled is book, "The New Earth" as a causality of human transformation.

THE RESULT: SUPERHEROES AS TRANSHUMAN

With the final transformation, the hero is made supernatural. The result is "a permanent ascension of the lower ….and permanent descent of the higher into lower" (Sri Aurobindo, 1963/1990, p.74), In other words, the spirit, the true self, descends into and becomes one with the body, and the body ascends and

becomes one with the true self. This is effectively a union of soul (the immortal psyche) and spirit (the true self that is already perfect and does not evolve) in the body. The consciousness that emerges from this amalgamation is unbounded, grounded, peaceful, loving, and awake. Jung explains that the superhero is "the circle of the beginning [the origins of the universe] but this circle has now the anima mundi, the soul of the world, which was hidden in the chaos….this time [the circle] is the spiritual body….the redeemed microcosmos" (Jung, 1988, p. 1401). One who achieves this is "capable of resisting all outside influences" (Sri Aurobindo, 2002, p. 108), because she has incarnated. In alchemical and psychological terms, she has become refined, cleared of all "impurities" (i.e., the shadow), leaving only that which is essentially true, uncorrupted, and real—in Hermetic Science terms, that which is irreducible—the enlightened one or the philosopher's stone.

So important is this observation about human transformation that renown anthropologist Mircea Eliade made a brief but emphatic plea about how, after passing through the gauntlet of transformation's dismemberment, the initiate becomes a forerunner of evolution itself:

> It must never be forgotten that initiatory death simultaneously signifies the end of the "natural," noncultural man, and passage to a new modality of existence—that of a being "born to spirit," that is, a being that does not live solely in an immediate reality. Thus initiatory death forms an integral part of the mystical process by which the novice becomes another, fashioned in accordance with the model revealed by the Gods or the mythical Ancestors. This is as much as to say that one becomes truly a man in proportion as one ceases to be a natural man and resembles a Supernatural Being (Eliade, 1958/2005, p. 132).

In this passionate passage, Eliade illuminates what has been explored here, namely the end of the "natural" human and the birth of a humanity of transhumans—superheroes—through progressive biopsychospiritual processes that repeat three times and results in a spiritualized human. With each transformation, consciousness emerges, transfigures and spiritualizes the ego, mind, and body (i.e., consciousness raising), while conversely, consciousness descends into the reorganizing ego, mind, or body to literally elevate the structure into higher realms while still constituting matter.

Even though spirit or consciousness is always within the individual prior to transformation, after the third transformation, the spirit is actualized, made tangible or real, rendering the superhero in full possession of herself. The super-human result of these three transformations has been recognized by many scholars and thinkers, each with their own designation. Eliade says, "Initiation….reveals a world open to the *transhuman*, a world that, in our philosophical terminology, we should call transcendental" (emphasis added; 1958/2005, p. 132). Campbell says, "God assumes the life of man and man releases the God within himself at the…same sun door though which God descends and Man ascends—each as each other's food (Campbell, 1968, p. 260). He calls the hero transformed a *redeemer* (Campbell, 1968, p. 349), *saint* (p. 354), *king within*

(p. 365) or "universal god-man" (p. 389). Hindu tradition names one who has achieved this state is called *Arhat*: one "who is able to live simultaneously in all these three apparent states of existence, elevate the lower into the higher, receive the higher into the lower, so that he may represent perfectly….in all parts of his being—the triple and triune" (Sri Aurobindo, 1972, p. 396); oneness, differentiated oneness, and duality (p. 59). Philosopher Friedrich Nietzsche named his teacher *Superman*, a being who Jung states is, in hermetic terms, "a new unit called the *rotundum*, the roundness, or the round complete thing" (Jung, 1988, p. 1401) that is "the being that can be created by man's making a heroic endeavor to create something beyond himself" (Jung, 1988, p. 49). Hermetic science refers to the one who is self-realized as a master, *magisteria* (Leicester and Klickstein, 1952, p. 22), or *philosopher's stone* (Nietzsche, 1961). Although the stone is one entity, it is "called Rebis (two-thing), being composed of…a body and spirit by which the body is dissolved into a spirit" (emphasis added; Henry, 1893/2012, p. 12). Regardless of the name assigned to the new version of human—the transhuman, redeemer, saint, god-man, arhat, rotundum, magisteria, philosopher's stone, Rebis, King or Queen, or superhero—it is certain that she is an entirely new human. The transformed individual is one but consists of two: human and superhuman. Said in a different way,

> Everything existing phenomenally or, as we shall say, symbolically, two parts, the thing in itself and the symbol, Self and nature, res (thing that is) and factum (thing that is made), immutable being and mutable becoming, that which is supernatural in it and that which is natural. (Sri Aurobindo, 1972, p. 52)

As exhibited in this paper, the two-thing—the human-superhuman—lives in three worlds, the lower, middle, and upper. When an initiate realizes a complete transformation, an entire Figure-8 for the first time, the process places them in relationship with three realms of the lower, middle earthly, and upper.

CONCLUSION

If we are to better apprehend the nature of heroism, I argue, we must go beyond analysis of its processes (the content corresponding to how transformation unfolds), which have been explored by Jung (1988), Turner (1969), Eliade (1958/2005), Ouspensky (1949/2001) and Sri Aurobindo (1963/1990), among others. We must also examine thoroughly the contextual elements, what is natural and above nature, that affect the process. Just as an oceanographer must know meteorology and astronomy to better know the ocean, I uphold that to study heroism means we also scrutinize the forces that act upon the initiate during transformation. Following this line of thought, this paper has been so devised.

Founded on the scholarship of seminal authors of depth psychology (Jung, 1988), Hindu spirituality (Sri Aurobindo, 1972), anthropology (Turner, 1969), physics (Prigogine, 1997), Hermetic science (Eberly, 2004), mythology (Campbell,

1968), and other disciplines, this paper demystifies how an ordinary person becomes a hero by deconstructing the characteristics of transformation as a key function of human psychospiritual evolution. The primary proposition is that human transformation unfolds through both natural and supernatural phenomena and produces a transhuman or superhero: one who is natural (bound by nature) and supernatural (beyond nature).

The discourse begins at the level of limitations, by describing four key "laws" that govern the realm of matter and ground the budding hero as an earth-bound human, and then defining four supernatural abilities the hero-initiate must cultivate and enact in order to transform. The next section provides an overlay of natural and supernatural processes upon the Figure-8 Model of Transformation (Ross, 2017), to "map" when the initiate can expect to receive the support of natural processes, when to be vigilant for transcendental or Divine intervention, and when to courageously meet challenges with supernatural action. This paper culminates with an explanation of three progressive, substantial initiatory transformation cycles—the triple transformation (Sri Aurobindo, 1963/1990)—that transmute an ordinary person into a hero and the hero into a super, transhuman.

We will recognize her and know him because, "The will of a single [super]hero…can breathe courage into the hearts of a million cowards.…The thought of a solitary [superhero] can become, by exercise of selfless and undoubting will, the thought of a nation" (Sri Aurobindo, 1972, pp. 178–179). The world has for example, known a number of individuals who appear to have demonstrated such resplendence; Sojourner Truth, Mahatma Gandhi, Susan Cady Stanton, Nelson Mandela, Corazon Aquino, Genghis Khan, and Joan of Arc, to name a few.

With this crowning achievement, the superhero is made real, and a vision deciphered by Joseph Campbell comprehensible; "the cosmogonic cycle is now to be carried forward, therefore, not by the gods, who have become invisible, but by the heroes, more or less human in character, through whom the world destiny is realized" (1968, p. 315). Hero-making serves a far greater and hallowed purpose than nobly transforming one's own self and motivating beloved others to do the same. When we dare to be guided into action by our cherished heroes, we engage in an important evolutionary compulsion. We need only follow the pathway already laid before us as our ordinary, extraordinary life.

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

REFERENCES

Allison, S. T., Goethals, G. R., and Kramer, R. M. (2017). *Handbook of Heroism and Heroic Leadership*. New York, NY: Routledge.

Almaas, A. H. (2004). *The Inner Journey Home: The Soul's Realization of The Unity of Reality*. Boston, MA: Shambhala.

Burckhardt, T. (1997). *Alchemy: Science of the Cosmos, Science of the Soul*. Louisville, KN: Fons Vitae.

Campbell, J. (1968). *The Hero With a Thousand Faces, 2nd Edn*. Princeton, NJ: Princeton University.

Campbell, J. (1991). *The Power of Myth With Bill Moyers*. New York, NY: Anchor Books.

Eberly, J. (2004). *Al-Kimia: The Mystical Islamic Essence of the Sacred Art of Alchemy*. Hillsdale, NY: Sophia Perennis Press.

Eliade, M. (1958/2005). *Rites and Symbols of Initiation in The Mysteries of Birth and Rebirth*. Transl by W. R. Trask. Putnam, CT: Spring.

Emerson, R. W., and Versluis, A. (1997). *The Hermetic Book of Nature: An American Revolution in Consciousness (Studies in Religion and Literature)*. St. Paul, MN: Grail; New Cultures Press.

Franco, Z., and Zimbardo, P. (2006). The banality of heroism. *Greater Good* 3, 30–35. Available online at: https://greatergood.berkeley.edu/article/item/the_banality_of_heroism

Henry, A. (1893/2012). *The Doctrine of Alchemy*. Raleigh, NC: Lulu.

Jayawickreme, E., and di Stefano, P. (2012). How can we study heroism? Integrating persons, situations, and communities. *Polit. Psychol.* 33, 165–178. doi: 10.1111/j.1467-9221.2011.00861.x

Jung, C. G. (1935/1968). *Analytic Psychology: Its Theory and Practice; the Tavistock Lectures*. New York, NY: Pantheon Books.

Jung, C. G. (1988). "Jung's seminar on Nietzsche's Zarathustra." in *Notes of the Seminar Given in 1934–1939*, Vol. 1–2, ed J. L. Jarrett (Princeton, NJ: Princeton University Press).

Leicester, H. M., and Klickstein, H. S. (1952). *A Source Book in Chemistry, 1400–1900*. Boston, MA: Harvard University.

Loevinger, J. (1976). *Ego Development*. San Francisco: Jossey-Bass.

Mechthild (1963/1993). *The Revelations of Mechthild of Magdeburg (1210-1297) or The Flowing Light of the Godhead*. Mansfield Centre, CT: Martino. Translated by Lucy Menzies.

Newman, M. A., (1978). *Toward a Theory of Health. Paper Presented at Nurse Educator Conference*, New York.

Nietzsche, F., (1961). *Thus Spoke Zarathustra: A Book for None and All.* Transl. by R. J. Hollingdale. New York, NY: Penguin Books.

Olsen, C., (1992). *A Philosophical Inquiry into the Alchemy of Light and Dark in the Nuptial Union of Sanjuanist Spirituality*. (Unpublished dissertation). California Institute for Integral Studies, San Francisco, CA.

Ouspensky, P. D. (1949/2001). *In Search of the Miraculous, the Teachings of G.I. Gurdjieff*: The *Classic Exploration* of *Eastern Religious Thinking* and *Philosophy*. Orlando, FL: Harcourt.

Prigogine, I. (1997). *The End of Certainty: Time, Chaos, and the New Laws of Nature*. New York, NY: Simon and Schuster.

Ross, S. L. (2017). The making of everyday heroes: women's experiences of transformation and integration. *J. Human. Psychol.* 1–23. doi: 10.1177/0022167817705773

Ross, S. L. (2019). *A Concept Analysis of Transformation, Part 2*. Manuscript in preparation.

Sri Aurobindo (1963/1990). *Future Evolution of Man: The Divine Life Upon Earth*, 2nd edn. P. B. Saint-Hilaire, (Comp). Twin Lakes, WI: Lotus.

Sri Aurobindo (1972). *The Hour of God and Other Writings,* Vol 17. Sri Aurobindo Ashram. Pondicherry, India.

Sri Aurobindo, The Mother, and Dalal, A. S. (2002). *Our Many Selves: Practical Yogic Psychology*. Twin Lakes, WI: Lotus.

Stokes, M. (2010). *Isaac Newton: Christian Encounters*. Nashville, TN: Thomas Nelson.

Temple-Thurston, L., and Laughlin, B. (2000). *The Marriage of Spirit: Enlightened Living in Today's World*. Santa Fe, NM: CoreLight Press.

Tolle, E. (2008). *A New Earth: Awakening to Your Life's Purpose*. New York, NY: Penguin.

Turner, V. (1969). *The Ritual Process: Structure and Anti-structure*. Ithaca, NY: Cornell University Press.

van der Sluijs, M. A., and Peratt, A. L. (2009). The orobóros as an auroral phenomenon. *J. Folklore Res.* 46, 3–41. Available online at: https://www.mythopedia.info/vanderSluijs-Peratt-JFR-46-1.pdf

van Gennep, A. (1909/1960). *The Rites of Passage: A Classic Study of Cultural Celebrations.* Transl. by M. B. Visedom and G. L. Caffee. Chicago, IL: University of Chicago Press.

Wautischer, H. (2008). *Ontology of Consciousness: Percipient Action.* Cambridge, MA: MIT Press.

Wilber, K. (1996). *The Atman Project: A Transpersonal View of Human Development.* 2nd ed. Wheaton, IL: Theosophical.

Mindfulness Training: Can It Create Superheroes?

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With the emergence of the science of heroism there now exists both theoretical and empirical literature on the characteristics of our everyday hero. We seek to expand this inquiry and ask what could be the causes and conditions of a superhero. To address this we investigate the origins of mindfulness, Buddhist psychology and the assertion that its practitioners who have attained expertise in mindfulness practices can develop supernormal capabilities. Examining first their foundational eight "jhana" states (levels of attention) and the six consequent "abhinnas" (siddhis or special abilities) that arise from such mental mastery, we then explore any evidence that mindfulness practices have unfolded the supernormal potential of its practitioners. We found a growing base of empirical literature suggesting some practitioners exhibit indicators of enhanced functioning including elevated physical health and resistance to disease, increased immunity to aging and improved cognitive processing, greater resilience and fearlessness, more self-less and pro-social behaviors, some control over normally autonomic responses, and possibly some paranormal functionality. These improvements in normal human functioning provide some evidence that there are practices that develop these abilities, and as such we might want to consider adopting them to develop this capability. There are however insufficient studies of expert meditators and more research of adepts is called for that explores the relationship between levels of attentional skill and increases in functionality. We propose in search of the superhero, that if conventional mindfulness training can already augment mental and physical capabilities, a more serious inquiry and translation of its advanced methods into mainstream psychological theory is warranted.

Keywords: mindfulness, heroism, superhero, superpowers, human potential, meditation, enlightenment, Buddhism

INTRODUCTION

Whilst the study of the behaviors and attributes of heroes has undergone a renaissance in recent years (Allison and Goethals, 2013), the characteristics of a superhero has remained the stuff of fiction. What we are gathering about our everyday heroes however is certainly inspiring and seemingly within our grasp: they are characterized by prosocial activity, though sometimes contrary to the status quo (Staats et al., 2008) they share some but not all of the qualities of moral role models such as a respect for humanity; they have a willingness to act in accord with their own ideals; and they often sacrifice self-interest for the sake of others (Colby and Damon, 1992).

Yet while all of us appear intermittently capable of such heroic acts, we don't seem to have the ability to be consistently heroic (Walker et al., 2010), let alone be relied upon to save

the world (Becker, 1973). In fact our choices usually depend upon the situation (Zimbardo, 2007) as it seems our character is often too fragmented (Doris, 2002) to be reliable (Fischer et al., 2006). However, when we do act heroically such behavior seems to contain three core elements: service to others; is voluntarily chosen; and it brings possible risk or cost to the individual (Franco and Zimbardo, 2006, 2011). Typically people we see as heroes are known for demonstrating outside the norm behaviors (Hakanen, 1989), and perhaps we might question if we could do the same, or at least be able to develop these attributes over time. However not much is known on what might be predictable developmental steps (Erikson, 1982) that create a hero (Baltes et al., 2006; Callina et al., 2016) and whether we could be trained as children or adults to predictably think and behave heroically (Slagter et al., 2011; Jones, 2017).

To assist in this inquiry, Franco and Zimbardo (2006) proposed an approach that fosters "heroic imagination"—the cultivation of a heroic ideal that can "guide a person's behavior in times of trouble or moral uncertainty" (Franco and Zimbardo, 2006, p. 31). Since then Kohen et al. (2017) have made some headway by suggesting four trainable skills: developing an heroic imagination about how you would act; cultivating a sense of empathy and commonality with others; practicing habits of small-scale helping; and acquiring skills or traits specific to heroic actions. Other training approaches are beginning to emerge that focus on areas such as: developing an understanding of the bystander effect; challenging prejudice, group perception and stereotyping; improving situational awareness; and the development of greater understanding of how social conformity can reduce the likelihood of taking heroic actions (Franco et al., 2016). Yet on the whole there remains little research on hero training (Efthimiou, 2016b; Franco et al., 2016) and is a clear gap in the literature.

What could also be asked, in line with Aristotle's function argument that all things have a function and their meaning is found in the full expression of that function (Gomez-Lobo, 1988), is what is the full function or potential of a human being and could we learn to activate this. This points to a gap in the heroism literature—a discussion on human potential (Baltes and Staudinger, 2000; Vitterso, 2004) and whether our everyday hero, with training could push these frontiers even further and develop capacities akin to a superhero?

To explore this, and consistent with Allison (2016) recommendation that the science of heroism adopt a multidisciplinary approach and explore a range of diverse perspectives, we turn to a popular method of self-improvement—mindfulness, to see what it can offer to this discussion. What we find, buried in its origins of Buddhist psychology (Vago and Silbersweig, 2012), are claims that its master practitioners can in fact develop superhero-like capacities such as levitation, telekinesis, age-lessness and other extraordinary feats of superhuman ability. In an era where mindfulness is under the microscope, we ask if this ancient science of mental training can provide any scientific proof that a superhero could be possible. We define super-heroism as the demonstration of abilities well-beyond the expected norms of human capacity, including a control over mental and physical processes that can transcend the known laws of physics.

By way of introduction, we first cover off on the mental states that are proposed as necessary precursors to such abilities: the eight levels of concentration known as "jhana" states that map out progressively each stage of attention as mental control increases. We then investigate what abilities ("siddhis") are proposed to arise as a natural outcome of such mental mastery. We then turn to the research and probe the evaluation of advanced mindfulness practitioners for any data that supports the development of such abilities.

As such we review literature that describe super-human capacities that supersede norms of the common day, and we explore whether there is any proof that the proposed practices develop these capacities normally reserved by superheroes. We argue that if indeed advanced practitioners can demonstrate at least some evidence of advanced functioning (Wilber, 2006), then if people wish to emulate our heroes/superheroes, they might want to consider adopting such practices to develop their capacities to achieve this goal.

The Path of Mindfulness

Common to all major religious traditions is the claim that their most actualized practitioners operate at the level of superheroes, whilst still being fully human—that is with supernormal attributes (Radin, 2013). Like Buddhist psychology from which mindfulness originated, in the Hindu tradition dozens of such powers (known as siddhis) are seen to exist (Menon, 2007), as documented in Patanjali's Yoga Sutras (Honorton, 1981; Vivekananda, 2014). These abilities are viewed as natural milestones, with control over the external world seen as growing parallel with internal development (Maheshwarananda, 2004).

Yet whilst religions are littered with stories of great feats (Rama, 1999), and indeed living examples of individuals such as Amma in the Hindu tradition (Paramatmananda, 1987) or the Dalai Lama in Buddhism (Dalai Lama, 2002) are seen as miraculous within their traditions, such paths, unlike myths, offer techniques grounded in methodology that is repeatable and testable (Khyentse, 1993; Natarajan, 2000; Simao et al., 2016). Indeed science is now entering a dialogue with these traditions to understand and test the validity of these approaches (Ricard and Thuan, 2004; Braud, 2008).

However whilst the end point of Buddhist psychology is heightened meta-awareness leading progressively to enlightenment (Trungpa and Goleman, 2005), the more recent presentation of mindfulness is more concerned with subjective well-being (Teasdale et al., 2000) and is defined as non-judgmental attention to the present moment (Kabat-Zinn, 2011) and an ability to self-regulate one's behavior in a more prosocial way (Tacon et al., 2004). In contrast to enlightenment, the range of possible practice outcomes include present moment awareness (Cahn et al., 2013), attentional regulation (Vago and Nakamura, 2011) and loving kindness (Salzberg, 2011).

As such the current field or possibly "neo-mindfulness" does not yet have a cohesive or comprehensive model (Shear, 2006) that delineates a predictable stepwise progression of the practitioner that leads to the foundational state of non-dual awareness (Bharati, 1976) from which it is argued the supernormal qualities develop. In fact Fox et al. (2016) evaluation of functional neuroimaging studies of these different meditation

methods found dissociable patterns of brain activation and deactivation for each style.

The critique of current mindfulness is that it has been taken from its origins and re-presented in a decontextualized manner that, whilst highly correlated with improved mental health, misses some of the richness or complexity offered by its parent philosophy (Kudesia and Nyima, 2015). This has caused construct validity issues as evidenced by diverging definitions of key terms, a range of practices (Siegel et al., 2008) that are hard to formalize as mindfulness (Shear, 2006) and somewhat diluted training methods (Teasdale et al., 2003).

Furthermore, there is a growing literature documenting significant differences between beginners and advanced mindfulness practitioners (long term meditators) who may be using the same "methods" but attaining very different "states." One example is the transition from beginner to adept (from effort to effortless) where there is a decreased need for effort-based disengagement from distracting mental processes (Dunne, 2011), with that difference presenting in very different brain patterns.

One characteristic of the adept is their advanced states of non-dual awareness (Grof, 1972; Josipovic, 2014), also known as self-transcendent events (Yaden et al., 2017), anomalous experiences (Cardena et al., 2000), or even religious experiences (James, 1902). These terms all refer to a dissolution of the sense of an abiding and separate self or "anatta" (Pérez-Remón, 1980) and a perception of oneness or connectedness to people and surroundings. Such opening or awakening to the non-dual experience is seen to result from the removal of the cognitive, perceptual, and sensory layers of information processing leading to a more expanded and unitary state of consciousness (De Castro, 2015).

This deconstruction process is also described in Campbell (1949) depiction of the hero's journey (the saint in particular), which outlines the stages of human development, during which people undergo moral, mental, emotional, physical, and spiritual transformation. "The individual, through prolonged psychological disciplines, gives up completely all attachment to his personal limitations, idiosyncrasies, hopes and fears, no longer resists the self-annihilation that is prerequisite to rebirth in the realization of truth, and so becomes ripe, at last, for the great at-one-ment." Campbell (1949), p. 236 Transpersonal theorists have subsequently introduced psychological nomenclature to better delineate this process of self-realization (Maslow, 1970; Prendergast, 2003). However, it is depicted it is only this advanced stage and its subsequent mental states that the emergence of the so called superpowers is seen to begin.

As mindfulness is one such methodology and its outcomes are now being empirically evaluated, it is well-positioned to answer questions about such advanced states and abilities. Yet whilst mindfulness is now being scientifically scrutinized, the possibility of special abilities as an outcome of practice, with a few exceptions, has received little attention (Anand et al., 1961; Benson et al., 1982; Roney and Solfvin, 2006). One of the challenges is that the scientific method or data gathering approach often inherent in research is based on the materialist or reductionist premise that if it cannot be verified it does not exist—"Of that which we can't speak about, we should remain silent" (Wittgenstein, 1922, p. 189).

Understandably the prospect of supernormal abilities, whilst about naturally occurring phenomena, is not currently easy to verify. Buddhist scholar Alan Wallace offers some assistance: "In Buddhism, these are not miracles in the sense of being supernatural events, any more than the discovery and amazing uses of lasers are miraculous—however they may appear to those ignorant of the nature and potentials of light. Such contemplatives claim to have realized the nature and potentials of consciousness far beyond anything known in contemporary science. What may appear supernatural to a scientist or a layperson may seem perfectly natural to an advanced contemplative..." (Wallace, 2007, p. 103).

Some guiding principles for a balanced study of the topic are offered by the Dalai Lama who firstly encourages scientific responsibility (see also Sedlmeier, 2011). "I am well-aware, however, of the danger of tying spiritual belief to any scientific system… Great vigilance must be maintained at all times when dealing in areas about which we do not have great understanding. This, of course, is where science can help." He then goes on to also encourage open mindedness toward abilities achieved through advanced practice "After all, we consider things to be mysterious only when we do not understand them. Through mental training, we have developed techniques to do things which science cannot yet adequately explain" (Dalai Lama, 2002, p. 230–243).

Buddhist Psychology and Special Abilities

Originally Gautama Buddha is said to have achieved the state of perfect enlightenment as an outcome of meditation and as a result he is described as having access to supernormal abilities (Olson, 2017). He developed the four noble truths (life is empty of inherent satisfaction; the source of suffering is craving; suffering ceases when craving ends and awakening to one's true nature occurs; and there is a method to achieve this (which includes mindfulness), as a summary of the required deconstruction process (Anderson, 1999). In the later Tibetan Buddhist school of Zchogchen this same sequence is followed with the first step of training ("Treckcho") targeting non-dual awareness followed by the advanced practice of "Togal" which actually includes training in special abilities in service of others (Sogyal, 1992). This order is seen as critical (most traditions advise against the pursuit of abilities for their own sake) lest the practitioner develop and use abilities derived from concentration that are not pure, ego-less and in service of humanity (narcissistic personality disorder)— aka the antihero (Wilber, 2006; Jones, 2017).

The Buddhist path has produced different approaches since its origin however all forms; the Theravada, Mahayana and Vajrayana, assert the possible perfection of the practitioner, known, respectively, as the arahant, bodhisattva, and mahasiddha (Katz, 1990). In these advanced or final stages of practice it is claimed that practitioners develop special abilities in comparison to normative functioning. These aptitudes are seen as a natural and necessary outcome of seeing through the illusion that the subjective self and objective phenomena are separate and inherently existent entities (Nirbhay et al., 2015). In early Theravadin texts six abilities known as the "abhinnas"

(also known as siddhis) or higher knowledge are reported as progressively attainable by practitioners who have typically passed the fourth (of eight) levels of concentration known as "jhana" states.

The levels of jhana are an account of progression up the ladder of mental control. The Buddha in a number of sutras exhorts his disciples to develop the jhana states, and the first four figure in the training of right concentration in the 8-fold path (Gunaratana, 1988). The average mindfulness practitioner would rarely enter the first level of mental control depicted by these states (Clough, 2011) hence empirical studies seldom evaluate such practitioners. However, as they are seen as the mental foundation for the subsequent unfoldment of the superpowers in Buddhist theory (Lodro, 1998) we note how they present.

In brief, first jhana (joy) is the state of continuous concentration with no interruptions and pleasant sensations (bliss) in the background. In second jhana (contentment) one lets go of the previous physical and emotional pleasure and moves to motionless, quiet contentment. Third jhana (utter peacefulness) is a sense of equanimity with no positive or negative feeling and an all pervading, peaceful one-pointedness of mind. In fourth jhana (infinity of space) there is the experience of absorption without form, attention shifts beyond the body as if watching oneself, and the self is experienced as the expanse of empty space (Narada, 1980).

In most accounts, the practitioner must have progressed past the first four "material" jhanas before extra mental abilities start to manifest (Tsong Khapa, 2002), however there is some divergence as to when they are seen to manifest. The remaining four jhanas during which such abilities are seen to develop are: fifth jhana (infinity of consciousness)—awareness that infinite space includes one's own consciousness and attention shifts to infinite consciousness (oneness with nature and existence); sixth jhana (no-thingness)—realization that infinite consciousness itself is empty of inherent existence and that all is impermanent and changing; seventh jhana (neither perception nor non-perception)—going beyond the duality of perception nor non-perception and yet still aware; eighth jhana (cessation)—cessation of overt consciousness with only subtle perception remaining (can appear unconscious) yet perfectly one with everything.

Once, as the result of long term training, a practitioner has achieved_the preliminary states, in Buddhist theory it is predicted that six categories of abilities (De Silva, 2005) can arise [in Hinduism they can number as high as twenty four; (Maheshwarananda, 1990)]. These wide-ranging supernormal (Radin, 2013) faculties are: (1) Performing Miracles (psychokinesis)—the attainment of extra-ordinary physical powers including disappearing, walking on water, passing through solid objects and flying; (2) Celestial hearing (clairaudience): the ability to hear sounds from far away, even other realms; (3) Knowledge of thoughts (telepathy)—can communicate without words and understand unspoken languages including animals; (4) Knowledge of past and future (knowledge beyond time)—can know events from the past and future of both themselves and others including previous and future life cycles; (5) Celestial vision (clairvoyance)—the ability to see things in minute detail or far away, can see through solid objects, can see in the dark or the nature of someone's mind, vision is free and unobstructed; (6) Eradication of all defilements (end of suffering)—the realization of enlightenment or nibbāṇa (the achievement of most value), the practitioner has now transcended the cycle of birth and death (Jacobsen, 2012).

As comprehensive and extraordinary as this complete set of capacities is, it is thought that some of the simpler faculties can occasionally occur naturally in some people with no or moderate training (the usual scope of western parapsychological research) or whilst progressing along the path of mindfulness training (Roney-Dougal, 2006). However, the full complement of attributes are typically seen to be reached only after having achieved the highest state of concentration, and are under the complete control of the practitioner (Thrangu, 2001). What is normalizing, amidst such extraordinary descriptions, not unlike the notion of the banality of heroism, is that such attributes are seen in Buddhist theory as a natural expression of human capacity.

Mindfulness Research

Both the above described concentration states and supernormal faculties are well-beyond the experience of the average person and are more representative of a superhero than our typical hero. And as mindfulness practices and results have now attracted significant empirical investigation it is reasonable to ask what evidence has been found that these practices deliver any preliminary indicators of such outcomes. If there are some signs of their existence this will expand our current understanding of both human potential and just how heroic can we become.

Two issues we face however are the scarcity of highly advanced mindfulness practitioners available for testing (Ricard, 2011) and scarcity of data as most researchers currently focus on normal range of processing (Sedlmeier et al., 2012). In view of these limitations (this current inquiry is a call for more research of advanced practitioners) we will investigate what documented results are available from mindfulness training. We do this by examining the following categories: health and resistance to disease, anti-aging, pro-social behavior, consciousness, control of autonomic responses, and the paranormal. As such we are looking for any evidence, across a range of categories, that mindfulness practice increases human functioning beyond normal expectations.

Health and Resistance to Disease

In terms of the basic fundamentals of health, reviews of mindfulness meditation interventions (Chen et al., 2012) have found them in some cases to be as effective as conventional antidepressants in the treatment of depressive and anxious disorders. For example Pascoe et al. (2017) found that meditation can decrease physical correlates such as cortisol, blood pressure, resting heart rate, blood glucose, and cholesterol. Such results suggest a modulation of the sympathetic nervous system and hypothalamic pituitary adrenal system and lend support to such practices triggering a physiologically adaptive response to psychological stress (Nesse et al., 2016).

In terms of disease prevention, whilst mental stress suppresses the immune response, regular meditation has been associated

with an increased resistance to disease (Ventriglio et al., 2015). In support of this meditation has been negatively associated with neurodegenerative conditions, such as Alzheimer's (Huang et al., 2016), reduces the expression of pro-inflammatory genes in blood cells (Creswell et al., 2012), and has been found to trigger structural brain changes in patients with Parkinson's disease (Pickut et al., 2013).

García-Campayo et al. (2018) found an unexpected epigenetic response to long term meditation practice suggesting a molecular response to mindfulness practice involving crucial regulators related to a range of common diseases. This ties into other findings in epigenetic research such as the identification of "KIFAP3 (Kinesin-associated protein 3) which prolongs the lifespan of motor neuron disease sufferers (dubbed the "hero gene"). As Efthimiou (2016a) questions "By tapping into the hero epigenome and its regenerative properties it may be possible to conceive of the development of not only more effective life strategies at a psychosocialspiritual level, but chemical or natural compounds at the medical level…" (p. 3). This raises the question as to whether the quality of one's mental state could act as a prophylactic against ill health and even play some role in altering the genetic makeup of an individual. Whilst this is longitudinal change, in keeping with evolutionary theory, it supports the notion that altering one's mental state can change one's physical state.

Anti-aging

Reduced attentional processes have often been reported in the elderly, and it has been proposed that deterioration of the governing mechanism common to other cognitive domains such as memory could explain age-related decline (Gazzaley and D'esposito, 2007). To see if mindfulness practices could ameliorate such aging effects, Sperduti et al. (2016) compared older adults with long-term meditation experience and age-matched older adults with no meditation experience and young adult novices. Cognitive decline of the age-matched control was not observed in the meditators, and older meditators' performance was indistinguishable from the young control (replicated by Chiesa and Serretti, 2010).

In studies looking at processing speed and aging, Hawkes et al. (2014) reported that reaction time differences between meditation practitioners and controls remained significant even after controlling for age. Similar studies showed a reduced attentional blink in middle-aged meditators, compared with an aged matched control group (van Leeuwen et al., 2009).

Some explanation of this could be found in research by Luders et al. (2015) who found that age-related gray matter atrophy in these structures was consistently reduced in meditators. Similarly Lazar et al. (2005) also found that meditation was responsible for slowing age-related thinning of the frontal cortex. A possible mechanism for this is that mindfulness practices may recruit frontal brain regions responsible for attentional control, boost neuronal plasticity in these structures (Sperduti et al., 2016) and offer some immunity against the effect of aging and the deterioration of cognitive processes. Such findings are relevant to this inquiry as the implication is that mindfulness practices can

partially reverse the effect of time and actually alter the physical structure of the brain.

Cognitive Performance

Mindfulness has been linked to improved cognitive performance in specific neural networks (Cahn and Polich, 2006; Malinowski, 2013; Tang et al., 2015). For example in an EEG study van Lutterveld et al. (2017) reported that the alpha band functional network was better integrated in experienced meditators than in novice meditators during meditation. This suggests a more efficient information exchange between different brain areas (Xue et al., 2014).

Similarly when Tanaka et al. (2015) compared first time meditators with long term meditators, the beginners exhibited higher beta in the frontal cortex during attentional tasks than their counterparts (more concentrated effort), suggesting that experienced meditators maintain attention with less exertion than normals. In Lomasa et al. (2015) EEG studies they found a significant increase in both alpha and theta activity during meditation which suggested a state of relaxed alertness conducive to adaptive functioning. Using neuroimaging, Lazar et al. (2005) found meditators had increased thickness indicative of improvement in function in the cortical regions specifically related to emotional, cognitive, and sensory processing.

Such encephalography and neuroimaging findings suggest that mindfulness training can increase the speed, versatility and neural structures of its practitioners. With such confirmation it is reasonable to ask just how fast and flexible could such processing become as mastery developed. Could we like Neo in his superhero training in the Matrix ask the same question: "What are you trying to tell me, that I can dodge bullets?" (Wachowski et al., 1999).

Resilience and Fearlessness

Event-related brain potential (ERP) research of Sobolewski et al. (2011) found that meditation practitioners are less affected by stimuli with adverse emotional load and show an attenuated brain response to viewing negative pictures. Such effects may be mediated by both a reduced negative affective response and an increased positive emotional attitude (positive affect) toward self and others (Wadlinger and Isaacowitz, 2011; Reva et al., 2014)—an outcome goal of mindfulness practices.

This is in line with the transactional model of stress and coping (Lazarus and Folkman, 1984) where resilient individuals initiate a secondary response of decentring from the stressor so as to also attend to their response rather than just the aversive stimulus (Garland et al., 2009). With meditation practice this ability has been found to be more developed and in advanced practitioners can become an automatic and effortless emotional regulation strategy, which in turn reduces the activation of sympathetic nervous system processes such as cardiovascular arousal (Pavlov et al., 2015). Studies comparing experienced meditators to controls and short-term meditators have demonstrated a physiological profile suggestive of an alert, but hypometabolic state in which there is decreased sympathetic nervous system activity, and yet also increased parasympathetic activity (Young and Taylor, 1998; Jha et al., 2007).

Research into neural structures has found greater gray matter concentration in the hippocampus of advanced meditators, suggesting that practice over time enhances circuitry for extinction learning and retention (Holzel et al., 2008; Luders et al., 2013). Similarly thickness of the medial prefrontal cortex has also been found to be directly correlated with extinction retention after fear conditioning. That is, increase in size following extensive training might structurally explain how meditators modulate fear better in that they have more evolved hardware or capacity (better, faster, stronger) in terms of survival response to threat (Ott et al., 2011).

Garland and Howard (2013), building on Kabat-Zinn et al. (1985) seminal work, reported a mindfulness intervention that reduced attentional bias for pain-related stimuli in patients in chronic pain. Through the decoupling of cognitive and sensory faculties associated with the perception of pain, practitioners were able to better perceive painful stimuli without a mental response (Rosenzweig et al., 2010). A physiological correlate of this is the finding that experienced meditators also have a more rapid decrease in skin conductance following a painful stimulus (Goleman and Schwartz, 1976) and a decreased startle amplitude (Levenson et al., 2012). As fearlessness and heroism are correlated, this finding is also relevant to our inquiry as expert mindfulness practitioners, have a more adaptive fear response and appear better positioned to act heroically in threatening settings.

Pro-social Behavior

Heroically-relevant behaviors such as sacrificing needs in service of others, acts of loving kindness and ethical behavior (Shaner et al., 2017) are increasingly being examined in the fields of cognitive science (Boyer, 2003) and neuroscience (Newberg and Iversen, 2003). Sometimes known as the "moral emotions" (Yaden et al., 2017), they are the proposed outcome of the Mahayana Buddhist teaching—the way of the "bodhisattva" (translated as enlightened hero) or enlightenment for the benefit of all sentient beings (Khyentse, 1993). The practices are divided into compassion ("karuna") which seeks to reduce the suffering of others, and loving-kindness ("maitri") which desires to increase the happiness of others (Fredrickson et al., 2008).

This altruistic dimension of mindfulness is now well-documented (Neff, 2011; Salzberg, 2011), with a meta-analysis of the prosocial effects of all meditation methods combined finding that there was an increase in prosocial behavior (Kreplin et al., 2018). Repeated evaluation of the Transcendental Meditation techniques (Mahesh Yogi, 1995) consistently reported decreased levels of aggression and violence (Haegelin et al., 1999). An investigation of specific loving kindness meditation methods (the cultivation of unrestricted readiness and intention to help others) by Lutz et al. (2008) found that practitioners showed more emotional reactivity to sounds of people in distress and a stronger insula response (linked to interoception and empathy).

Neurological studies of loving kindness have found an increase in frontal-parietal gamma coherence and power, and self-reported clarity amongst long term practitioners (Lutz et al., 2004). Again researchers have reported changes in gray matter concentration (Holzel et al., 2011), with changes in brain regions involved in emotion regulation, empathy, and perspective taking (Fan et al., 2011), and functional increases in the insular cortex during compassion exercises (Manna et al., 2010; Desbordes et al., 2012). Essentially the fundamental principle of neuroplasticity is borne out here—if it is stimulated it increases.

The cultivation of compassion through loving-kindness practices is viewed as a critical component of mindfulness as it builds ethical qualities seen as a necessary balance for a method that increases mental power. As such (Ricard, 2009) cautions using mindfulness training on its own "Bare attention, as consummate as it might be, is no more than a tool …which can also be used to cause immense suffering. Obviously what is entirely missing is the ethical dimension of a mindfulness that deserves the qualification of 'wholesome' and can lead to enlightenment." In fact if we are exploring all the possible features of a superhero, the attributes of altruism and non-violent tendencies, whilst not supernormal capacities, are probably the distinguishing qualities that separate them from the villain.

Consciousness

As we can now identify which parts of the brain are affected during meditation practice (Demertzi et al., 2013) methods like single pointed concentration (e.g., focusing on the breath) have been correlated with decreases in activity in areas like the lateral pre-frontal cortex (PCC) and parietal cortex (Posner and Rothbart, 2009; Tang et al., 2009). Garrison et al. (2013) neuro-feedback analyses have also revealed that the mental states derived from such methods such as "undistracted awareness" or "effortless doing" correspond to pre-cingulate cortex deactivation, whereas other mental states such as "distracted awareness" or "control" correspond to PCC activation.

In terms of consciousness Shapiro (2008) found that decreased activity in the pre-frontal cortex (Brewer et al., 2013), which occurs in long-term meditators, can also lead to a disassembling of the processes responsible for our normal experience of time and space (Berkovich-Ohana et al., 2013). As the insula operates the integration between interoceptive and exteroceptive signals (Critchley et al., 2004), it promotes the generation of the emotional states that so often define our sense of self (Cauda et al., 2011; Seth et al., 2012). Ananthaswamy (2014) identified that as the insula has been found to check body states every 125 ms to create a series of emotional frames of reference, any interruption to this such as meditation (altered states of consciousness have been shown to have enhanced activity in the anterior insula) interferes with this otherwise robust sense of self.

In fact Andrews-Hanna et al. (2010) identified eleven brain centers involved in "selfing" of different types. For example they found the dorsal medial prefrontal cortex subsystem is preferentially activated for the "self-and-other," the medial temporal lobe system manages the "self-in-time" and the core network of two centers is involved in all activities. If the prefrontal cortex subsystem is deactivated, one loses a sense of time, and feels timeless, and if the temporal lobe is deactivated, an individual feels a sense of unity or no separation. In terms of the responsiveness of these systems to meditation, both the medial prefrontal cortex and posterior cingulate cortex have been found

to be deactivated in meditators relative to controls Brewer et al. (2011), giving further evidence of the plasticity and physiological correlates of consciousness (Travis and Pearson, 2000).

Farrer and Frith (2002) found that the parietal regions are responsible for the brain's capacity to sense bodily boundaries or one's position in space and hence make distinctions between self and non-self. When advanced meditators attain a state of thought-free emptiness there is decreased activity in areas responsible for body sense such as the medial parietal areas (Hinterberger et al., 2014). Similarly, when there is a sense of expanded space, selflessness and timelessness, activity is significantly reduced in the areas involved in perceptual processing (Berkovich-Ohana et al., 2013). Such neurological changes seem to correspond with the fourth jhana state in the Buddhist typology (infinity of space) where there is the experience of formless absorption and the self is perceived as the expanse of empty space.

In respect of the experience of "no self" when advanced meditators move from effort to effortlessness and attain a "no thought" state, the cessation of intentional control is observable with a reduction in overall brain activity (Johnstone et al., 2012) and is marked with decreases in the areas responsible for body sense (medial parietal areas). Several studies have also found that long-term meditation is associated with increased theta synchronization resulting in blissful experiences (Vaitl et al., 2005; Hagerty et al., 2013) that possibly correspond to the first jhana state. This is consistent with other research that theta activity, peaking in the left prefrontal region, correlates with emotionally positive experiences (Aftanas and Golocheikine, 2001). In terms of neuroimaging, meditation appears to increase the size of regions key to meta-awareness and introspection (rostrolateral prefrontal cortex) and body awareness (sensory and insular cortices), while decreasing the size of regions related to the default mode network (Buckner et al., 2008; Fox et al., 2014).

Such data suggests that the practice of meditation can cause both structural and functional alterations within the neural networks that typically promote and maintain consciousness (Lehmann et al., 2012). The implications of are that long-term meditation practitioners who have proficiency in meditative techniques can experience "the mind observing itself" (Dalai Lama et al., 1991), and as a result of reduced identification with the mind-body signals, respond to events in literally a "self-less" way. Furthermore, the data is in line with the descriptions of the early jhana states presented in Buddhist psychology which are preliminary to the evolution of special abilities commensurate with our superhero.

Control of Autonomic Responses

In early research Green and Green (1977) assessed under laboratory conditions the capacity to control autonomic responses. In an initial trial Swami Rama an expert meditator with 30 years' experience increased the temperature difference between the left and right sides of his hand after 3 min to 11F apart (neural controls over the radial and ulnar arteries in the wrist are located within a few millimeters of each other in the central nervous system). In a second experiment on demand the subject stopped his heart from pumping blood for 16 s, with no

detectable pulse (other than an atrial flutter on the EKG) before returning heart rate back to baseline with no ill effects.

Benson et al. (1982) studied subjects practicing the Tibetan Buddhist meditational practice g-tummo (heat) and found they had the capacity to increase the temperature of their fingers and toes (a prophylactic to frostbite) by as much as $8.3°C$. In a more recent follow up study of this phenomenon, Kozhevnikov et al. (2013) reported reliable increases in axillary temperature from the normal range ($37.5°C$) up to $38.3°C$ among g-tummo meditators accompanied by increases in alpha, beta, and gamma power. More recently Kox et al. (2014) report not only similar results with the Hoff method but also found that participants had increases in the release of epinephrine which enhanced disease protection.

It has also been found that with subjects in the deepest state of concentration (samadhi), the automatic regulatory process of breathing can be overridden and the breathing rate can drop to two or three breaths a minute (Lazar et al., 2000; Austin, 2006), well-below the average of about fifteen times per minute. This was first demonstrated again by Swami Rama who brought his conscious breathing down to 1–2 breaths per minute (Green and Green, 1977). A more recent application of the utility of this was the heroic Thailand cave rescue of school students, where the teacher (an ex monk) taught the boys breathing meditation methods to both relax them and reduce oxygen intake to optimize the chance of survival.

What is unusual about the above research results is that not only are homeostatic mechanisms normally controlled by the central nervous system, but in the case of the g-tummo temperature regulation findings, the detectors of heat and effectors for changing temperature are located in the extremities (e.g., the hands and feet) and are not set up as a reflex mechanism to be overridden by cognitive commands. Such unexplainable evidence that the mind can have direct influence over physical mechanisms normally outside our control is a possible indicator of the capability for telekinesis (remote control of physical systems) in the Buddhist system of supernormal abilities.

Paranormal

In early research Braud (1974) introduced the concept of the "psi-conducive state" as a relaxed non-distracted mental state which is supportive of the perception of non-tangible phenomena (Dukhan and Rao, 1973). Later research (Honorton, 1977) built on this by investigating whether in fact meditation acted as a psi-conducive state (Harding and Thalbourne, 1981; Roll and Zill, 1981; Schmeidler, 1994) with still interesting but mixed results (most studies used beginner/intermediate meditators not advanced practitioners or 'adepts').

In more recent research Roney and Solfvin (2006) explored whether long-term meditation practice facilitates psi awareness by evaluating Indian practitioners with three levels of training: students (0.3–15 years practice); sannyasins (1–10 years practice); and swamis (4–33 years practice). In preliminary studies the advanced group (swamis) scored significantly better than both the students and sannyasins however this was not achieved in the full study. In a follow up study, it was hypothesized that "years of meditation" of Tibetan Buddhist meditators would correlate

positively with psi scoring (advanced meditators would correctly choose hidden targets more than beginners). Roney-Dougal et al. (2008) findings confirmed that overall scoring (accuracy) was significantly correlated with years of practice.

Rao (1994) conducted tests to compare subliminal perception scores (SP) of novices and transcendental meditation (TM) practitioners. A comparison revealed that the TM groups performed significantly better than the control group on the SP task leading the authors to propose that the contributing factor was the reduced distractibility/sensory noise reduction achieved by greater mindfulness levels. In an earlier study exploring the relationship between meditation and extra sensory perception (ESP), Rao et al. (Rao, 1984) carried out three series of forced-choice ESP tests and one free-response test to see whether subjects would obtain higher scores after meditation. The results showed that participants obtained significantly higher ESP scores in tests immediately after meditation than at pre-test (immediately before meditation).

In another experiment by Green and Green (1977) expert meditator Swami Rama was assessed under laboratory conditions to mentally move an object without exerting any physical force. Wearing a face mask and sitting six feet away to prevent any effects of airflow, Rama recited a mantra, and after a loud exclamation and a word of command, the needle rotated ten degrees toward him. This was replicated twice in the presence of six medical doctors and experimental scientists.

The human potential movement, has taken a multidisciplinary approach to such abilities by using the theories of biological evolution and modern physics to explain the supernormal abilities derived from meditation (Ronson, 2005). Kripal (2011) proposes the paradigm "evolutionary mysticism" as a theoretical framework to interpret these abilities in scientific terms. The broad range of abilities under their scrutiny include such things as the works of geniuses like Brahms who reported first seeing his compositions in their finished form (Abell, 1964) or Indian mathematician Srinivasa Ramanujan, who with little formal training made significant contributions to pure mathematics through his perception of Namagiri writing equations in his dreams (Schwartz, 2010).

Whilst such special abilities were omitted from this inquiry as they are not a direct result of mindfulness practices, they are still part of a large compendium of studies that meet scientific criteria and present the case for a range of extraordinary abilities (Radin, 1997). It is of note however, that whilst such natural abilities are genuinely intriguing and worthy of further investigation, they are not necessarily correlated with a more enlightened or altruistic character (Sogyal, 1992). Furthermore, Roney and Solfvin (2006) identified that abilities that are the consequence of systematic meditative practice were more consistent than those that were spontaneous and untrained. This last finding lends further support to the need to investigate reliable training methods that develop such abilities.

DISCUSSION

In exploring the existence of special abilities corresponding with that of the superhero, the field of mindfulness is in a unique position, through its theoretical rigor and empirical investigation to extract, from its traditional religious context, both cohesive theory and verifiable techniques. However, as Sogyal (1992) says, to be truly scientific it must be "shorn of dogma, fundamentalism, exclusivity, complex metaphysics, and culturally exotic paraphernalia" (p. 151). This investigation sought to separate out fact from fiction and see if there is any evidence for the presence of special abilities as a result of long term mindfulness practice. That is to identify if there is a link between advanced mindfulness practices and the development of functionalities commensurate with a superhero. The inquiry did in fact find some evidence of heightened levels of functioning as a result of exposure to such practices.

By way of summary at the level of health this included: predictable decreases in important indicators such as cortisol, blood pressure, heart rate and cholesterol (Pascoe and Bauer, 2015; Pascoe et al., 2017), negative associations with mindfulness and neurodegenerative conditions (Huang et al., 2016), evidence that mindfulness acts as a prophylactic to ill health; and some kind of epigenetic response to mindfulness practice (García-Campayo et al., 2018). In terms of cognitive functioning we found mindfulness practice to assist in the maintenance of reaction time, working memory and cognitive flexibility during aging (Sperduti et al., 2016); increased thickness in the cortical regions related to emotional, cognitive, and sensory processing (Lazar et al., 2005); and a slowing of the reduction in age-related attentional performance and gray matter (Pagnoni and Cekic, 2007). Advanced mindfulness practitioners through metacognitive awareness and decentring were also found to be less affected by adverse stimuli (Garland et al., 2009); have improved emotion regulation and fear response (Etkin et al., 2011); decreased sympathetic nervous system activity and increased parasympathetic activity (Benson, 2000); and have lower pain sensitivity with higher pain thresholds (Grant et al., 2010).

Finally mindfulness training was also found to be associated with: increases in regions responsible for meta-awareness and introspection (Buckner et al., 2008; Fox et al., 2014); a sense of expanded space, selflessness and timelessness (Berkovich-Ohana et al., 2013); increases in pro-social behavior such as loving-kindness and compassion (Salzberg, 2011); and changes in brain regions involved in self-empathy and perspective taking (Holzel et al., 2011). There was evidence that some expert practitioners had the capacity to control normally involuntary processes such as: body temperature (Kox et al., 2014) and heart rate (Green and Green, 1977); significantly reduce their breathing rate (Lazar et al., 2000; Austin, 2006); and demonstrate a relationship between meditation and both extra sensory perception (Rao, 1984; Roney-Dougal et al., 2008) and telekinesis (Green and Green, 1977).

Such findings go a long way to indicate that advanced practitioners demonstrate abilities beyond the expected norms of human functioning and some data even suggests abilities we might expect from our superheroes. What such information points to is that it may be possible for an ordinary person, with the correct training to start on the path of superhero; an ego-less individual who progressively unlocks his or her higher capacities in service of mankind. This could also be relevant for people across a broad range of disciplines or organizational

settings: educators, therapists, clergy, and those in leadership (even politicians).

In evaluating the range of mindfulness studies, one issue that arose was the absence of baselines for experienced meditators. An example of this is van Leeuwen et al. (2009) who compared a group of "expert meditators" and cited a practice range between 1 and 29 years. Such instances were not uncommon and demonstrate limited understanding of the effects of different levels of training. For example Hauswald et al. (2015) found an unexpected correlation between high gamma source power (effort) and high Mindful Attention Awareness Scale (MAAS) scores. The effects however were mainly carried by meditators who could definitely concentrate and had reported high MAAS scores but had not actually reached expert level (effortless attention), as evidenced by the EEG which revealed they were still exerting effort. This highlights the need to have more "length of practice" demarcations in mindfulness studies and suggests that highly advanced practitioners may have a superior level of functioning (effortless) that standardized self-report mindfulness measures can't always distinguish. In such cases the use of self-report measures may benefit from being coupled with an EEG to better map neuroscientific differences in advanced practitioners.

In view of the ambiguity of what constitutes expert practitioners (years or hours are not sufficient indicators) what is called for are more studies that separate out the levels of concentration attained by practitioners (possibly mapped against something like the eight jhana states proposed in Buddhist psychology). Once concentration levels are more clearly delineated clinical, neuroscientific and paranormal testing of these practitioners would give us a clearer picture of how impactful mindfulness training was in the development of heroic/super heroic potential. One obstacle to this is that research focuses on the normal range of processing rather than the extraordinary or supernormal (Kasamatsu and Hirai, 1973; Radin, 2013) partially because of the difficulty in getting "elite" meditators to participate in research. As monk and molecular biologist Ricard (2011) highlighted, many highly accomplished monks are contemplative hermits disinterested in displaying their faculties, which makes finding sufficient cohorts at the top end of functioning somewhat challenging.

Along with the above recommendation we also suggest that in regards to the study of human functioning, the dominant materialist theory of mind undergo further evaluation (Barber, 1961; Lehmann et al., 2001). The materialist position toward consciousness is that mind is only the result of physiological processes; that each person's mind is a discrete and separate entity with communication only possible through the physiological senses; and that consciousness is limited to the time/space

continuum (Schwartz, 2010). However, like the burgeoning field of mindfulness there is also a growing amount of theory, empirical observation, and now neuroscience research (Luo and Niki, 2003) that questions the edges of this model (Hastings, 2002).

For example, Frecska and Luna (2006) proposed a neuro-ontological interpretation of non-physical experiences that considers information processing, when overloaded, as not needing to be limited to hierarchically organized and interconnected neural networks. Rather beyond the neuroaxonal level, they posit, an interface can emerge where there is a transition from neurochemical to quantum physical events (quantum entanglement). The implication of this is that some states of consciousness could have quantum origin and hence not be limited by signal locality (wired vs. wireless connection) and hence not easily measurable by current instruments.

Interestingly such an information processing theory fits a theoretical framework that could support at least three of the six non-local abilities outlined in Buddhist psychology (clairaudience, clairvoyance, and telepathy). In the coming years as the research of quantum mechanics, neuroscience and mindfulness increasingly integrate (Davis and Vago, 2013) there may be a greater theoretical and empirical meeting that makes provision for some of the supernormal faculties.

Mindfulness theory and practice, as derived from Buddhist psychology, is unapologetically positive about our human potential and the current inquiry offers the reader, or budding hero/ superhero, some pointers that might advance him or herself on "the superhero's journey." However, further investigation into this dimension will contribute to heroism science theory and the need for such an integration of eastern and western knowledge in psychology is echoed by Sedlmeier et al. (2012): "we believe every effort should be made to extract precise psychological theories that are relevant for meditation from both the Hindu and Buddhist approaches" (p. 1162).

Meanwhile what has been found is an encouraging indicator of increased human capability due to regular mindfulness practice. As these preliminary results were derived from practitioners who generally only mastered the introductory states of concentration there may be still richer data awaiting us. Like all technological leaps previously seen as impossible, we may indeed need to expand the profile of the everyday hero to include functionality previously reserved for super heroes.

AUTHOR CONTRIBUTIONS

PJ is the sole contributor to the article.

REFERENCES

Abell, A. M. (1964). *Talks with the Great Composers*. Garmisch-Partenkirchen: G. E. Schroeder-Verlag.

Aftanas, L. I., and Golocheikine, S. A. (2001). Human anterior and frontal midline theta and lower alpha reflect emotionally positive state and internalized attention: high-resolution EEG investigation of meditation. *Neurosci. Lett.* 310, 57–60. doi: 10.1016/S0304-3940(01)02094-8

Allison, S. (2016). The initiation of heroism science. *Heroism Sci.* 1, 1–9. doi: 10.26736/hs.2016.01.01

Allison, S. T., and Goethals, G. R. (2013). *Heroic Leadership: An Influence Taxonomy Of 100 Exceptional Individuals*. New York, NY: Routledge.

Anand, B., Chhina, O., and Singh, B. (1961). Some aspects of electroencephalographic studies in Yogis. *Electroencephalogr. Clin. Neurophysiol.* 13, 452–456. doi: 10.1016/0013-4694(61)90015-3

Ananthaswamy, A. (2014). Time to know ourselves. *N. Sci.* 221, 48–49. doi: 10.1016/S0262-4079(14)60190-1

Anderson, C. S. (1999). *Pain and Its Ending: The Four Noble Truths in the Theravada Buddhist Canon.* Surrey: Curzon Press.

Andrews-Hanna, J. R., Reidler, J. S., Sepulcre, J., Poulin, R., and Buckner, R. L. (2010). Functional-anatomic fractionation of the brain's default network. *Neuron* 65, 550–562. doi: 10.1016/j.neuron.2010.02.005

Austin, J. H. (2006). *Zen-Brain Reflections.* Cambridge, MA: MIT Press.

Baltes, P. B., Lindenbergerr, U., and Staudinger, U. M. (2006). *Life Span Theory in Developmental Psychology: Theoretical Models of Human Development.* Hoboken, NJ: John Wiley and Sons.

Baltes, P. B., and Staudinger, U. M. (2000). Wisdom. A metaheuristic (pragmatic) to orchestrate mind and virtue toward excellence. *Am. Psychol.* 55, 122–136. doi: 10.1037/0003-066X.55.1.122

Barber, B. (1961). Resistance by scientists to scientific discovery. *Science* 134, 596–600. doi: 10.1126/science.134.3479.596

Becker, E. (1973). *The Denial of Death.* New York, NY: Free Press.

Benson, H. (2000). *The Relaxation Response.* New York, NY: Harper.

Benson, H., Lehmann, J. W., Malhotra, M., Goldman, R. F., Hopkins, J., and Epstein, M. D. (1982). Body temperature changes during the practice of g Tummo yoga. *Nature* 295, 234–236. doi: 10.1038/295234a0

Berkovich-Ohana, A., Dor-Ziderman, Y., Glicksohn, J., and Goldstein, A. (2013). Alterations in the sense of time, space, and body in the mindfulness-trained brain: a neurophenomenologically-guided MEG study. *Front. Psychol.* 4:912. doi: 10.3389/fpsyg.2013.00912

Bharati, A. (1976). *The Light at the Center: Context and Pretext of Modern Mysticism.* Santa Barbara, CA: Ross-Erikson.

Boyer, P. (2003). Religious thought and behaviour as by-products of brain function. *Trends Cogn. Sci.* 7, 119–124. doi: 10.1016/S1364-6613(03)00031-7

Braud, W. G. (1974). Relaxation as a psi-conducive state. *Bull. Psychon. Soc.* 3, 115–118. doi: 10.3758/BF03333412

Braud, W. G. (2008). "Patañjali Yoga and siddhis: Their relevance to parapsychological theory and research," in *Handbook of Indian Psychology,* eds K. R. Rao, M. Cornelissen, and, J. Dalal (New Delhi: Cambridge University Press), 217–243. doi: 10.1017/UPO9788175968448.012

Brewer, J. A., Garrison, K. A., and Whitfield-Gabrieli, S. (2013). What about the "Self" is processed in the posterior cingulate cortex? *Front. Hum. Neurosci.* 7:647. doi: 10.3389/fnhum.2013.00647

Brewer, J. A., Worhunsky, P. D., Gray, J. R., Tang, Y., Weber, J., and Kober, H. (2011). Meditation experience is associated with differences in default mode network activity and connectivity. *Proc. Natl. Acad. Sci. U.S.A.* 108, 20254–20259. doi: 10.1073/pnas.1112029108

Buckner, R. L., Andrews-Hanna, J. R., and Schacter, D. L. (2008). The brain's default network. *Ann. N. Y. Acad. Sci.* 1124, 1–38. doi: 10.1196/annals.1440.011

Cahn, B. R., Delorme, A., and Polich, J. (2013). Event-related delta, theta, alpha and gamma correlates to auditory oddball processing during Vipassana meditation. *Soc. Cogn. Affect. Neurosci.* 8, 100–111. doi: 10.1093/scan/nss060

Cahn, B. R., and Polich, J. (2006). Meditation states and traits: EEG, ERP, and neuroimaging studies. *Psychol. Bull.* 132, 180–211. doi: 10.1037/0033-2909.132.2.180

Callina, K. S., Lerner, R. M., Fremont, E., Burkhard, B., Stacey, D., and Su, S. (2016). "Character development and the emergence of heroic leadership: Towards a relational developmental systems-based model," in *Handbook of Heroism and Heroic Leadership* eds S. T. Allison, G. R. Goethals, and R. M. Krammer (New York, NY: Routledge), 88–98.

Campbell, J. (1949). *The Hero With a Thousand Faces.* New York, NY: New World Library.

Cardena, E. E., Lynn, S. J. E., and Krippner, S. E. (2000). *Varieties of Anomalous Experience: Examining the Scientific Evidence.* Washington, DC: American Psychological Association.

Cauda, F., D'Agata, F., Sacco, K., Duca, S., Geminiani, G., and Vercelli, A. (2011). Functional connectivity of the insula in the resting brain. *NeuroImage* 55, 8–23. doi: 10.1016/j.neuroimage.2010.11.049

Chen, K. W., Berger, C. C., Manheimer, E., Forde, D., Magidson, J., Dachman, L., et al. (2012). Meditative therapies for reducing anxiety: a systematic review and meta-analysis of randomized controlled trials. *Depress. Anxiety* 29, 545–562. doi: 10.1002/da.21964

Chiesa, A., and Serretti, A. (2010). A systematic review of neurobiological and clinical features of mindfulness meditations. *Psychol. Med.* 40, 1239–1252. doi: 10.1017/S0033291709991747

Clough, B. S. (2011). The higher knowledges in the Pāli Nikāyas and Vinaya. *J. Int. Assoc. Buddhist Stud.* 33, 1–2, 409–433. Available online at: http://thaiforestwisdom.org/front-page/buddhology/journal-of-the-international-association-of-buddhist-studies/

Colby, A., and Damon, W. (1992). *Some do Care: Contemporary Lives of Moral Commitment.* New York, NY: Free Press.

Creswell, J. D., Irwin, M. R., Burklund, L. J., Lieberman, M. D., Arevalo, J. M. G., Ma, J., et al. (2012). Mindfulness-based stress reduction training reduces loneliness and pro-inflammatory gene expression in older adults: a small randomized controlled trial. *Brain Behav. Immun.* 26, 1095–1101. doi: 10.1016/j.bbi.2012.07.006

Critchley, H., Wiens, S., Rotshtein, P., Ohman, A., and Dolan, R. J. (2004). Neural systems supporting interoceptive awareness. *Nat. Neurosci.* 7, 189–195. doi: 10.1038/nn1176

Dalai Lama, H. H. (2002). *Freedom in Exile.* London: Abacus.

Dalai Lama, H. H., Thurman, R. A. F., Gardner, H. E., and Goleman, D. (1991). *MindScience: An East–West Dialogue.* Somerville, MA: Wisdom Publications.

Davis, J. H., and Vago, D. R. (2013). Can enlightenment be traced to specific neural correlates, cognition, or behavior? No, and (a qualified) Yes. *Front. Psychol.* 4:870. doi: 10.3389/fpsyg.2013.0087

De Castro, J. M. (2015). A model of enlightened/mystical/awakened experience. *Psychol. Relig. Spirituality* 9, 34–45. doi: 10.1037/rel0000037

De Silva, P. (2005). *An Introduction to Buddhist Psychology.* Houndmills: Palgrave/Macmillan.

Demertzi, A., Soddu, A., and Laureys, S. (2013). Consciousness supporting networks. *Conscious. Support. Netw.* 23, 239–244. doi: 10.1016/j.conb.2012.12.003

Desbordes, G., Negi, L. T., Pace, T. W., Wallace, B. A., Raison, C. L., and Schwartz, E. L. (2012). Effects of mindful-attention and compassion meditation training on amygdala response to emotional stimuli in an ordinary, non-meditative state. *Front. Hum. Neurosci.* 6:292. doi: 10.3389/fnhum.2012.00292

Doris, J. M. (2002). *Lack of Character: Personality and Moral Behavior.* Cambridge: Cambridge University Press. doi: 10.1017/CBO9781139878364

Dukhan, H., and Rao, K. R. (1973). "Meditation and ESP scoring," in *Research in Parapsychology* 1972, eds W. G. Roll., R. L. Morris, and J. D. Morris (Metuchen, NJ: Scarecrow Press) 148–151.

Dunne, J. (2011). Toward an understanding of non-dual mindfulness. *Contemp. Buddhism* 12, 71–88. doi: 10.1080/14639947.2011.564820

Efthimiou, O. (2016a). The search for a hero gene: fact or fiction. *Heroism Sci.* 1, 1–6. doi: 10.26736/hs.2016.01.02

Efthimiou, O. (2016b). *Heroic Play: Heroism in Mindful, Creative and Playful Participation. IM: Interactive Media,* 11. 1–28. Available online at: http://researchrepository.murdoch.edu.au/id/eprint/32455/1/IM11-heroism-article-efthimiou.pdf

Erikson, E. H. (1982). *The Life Cycle Completed: A Review.* New York, NY: Norton.

Etkin, A., Egner, T., and Kalisch, R. (2011). Emotional processing in anterior cingulate and medial prefrontal cortex. *Trends Cogn. Sci.* 15, 85–93. doi: 10.1016/j.tics.2010.11.004

Fan, Y., Duncan, N. W., De Greck, M., and Northoff, G. (2011). Is there a core neural network in empathy? An fMRI based quantitative meta-analysis. *Neurosci. Biobehav. Rev.* 35, 903–911. doi: 10.1016/j.neubiorev.2010.10.009

Farrer, C., and Frith, C. D. (2002). Experiencing oneself vs. another person as being the cause of an action: the neural correlates of the experience of agency. *NeuroImage* 15, 596–603. doi: 10.1006/nimg.2001.1009

Fischer, P., Greitemeyer, T., Pollozek, F., and Frey, D. (2006). The unresponsive bystander: are bystanders more responsive in dangerous emergencies? *Eur. J. Soc. Psychol.* 36, 267–278. doi: 10.1002/ejsp.297

Fox, K. C., Dixon, M. L., Nijeboer, S., Girn, M., Floman, J. L., Lifshitz, M., et al. (2016). Functional neuroanatomy of meditation: a review and meta-analysis of 78 functional neuroimaging investigations. *Neurosci. Biobehav. Rev.* 65, 208–228. doi: 10.1016/j.neubiorev.2016.03.021

Fox, K. C., Nijeboer, S., Dixon, M. L., Floman, J. L., Ellamil, M., Rumak, S. P., et al. Christoff, K. (2014). Is meditation associated with altered brain structure? A systematic review and meta-analysis of morphometric

neuroimaging in meditation practitioners. *Neurosci. Biobehav. Rev.* 43, 48–73. doi: 10.1016/j.neubiorev.2014.03.016

Franco, Z., and Zimbardo, P. (2006). The banality of heroism. *Great. Good* 3, 30–35. Available online at: https://greatergood.berkeley.edu/article/item/the_banality_of_heroism

Franco, Z. E., Allison, S. T., Kinsella, E. L., Kohen, A., Langdon, M., and Zimbardo, P. G. (2016). *Faculty Publications: Political Science,* 87. Available online at: http://digitalcommons.unl.edu/poliscifacpub/87

Franco, Z. E., and Zimbardo, P. G. (2011). Heroism: a conceptual analysis and differentiation between heroic action and altruism. *Rev. General Psychol.* 15, 99–113. doi: 10.1037/a0022672

Frecska, E., and Luna, L. E. (2006). Neuro-ontological interpretation of spiritual experiences. *Neuropsychopharmacol. Hung* 8, 143–153.

Fredrickson, B. L., Cohn, M. A., Coffey, K. A., Pek, J., and Finkel, S. M. (2008). Open hearts build lives: positive emotions, induced through loving-kindness meditation, build consequential personal resources. *J. Personal. Soc. Psychol.* 95, 1045–1062. doi: 10.1037/a0013262

García-Campayo, J., Puebla-Guedea, M., Labarga, A., Urdánoz, A., Roldán, M., Pulido, L., et al. (2018). Epigenetic response to mindfulness in peripheral blood leukocytes involves genes linked to common human diseases. *Mindfulness* 9, 1146–1159. doi: 10.1007/s12671-017-0851-6

Garland, E., Gaylord, S., and Park, J. (2009). The role of mindfulness in positive reappraisal. *Explore* 5, 37–44. doi: 10.1016/j.explore.2008.10.001

Garland, E. L., and Howard, M. O. (2013). Mindfulness-oriented recovery enhancement reduces pain attentional bias in chronic pain patients. *Psychother. Psychosomat.* 82, 311–318. doi: 10.1159/000348868

Garrison, K. A., Santoyo, J. F., Davis, J. H., Thornhill, T. T., Kerr, C. E., and Brewer, J. A. (2013). Effortless awareness: using real time neurofeedback to investigate correlates of posterior cingulate cortex activity in meditators' self-report. *Front. Hum. Neurosci.* 7:440. doi: 10.3389/fnhum.2013.00440

Gazzaley, A., and D'esposito, M. A. R. K. (2007). Top-down modulation and normal aging. *Ann. N. Y. Acad. Sci.* 1097, 67–83. doi: 10.1196/annals.1379.010

Goleman, D. J., and Schwartz, G. E. (1976). Meditation as an intervention in stress reactivity. *J. Consult. Clin. Psychol.* 44, 456–466. doi: 10.1037/0022-006X.44.3.456

Gomez-Lobo, A. (1988). A new look at the ergon argument in the nicomachean ethics. *Soc. Ancient Greek Phil. Newslett.* 158. Available online at: https://orb.binghamton.edu/sagp/158

Grant, J. A., Courtemanche, J., and Rainville, P. (2010). A non-elaborative mental stance and decoupling of executive and pain-related cortices predicts low pain sensitivity in Zen meditators. *Pain* 152, 150–156. doi: 10.1016/j.pain.2010.10.006

Green, E., and Green, A. (1977). *Beyond Biofeedback.* Fort Wayne, IN: Knoll Publishing Co.

Grof, S. (1972). Varieties of transpersonal experiences: observations from LSD psychotherapy. *J. Transpers. Psychol.* 4:45.

Gunaratana, H. (1988). *The Jhanas in Theravada Buddhist Meditation.* Kandi: Buddhist Publication Society.

Haegelin, J., Rainforth, M. W., Orme-Johnson, D. W., Cavanaugh, K. L., Alexander, C. F., Shatkin, S. F., et al. (1999). Effects of group practice of the transcendental meditation program on preventing violent crime. Washington, DC: Results of the National Demonstration Project, June–July 1993. *Soc. Indicat. Res.* 47, 153–201. doi: 10.1023/A:1006978911496

Hagerty, M. R., Isaacs, J., Brasington, L., Shupe, L., Fetz, E. E., and Cramer, S. C. (2013). Case study of ecstatic meditation: fMRI and EEG evidence of self-stimulating a reward system. *Neural Plast.* 2013:653572. doi: 10.1155/2013/653572

Hakanen, E. (1989). The (d)evolution of heroes: an expanded typology of heroes for the electronic age. *Free Inquiry Creat. Soc.* 17, 153–158.

Harding, S. E., and Thalbourne, M. A. (1981). "Transcendental meditation, clairvoyant ability and psychological adjustment," in *Research in Parapsychology 1980,* eds W. G. Roll and J. Beloff (Metuchen, NJ: Scarecrow Press), 71–73.

Hastings, A. (2002). Guest editorial: the resistance to belief. *J. Near Death Stud.* 21, 77–98. doi: 10.1023/A:1021271401828

Hauswald, A., Übelacker, T., Leske, S., and Weisz, N. (2015). What it means to be Zen: marked modulations of local and interareal synchronization during open monitoring meditation. *NeuroImage* 108, 265–273. doi: 10.1016/j.neuroimage.2014.12.065

Hawkes, T. D., Manselle, W., and Woollacott, M. H. (2014). Cross-sectional comparison of executive attention function in normally aging long-term T'ai Chi, meditation, and aerobic fitness practitioners versus sedentary adults. *J. Altern. Complement. Med.* 20, 178–184. doi: 10.1089/acm.2013.0266

Hinterberger, T., Schmidt, S., Kamei, T., and Walach, H. (2014). Decreased electrophysiological activity represents the conscious state of emptiness in meditation. *Front. Psychol.* 5:99. doi: 10.3389/fpsyg.2014.00099

Holzel, B. K., Carmody, J., Vangel, M., Congleton, C., Yerramsetti, S. M., Gard, T., et al. (2011). Mindfulness practice leads to increases in regional brain gray matter density. *Psychiatry Res.* 191, 36–43. doi: 10.1016/j.pscychresns.2010.08.006

Holzel, B. K., Ott, U., Gard, T., Hempel, H., Weygandt, M., Morgen, K., et al. (2008). Investigation of mindfulness meditation practitioners with voxel-based morphometry. *Soc. Cogn. Affect. Neurosci.* 3, 55–61. doi: 10.1093/scan/nsm038

Honorton, C. (1977). "Psi and Internal Attention States," in *Handbook of Parapsychology,* ed B. B. Wolman (New York, NY: Van Nostrand Rheinhold), 435–472.

Honorton, C. (1981). "Psi, Internal Attention states and the Yoga Sutras of Patanjali," in *Concepts and Theories of Parapsychology,* eds B. Shapin, and L. Coly (New York, NY: Parapsychology Foundation), 55–68.

Huang, F., Shang, Y., Luo, Y., Wu, P., Huang, X., Tan, X., et al. (2016). Lower prevalence of Alzheimer's disease among Tibetans: association with religious and genetic factors. *J. Alzheimer Dis.* 50l, 659–667. doi: 10.3233/JAD-150697

Jacobsen, K. A. (ed.) (2012). *Yoga Powers: Extraordinary Capacities Attained Through Meditation and Concentration.* Leiden: Brill.

James, W. (1902). *The Varieties of Religious Experience.* Cambridge, MA: Harvard University Press.

Jha, A. P., Krompinger, J., and Baime, M. J. (2007). Mindfulness training modifies subsystems of attention. *Cogn. Affect. Behav. Neurosci.* 7, 109–119. doi: 10.3758/CABN.7.2.109

Johnstone, B., Bodling, A., Cohen, D., Christ, S. E., and Wegrzyn, A. (2012). Right parietal lobe-related "selflessness" as the neuropsychological basis of spiritual transcendence. *Int. J. Psychol. Relig.* 22, 267–284. doi: 10.1080/10508619.2012.657524

Jones, P. (2017). Mindfulness-based heroism: creating enlightened heroes. *J. Humanist. Psychol.* 58:002216781771130. doi: 10.1177/0022167817711303

Josipovic, Z. (2014). Neural correlates of nondual awareness in meditation. *Ann. N. Y. Acad. Sci.* 1307, 9–18. doi: 10.1111/nyas.12261

Kabat-Zinn, J. (2011). Some reflections on the origins of MBSR, skillful means, and the trouble with maps. *Contemp. Buddhism* 12, 281–306. doi: 10.1080/14639947.2011.564844

Kabat-Zinn, J., Lipworth, L., and Burney, R. (1985). The clinical use of mindfulness meditation for the self-regulation of chronic pain. *J. Behav. Med.* 8, 163–190. doi: 10.1007/BF00845519

Kasamatsu, A., and Hirai, T. (1973). An electroencephalographic study on the Zen meditation (zazen). *J. Am. Inst. Hypnosis* 14, 107–114.

Katz, N. (1990). *Buddhist Images of Human Perfection: The Arahant of the Sutta Pitaka Compared with the Bodhisattva and the Mahāsiddha.* New Delhi: Motilal Banarsidass.

Khyentse, D. (1993). *Enlightened Courage. An Explanation of Atisha's Seven Point Mind Training.* Ithaca, NY: Snow Lion Publications.

Kohen, A., Langdon, M., and Riches, B. R. (2017). The making of a hero: cultivating empathy, altruism, and heroic imagination. *J. Human. Psychol.* 17:002216781717708064. doi: 10.1177/0022167817708064

Kox, M., van Eijk, L. T., Zwaag, J., van den Wildenberg, J., Sweep, F. C. G. J., van der Hoeven, J. G., et al. (2014). Voluntary activation of the sympathetic nervous system and attenuation of the innate immune response in humans. *Proc. Natl. Acad. Sci. U.S.A.* 111, 7379–7384. doi: 10.1073/pnas.1322174111

Kozhevnikov, M., Elliott, J., Shephard, J., and Gramann, K. (2013) Neurocognitive and somatic components of temperature increases during g-tummo meditation: legend and reality. *PLoS ONE* 8:e58244. doi: 10.1371/journal.pone.0058244

Kreplin, U., Farias, M., and Brazi, I. A. (2018). The limited prosocial effects of meditation: a systematic review and meta-analysis. *Sci. Rep.* 8:2403. doi: 10.1038/s41598-018-20299-z

Kripal, J. J. (2011). *Mutants and Mystics: Science Fiction, Superhero Comics and the Paranormal.* London: University of Chicago Press.

Kudesia, R. S., and Nyima, T. (2015). Mindfulness contextualized: an integration of Buddhist and neuropsychological approaches to cognition. *Mindfulness* 6, 910–925. doi: 10.1007/s12671-014-0337-8

Lazar, S. W., Bush, G., Gollub, R. L., Fricchione, G. L., Khalsa, G., Benson, H. (2000). Functional brain mapping of the relaxation response and meditation. *Neuroreport* 11, 1581–1585. doi: 10.1097/00001756-200005150-00042

Lazar, S. W., Kerr, C. E., Wasserman, R. H., Gray, J. R., Greve, D. N., Treadway, M. T., et al. (2005). Meditation experience is associated with increased cortical thickness. *Neuroreport* 16, 1893–1897. doi: 10.1097/01.wnr.0000186598.66243.19

Lazarus, R. S., and Folkman, S. (1984). *Stress, Appraisal and Coping*. Michigan, IN: Springer.

Lehmann, D., Faber, P. L., Achermann, P., Jeanmonod, D., Gianotti, L. R., and Pizzagalli, D. (2001). Brain sources of EEG gamma frequency during volitionally meditation-induced, altered states of consciousness, and experience of the self. *Psychiatry Res.* 108, 111–121. doi: 10.1016/S0925-4927(01)00116-0

Lehmann, D., Faber, P. L., Tei, S., Pascual-Marqui, R. D., Milz, P., and Kochi, K. (2012). Reduced functional connectivity between cortical sources in five meditation traditions detected with lagged coherence using EEG tomography. *Neuroimage* 60, 1574–1586. doi: 10.1016/j.neuroimage.2012.01.042

Levenson, R. W., Ekman, P., and Ricard, M. (2012). Meditation and the startle response: a case study. *Emotion* 12, 650–658. doi: 10.1037/a0027472

Lodro, G. (1998). *Calm Abiding and Special Insight: Achieving Spiritual Transformation Through Meditation*. Boston, MA: Snow Lion Publishers.

Lomasa, T., Ivtzana, I., Fua, C. H. Y. (2015). A systematic review of the neurophysiology of mindfulness on EEG oscillations. *Neurosci. Biobehav. Rev.* 57, 401–410. doi: 10.1016/j.neubiorev.2015.09.018

Luders, E., Cherbuin, N., Kurth, F., and Lauche, R. (2015). Forever young (*er*): Potential age-defying effects of long-term meditation on gray matter atrophy. *Deutsche Zeitschr. Akupunktur.* 58, 30–31. doi: 10.1016/S0415-6412(15)30070-9

Luders, E., Thompson, P. M., Kurth, F., Hong, J. Y., Phillips, O. R., Wang, Y., et al. (2013). Global and regional alterations of hippocampal anatomy in long-term meditation practitioners. *Human Brain Mapp.* 34, 3369–3375. doi: 10.1002/hbm.22153

Luo, J., and Niki, K. (2003). Function of hippocampus in "insight" of problem solving. *Hippocampus* 13, 316–323. doi: 10.1002/hipo.10069

Lutz, A., Brefczynski-Lewis, J. F., Johnstone, T., and Davidson, R. J. (2008). Regulation of the neural circuitry of emotion by compassion meditation: effects of meditative expertise. *PLoS ONE* 3:e1897. doi: 10.1371/journal.pone.0001897

Lutz, A., Greischar, L. L., Rawlings, N. B., Ricard, M., and Davidson, R. J. (2004). Long-term meditators self-induce high-amplitude gamma synchrony during mental practice. *Proc. Natl. Acad. Sci. U.S.A.* 101, 16369–16373. doi: 10.1073/pnas.0407401101

Mahesh Yogi, M. (1995). *Science of Being and Art of Living: Transcendental Meditation*. New York, NY: Penguin Books.

Maheshwarananda, P. (1990). *Lila-Amrit: The Divine Life of Sri Mahaprabhuji*. New Delhi: BRPC (India) Ltd.

Maheshwarananda, P. (2004). *The Hidden Power in Humans*. Vienna: Ibera Verlag.

Malinowski, P. (2013). Neural mechanisms of attentional control in mindfulness meditation. *Front. Neurosci.* 7, 1–11. doi: 10.3389/fnins.2013.00008

Manna, A., Raffone, A., Perrucci, M. G., Nardo, D., Ferretti, A., Tartaro, A., et al. (2010). Neural correlates of focused attention and cognitive monitoring in meditation. *Brain Res. Bull.* 82, 46–56. doi: 10.1016/j.brainresbull.2010.03.001

Maslow, A. (1970). *Religions, Values and Peak-Experiences*. New York, NY: Viking.

Menon, R. (2007). *Bhagavata Purana*. New Delhi: Rupa Publications.

Narada, M. (1980). *A Manual of Abhidhamma*. Kandy: Buddhist Publication Society.

Natarajan, A. R. (2000). *Ramana Maharshi Answers 100 Questions*. Bangalore: Ramana Maharshi Centre for Learning.

Neff, K. D. (2011). Self-compassion, self-esteem, and well-being. *Soc. Personal. Psychol. Compass* 5, 1–12. doi: 10.1111/j.1751-9004.2010.00330.x

Nesse, R. M., Bhatnagar, S., Ellis, B. (2016). "Evolutionary origins and functions of the stress response system," in *Stress: Concepts, Cognition, Emotion, and Behavior. Handbook of Stress Series*, ed G. Fink (Cambridge, MA: Academic Press), 95–101. doi: 10.1016/b978-0-12-800951-2.00011-x

Newberg, A. B., and Iversen, J. (2003). The neural basis of the complex mental task of meditation: neurotransmitter and neurochemical considerations. *Med. Hypotheses* 61, 282–291. doi: 10.1016/S0306-9877(03)00175-0

Nirbhay, N., Shonin, E., and Van Gordon, W. (eds.). (2015). *Buddhist Foundations of Mindfulness*. Cham: Springer.

Olson, C. (2017). The problematic nature of the third chapter of the yoga sutras and its discussion of powers. *J. Yoga Physio.* 3:555601. doi: 10.19080/JYP.2017.03.555601

Ott, U., Holzel, B. K., and Vaitl, D. (2011). "Brain Structure and Meditation: How Spiritual Practice Shapes the Brain," in *Neuroscience, Consciousness and Spirituality*, eds H. Walach, S. Schmidt, and W. Jonas (Dordrecht: Springer), 119–128. doi: 10.1007/978-94-007-2079-4_9

Pagnoni, G., and Cekic, M. (2007). Age effects on gray matter volume and attentional performance in Zen meditation. *Neurobiol. Aging* 28, 1623–1627. doi: 10.1016/j.neurobiolaging.2007.06.008

Paramatmananda, S. (1987). *On the Road to Freedom, Vol. 1*. Kollam: Amrita Offset Printers.

Pascoe, M. C., and Bauer, I. E. (2015). A systematic review of randomised control trials on the effects of yoga on stress measures and mood. *J. Psychiatr. Res.* 68, 270–282. doi: 10.1016/j.jpsychires.2015.07.013

Pascoe, M. C., Thompson, D. R., Jenkins, Z. M., and Ski, C. F. (2017). Mindfulness mediates the physiological markers of stress: systematic review and meta-analysis. *J. Psychiatr. Res.* 95, 156–178. doi: 10.1016/j.jpsychires.2017.08.004

Pavlov, S. V., Reva, N. V., Loktev, K. V., Korenyok, V. V., and Aftanas, L. I. (2015). Impact of long-term meditation practice on cardiovascular reactivity during perception and reappraisal of affective images. *Int. J. Psychophysiol.* 95, 363–371. doi: 10.1016/j.ijpsycho.2015.01.002

Pérez-Remón, J. (1980). *Self and Non-Self in Early Buddhism*. New York, NY: Mouton Publishers.

Pickut, B. A., Van Hecke, W., Kerckhofs, E., Mariën, P., Vanneste, S., Cras, P., et al. (2013). Mindfulness based intervention in Parkinson's disease leads to structural brain changes on MRI: a randomized controlled longitudinal trial. *Clin. Neurol. Neurosurg.* 115, 12, 2419–2425. doi: 10.1016/j.clineuro.2013.10.002

Posner, M. I., and Rothbart, M. K. (2009). Toward a physical basis of attention and self regulation. *Phys. Life Rev.* 6, 103–120. doi: 10.1016/j.plrev.2009.02.001

Prendergast, J. (2003). "Introduction," in *The Sacred Mirror: Nondual Wisdom and Psychotherapy*, eds J. Prendergast, P. Fenner, and S. Krystal (St. Paul, MN: Paragon House), 1–22.

Radin, D. (1997). *The Conscious Universe: The Scientific Truth of Psychic Phenomena*. New York, USA: Harper Edge.

Radin, D. (2013). *Supernormal*. New York, NY: Random House.

Rama, S. (1999). *Living With the Himalayan Masters*. Honesdale, PA: Himalayan Institute.

Rao, K. R. (1994). Anomalies of consciousness: indian perspectives and research. *J. Parapsychol.* 58, 149–187.

Rao, K. R. (ed.) (1984). *The Basic Experiments in Parapsychology*. Jefferson, MO: McFarland.

Reva, N. V., Pavlov, S. V., Loktev, K. V., Korenyok, V. V., and Aftanas, L. I. (2014). Influence of long-term sahaja yoga meditation practice, *Neuroscience* 281, 195–201. doi: 10.1016/j.neuroscience.2014.09.053

Ricard, M. (2009). *A Sniper's "Mindfulness"*. Available online at: http://www.matthieuricard.org/en/blog/posts/a-sniper-s-mindfulness

Ricard, M. (2011). *The Art of Happiness: A Guide to Developing Life's Most Important Skill*. London: Atlantic Books.

Ricard, M., and Thuan, T. X. (2004). *The Quantum and the Lotus: a Journey to the Frontiers Where Science and Buddhism Meet*. New York, NY: Broadway Books.

Roll, W. G., and Zill, R. (1981). "Psi scoring on individual and group targets before and after meditation," in *Research in Parapsychology (1980)*, eds W. G. Roll and J. Beloff, (Metuchen, NJ: Scarecrow Press), 73–75.

Roney, S. M., and Solfvin, J. (2006). Yogic Attainment in relation to awareness of precognitive targets. *J. Parapsychol.* 70, 91–120. Available online at: https://www.researchgate.net/publication/289088611_Yogic_attainment_in_relation_to_awareness_of_precognitive_targets

Roney-Dougal, S. M. (2006). Taboo and belief in Tibetan psychic tradition. *J. Soc. Psychical Res.* 70, 193–210. Available online at: https://www.psi-researchcentre.co.uk/documents/TibetanPsychicTradition.pdf

Roney-Dougal, S. M., Solfvin, J., and Fox, J. (2008). An exploration of degree of meditation attainment in relation to psychic awareness with Tibetan Buddhists. *J. Sci. Explor.* 22, 161–178. Available online at: https://pdfs.semanticscholar.org/6e02/9bb271047c0d559e251849ba46467fae2f7d.pdf

Ronson, J. (2005). *The Men Who Stare at Goats*. London: Pan MacMillan.

Rosenzweig, S., Greeson, J. M., Reibel, D. K., Green, J. S., Jasser, S. A., Beasley, D. (2010). Mindfulness-based stress reduction for chronic pain conditions: variation in treatment outcomes and role of home meditation practice. *J. Psychosomatic Res.* 68, 29–36. doi: 10.1016/j.jpsychores.2009.03.010

Salzberg, S. (2011). Mindfulness and loving-kindness. *Contemp. Buddhism* 12, 177–182. doi: 10.1080/14639947.2011.564837

Schmeidler, G. R. (1994). "ESP experiments 1978–1992," in *Advances in Parapsychological Research,* Vol. 7, ed S. Krippner (Jefferson, NC: McFarland), 104–197.

Schwartz, S. A. (2010). Nonlocality and exceptional experiences: a study of genius, religious epiphany, and the psychic. *Explore* 6, 227–236. doi: 10.1016/j.explore.2010.04.008

Sedlmeier, P. (2011). "Indian psychology and the scientific method," in *Foundations of Indian Psychology*: *Vol. 1 Concepts and Theories*, eds R. M. M. Cornelissen, G. Misra, and S. Varma (New Delhi: Longman/Pearson), 253–287.

Sedlmeier, P., Eberth, J., Schwarz, M., Zimmermann, D., Haarig, F., Jaeger, S., et al. (2012). The psychological effects of meditation: a meta-analysis. *Psychol. Bull.* 138, 1139–1171. doi: 10.1037/a0028168

Seth, A. K., Suzuki, K., and Critchley, H. D. (2012). An interoceptive predictive coding model of conscious presence. *Front. Psychol.* 2:395. doi: 10.3389/fpsyg.2011.00395

Shaner, L., Kelly, L., Rockwell, D., and Curtis, D. (2017). Calm abiding: the lived experience of the practice of long-term meditation. *J. Human. Psychol.* 57, 98–121. doi: 10.1177/0022167815594556

Shapiro, D. H. (2008). *Meditation: Self-Regulation strategy and Altered State of Consciousness*. New York, NY: Aldine De Gruyter.

Shear, J. (2006). *(Ed.).The Experience of Meditation: Experts Introduce the Major Traditions*. St. Paul, MN: Paragon House.

Siegel, R. D., Germer, C. K., and Olendzki, A. (2008). "Mindfulness: What is it? Where did it come from?" in *Clinical Handbook of Mindfulness*, ed F. Didonna (New York, NY: Springer), 17–35.

Simao, T. P., Caldeira, S., and Campos de Carvalho, E. (2016). The effect of prayer on patients' health: systematic literature review. *Religions* 7:11. doi: 10.3390/rel7010011

Slagter, H. A., Davidson, R. J., and Lutz, A. (2011). Mental training as a tool in the neuroscientific study of brain and cognitive plasticity. *Front. Human Neurosci.* 5:17. doi: 10.3389/fnhum. 2011.00017

Sobolewski, A., Holt, E., Kublik, E., Wrobel, A. (2011). Impact of meditation on emotional processing-a visual ERP study. *Neurosci. Res.* 71, 44–48. doi: 10.1016/j.neures.2011.06.002

Sogyal, R. (1992). *The Tibetan Book of Living and Dying*. San Francisco, CA: Harper Collins.

Sperduti, M., Makowski, D., and Piolino, P. (2016). The protective role of long-term meditation on the decline of the executive component of attention in aging: a preliminary cross-sectional study. *Aging Neuropsychol. Cogn.* 23, 691–702. doi: 10.1080/13825585.2016.1159652

Staats, S., Hupp, J. M., and Hagley, A. M. (2008) Honesty and heroes: a positive psychology view of heroism and academic honesty. *J. Psychol.* 142, 357–372. doi: 10.3200/JRLP.142.4.357-372

Tacon, A. M., Caldera, Y. M., and Ronaghan, C. (2004). Mindfulness-based stress reduction in women with breast cancer. *Families Syst. Health* 22, 193–203. doi: 10.1037/1091-7527.22.2.193

Tanaka, G. K., Maslahati, T., Gongora, M., Bittencourt, J., Lopez, L. C. S., Demarzo, M. M. P., et al. (2015). Effortless attention as a biomarker for experienced mindfulness practitioners. *PLoS ONE* 10:e0138561. doi: 10.1371/journal.pone.0138561

Tang, Y. Y., Holzel, B. K., and Posner, M. I. (2015). The neuroscience of mindfulness meditation. *Nat. Rev. Neurosci.* 16, 213–225. doi: 10.1038/nrn3916

Tang, Y. Y., Ma, Y., Fan, Y., Feng, H., Wang, J., Feng, S., et al. (2009). Central and autonomic nervous system interaction is altered by short-term meditation. *Proc. Natl. Acad. Sci. U.S.A.* 106, 8865–8870. doi: 10.1073/pnas.0904031106

Teasdale, J. D., Segal, Z. V., and Williams, J. M. G. (2003). Mindfulness training and problem formulation. *Clin. Psychol.* 10, 157–160. doi: 10.1093/clipsy.bpg017

Teasdale, J. D., Segal, Z. V., Williams, J. M. G., Ridgeway, V. A., Soulsby, J. M., and Lau, M. A. (2000). Prevention of relapse/recurrence in major depression by mindfulness-based cognitive therapy. *J. Consult. Clin. Psychol.* 68, 615–625. doi: 10.1037/0022-006X.68.4.615

Thrangu, K. (2001). *Transcending Ego: Distinguishing Consciousness From Wisdom: A Treatise of the Third Karmapa*. Boulder, CO: Namo Buddha Publishers.

Travis, F., and Pearson, C. (2000). Pure consciousness: distinct phenomenological and physiological correlates of 'consciousness itself'. *Int. J. Neurosci.* 100, 77–89. doi: 10.3109/00207450008999678

Trungpa, C., and Goleman, D. (2005). *The Sanity we Are Born With: a Buddhist Approach to Psychology*. Boston, MA: Shambhala.

Tsong Khapa, J. (2002). *The Great Treatise on the Stages of the Path to Enlightenment: Lam Rim Chen Mo*. Ithaca, NY: Snow Lion.

Vago, D. R., and Nakamura, Y. (2011). Selective attentional bias towards pain-related threat in fibromyalgia: preliminary evidence for effects of mindfulness meditation training. *Cogn. Ther. Res.* 35, 581–594. doi: 10.1007/s10608-011-9391-x

Vago, D. R., and Silbersweig, D. A. (2012). Self-awareness, self-regulation, and self-transcendence (S-ART): a framework for understanding the neurobiological mechanisms of mindfulness. *Front. Hum. Neurosci.* 6:296. doi: 10.3389/fnhum.2012.00296

Vaitl, D., Bierbaumer, N., Gruzelier, J., Jamieson, G. A., Kotchoubey, B., Kubler, A., et al. (2005). Psychobiology of altered states of consciousness. *Psychol. Bull.* 131, 98–127. doi: 10.1037/0033-2909.131.1.98

van Leeuwen, S., Muller, N. G., and Melloni, L. (2009). Age effects on attentional blink performance in meditation. *Conscious. Cogn.* 18, 593–599. doi: 10.1016/j.concog.2009.05.001

van Lutterveld, R., van Dellen, E., Pal, P., Yang, H., Stam, C. J., and Brewer, J. (2017). Meditation is associated with increased brain network integration, *NeuroImage* 158, 18–25. doi: 10.1016/j.neuroimage.2017.06.071

Ventriglio, A., Gentile, A., Baldessarini, R. J., and Bellomo, A. (2015). Early-life stress and psychiatric disorders: epidemiology, neurobiology and innovative pharmacological targets. *Curr. Pharmaceut. Design* 21, 1379–1387. doi: 10.2174/1381612821666150105121244

Vitterso, J. (2004). Subjective well-being versus self-actualization: using the flow-simplex to promote a conceptual, clarification of subjective quality of life. *Soc. Indicat. Res.* 65, 299–331. doi: 10.1023/B:SOCI.0000003910.26194.ef

Vivekananda, S. (2014). *Patanjali Yoga Sutras*. New Delhi: Vijay Goel.

Wachowski, A., Wachowski, L., Reeves, K., Fishburne, L., Moss, C-A., Warner, B., et al. (1999). *The Matrix*. Burbank, CA: Warner Home Video.

Wadlinger, H. A., and Isaacowitz, D. M. (2011). Fixing our focus: training attention to regulate emotion. *Personal. Soc. Psychol. Rev.* 15, 75–102. doi: 10.1177/1088868310365565

Walker, L. J., Frimer, J. A., and Dunlop, W. L. (2010). Varieties of moral personality: beyond the banality of heroism. *J. Personal.* 78, 907–942. doi: 10.1111/j.1467-6494.2010.00637.x

Wallace, B. A. (2007). *Hidden Dimensions: The Unification of Physics and Consciousness*. New York, NY: Columbia University Press

Wilber, K. (2006). *Integral Spirituality: A Startling new Role for Religion in the Modern and Postmodern World*. Boston, MA: Shambhala.

Wittgenstein, L. (1922). *Tractatus Logico-Philosophicus*. London: Kegan Paul.

Xue, S. W., Tang, Y. Y., Tang, R., Posner, M. I. (2014). Short-term meditation induces changes in brain resting EEG theta networks. *Brain Cogn.* 87, 1–6. doi: 10.1016/j.bandc.2014.02.008

Yaden, D. B., Haidt, J., Hood, R. W., and Vago, D. R. (2017). The varieties of self-transcendent experience. *Rev. Gen. Psychol.* 21, 143–160. doi: 10.1037/gpr0000102

Young, J. D., and Taylor, E. (1998). Meditation as a voluntary hypometabolic state of biological activation. *News Physiol. Sci.* 13, 149–153.

Zimbardo, P. G. (2007). "The banality of evil, the banality of heroism," in *What is Your Dangerous Idea? Today's Leading Thinkers on the Unthinkable,* ed J. Brockman (New York, NY: Harper Perennial), 275–276.

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The Metamorphosis of the Hero: Principles, Processes, and Purpose

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This article examines the phenomenon of heroic metamorphosis: what it is, how it unfolds, and why it is important. First, we describe six types of transformation of the hero: mental, moral, emotional, spiritual, physical, and motivational. We then argue that these metamorphoses serve five functions: they foster developmental growth, promote healing, cultivate social unity, advance society, and deepen cosmic understanding. Internal and external sources of transformation are discussed, with emphasis on the importance of mentorship in producing metamorphic growth. Next we describe the three arcs of heroic transformation: egocentricity to sociocentricity, dependence to autonomy, and stagnation to growth. We then discuss three activities that promote heroic metamorphosis as well as those that hinder it. Implications for research on human growth and development are discussed.

Keywords: hero, heroic transformation, hero's journey, heroic development, human development

INTRODUCTION

One of the most revered deities in Hinduism is Ganesha, a god symbolizing great wisdom and enlightenment. Ganesha's most striking attribute is his unusual appearance. In images throughout India and southeast Asia, he is shown to be a man with an ordinary human body and the head of an elephant. According to legend, when Ganesha was a boy, he behaved foolishly in preventing his father Shiva from entering his own home. Shiva realized that his son needed an entirely new way of thinking, a fresh way of seeing the world. To achieve this aim, Shiva cut off Ganesha's human head and replaced it with that of an elephant, an animal representing unmatched wisdom, intelligence, reflection, and listening. Ganesha was transformed from a naïve boy operating with little conscious awareness into a strong, wise, and fully awakened individual.

This article is about how people undergo dramatic, positive change. We focus on heroic metamorphosis – what it is, how it comes about, and why it's important. Unlike Ganesha, one need not undergo dramatic physical change to experience heroic transformation. One must engage in any of three types of activities that we describe in this article: (1) training regimens, (2) spiritual practices, and (3) the hero's journey. Anyone who transforms as a result of these activities emerges a brand-new person, a much-improved version of one's previous self. Metamorphosis and transformation are both defined as "changing form," a process that precisely describes the massive alteration undergone by Ganesha. Having undergone the hero's journey as the pathway to transformation, Ganesha sees the world with greater clarity and insight. The hero's journey inevitably involves setback, suffering, and a death of some type. What dies is usually the former self, the untransformed version of oneself that sees the world "through a glass darkly" (Bergman, 1961).

Ganesha's decapitation happens to us all metaphorically; the journey marks the death of a narrow, immature way of seeing the world and the birth of a wider, more enlightened way of viewing life.

OVERVIEW OF HEROIC METAMORPHOSIS

Metamorphic change pervades the natural world, from the changing of the seasons to biological growth and decay (Wade, 1998; Allison, 2015; Efthimiou, 2015). The universe itself is subject to immense transformation on both a microscopic scale as well as a *trans*-universal scale. Biological cells grow, mutate, and die, and on a much grander scale the galaxies of the universe are in a constant state of flux. Darwinian theory portrays all of life as engaged in an inescapable struggle to survive in response to ever-changing circumstances. Life presents an ultimatum to all organisms: change as all phenomena in the universe must change, or fall.

Heroic transformation appears to be a prized and universal phenomenon that is cherished and encouraged in all human societies (Allison and Goethals, 2017; Efthimiou and Franco, 2017; Efthimiou et al., 2018a,b). Surprisingly, until the past decade there has been almost no scholarship on the topic of heroic transformation. Two early seminal works in psychology offered hints about the processes involved in dramatic change and growth in human beings. In 1902, William James addressed the topic of spiritual conversion in his classic volume, *The Varieties of Religious Experience*. These conversion experiences bear a striking similarity to descriptions of the hero's transformation as reported by famed mythologist Campbell (1949). These experiences included feelings of peace, clarity, union with all of humanity, newness, happiness, generosity, and being part of something bigger than oneself. James emphasized the pragmatic side of religious conversion, noting that the mere belief and trust in a deity could bring about significant positive change independent of whether the deity actually exists. This pragmatic side of spirituality is emphasized today by Thich Nhat Hanh, who observes that transformation as a result of following Buddhist practices can occur in the absence of a belief in a supreme being. Millions of Buddhists have enjoyed the transformative benefits of religion described by James simply by practicing the four noble truths and the noble eightfold path (Hanh, 1999, p. 170).

The second early psychological treatment of human transformation was published in 1905 by Sigmund Freud. His *Three Essays on the Theory of Sexuality* described life-altering transformative stages in childhood involving oral, anal, phallic, and latent developmental patterns. None of these changes were particularly "heroic" but they did underscore Freud's belief in the inevitability of immense psychological change. Although Freud suggested that people tend to resist change in adulthood, several subsequent schools of psychological thought have since proposed mechanisms for transformative change throughout the human lifespan. Humanistic theories,

in particular, have embraced the idea that humans are capable of a long-term transformation into self-actualized individuals (e.g., Maslow, 1943). Developmental psychologists have also proposed models of transformative growth throughout human life (e.g., Erikson, 1994). Recent theories of self-processes portray humans as open to change and growth under some conditions (Sedikides and Hepper, 2009) but resistant under others (Swann, 2012). In the present day, positive psychologists are uncovering key mechanisms underlying healthy transformative growth in humans (Lopez and Snyder, 2011; Seligman, 2011).

An important source of transformation resides in tales of heroism told and re-told to countless generations throughout the ages. These mythologies reflect humanity's longing for transformative growth, and they are packed with wisdom and inspiration (Allison and Goethals, 2014). Just reading, hearing, or observing stories of heroism can stir us and transform us.

According to Campbell (2004, p. xvi), these hero tales "provide a field in which you can locate yourself" and they "carry the individual through the stages of life" (p. 9). The resultant transformations seen in heroic stories "are infinite in their revelation" (Campbell, 1988, p. 183). Rank (1909, p. 153) observed that "everyone is a hero in birth, where he undergoes a tremendous psychological as well as physical transformation, from the condition of a little water creature living in a realm of amniotic fluid into an air-breathing mammal." This transformation at birth foreshadows a lifetime of transformative journeys for human beings.

According to Allison and Goethals (2013, 2017), hero stories reveal three different targets of heroic transformation: *setting*, *self*, and *society*. These three loci of transformations parallel Campbell's (1949) three major stages of the hero's journey: departure (or separation), initiation, and return. The departure from the hero's familiar world represents a transformation of one's normal, safe environment; the initiation stage is awash with challenge, suffering, mentoring, and transformative growth; and the final stage of return represents the hero's opportunity to use her newfound gifts to transform the world. The sequence of these stages is critical, with each transformation essential for producing the next one.

Without a change in setting, the hero cannot change herself, and without a change in herself, the hero cannot change the world. Our focus here is on the hero's transformation of the self, but this link in the chain necessarily requires some consideration of the links preceding and following it. The mythic hero must be cast out of her familiar world and into a different world, otherwise there can be no departure from her status quo. Once transformed, the hero must use her newly enriched state to better the world, otherwise the hero's transformation lacks social significance.

The hero's transformation plays a pivotal role in her ability to achieve her objectives on the journey. During the quest, "ineffable realizations are experienced" and "things that before had been mysterious are now fully understood" (Campbell, 1972, p. 219). The ineffability of these new insights

stems from their unconscious origins. Jungian principles of the collective unconscious form the basis of Campbell's theorizing about hero mythology. Le Grice (2013, p. 153) notes that "myths are expressions of the imagination, shaped by the archetypal dynamics of the psyche." As such, the many recurring elements of the mythic hero's journey have their "inner, psychological correlates" (Campbell, 1972, p. 153). The hero's journey is packed with social symbols and motifs that connect the hero to her deeper self, and these unconscious images must be encountered, and conflicts with them must be resolved, to bring about transformation (Campbell, 2004). Overall, the hero's outer journey is a representation of an inner, psychological journey that involves "leaving one condition and finding the source of life to bring you forth into a richer or mature condition" (Campbell, 1988, p. 152).

Allison and Smith (2015) identified five types of heroic transformation: physical, emotional, spiritual, mental, and moral. A sixth type, motivational transformation, was later proposed by Allison and Goethals (2017). These six transformation types span two broad categories: physical transformation, which we call *transmutation*, and psychological transformation, which we call *enlightenment*. Physical transmutations are endemic to ancient mythologies that featured transforming humans into stars, statues, and animals. Today, transmutation pervades superhero tales of ordinary people succumbing to industrial accidents and spider bites that physically transform them into superheroes and supervillains. These ancient and modern tales of transmutation offer symbolism of the hidden powers residing within each of us, powers that emerge only after dramatic situations coax them out of hibernation. Efthimiou (2015, 2017), Franco et al. (2016), and Efthimiou and Allison (2017) have written at length about the power and potential of biological transmutation to change the world. The phenomenon of *neurogenesis* refers to the development of new brain cells in the hippocampus through exercise, diet, meditation, and learning. This transmutative healing and growing can occur even after catastrophic brain trauma. Efthimiou (2017) describes many examples of transmutation occurring as a result of *regeneration* or *restoration* processes that refer to an organism's ability to grow, heal, and re-create itself.

Epigenetic changes in DNA and the science of human limb regeneration are two examples of modern day heroic transmutations (Efthimiou, 2015).

The other five types of heroic transformation – moral, mental, emotional, spiritual, and motivational – comprise the second broad category of transformation that we call enlightenment. Emotional transformations refer to "changes of the heart" (Allison and Smith, 2015, p. 23) involving growth in empathic concern for others; we call this transformation *compassion*.

Spiritual transformations refer to changes in belief systems about the spiritual world and about the workings of life, the world, and the universe; we call this change *transcendence*. Mental transformations refer to leaps in intellectual growth and significant increases in illuminating insights about oneself and others; we label this *wisdom*. Moral transformations

occur when heroes undergo a dramatic shift from immorality to morality; we call this *redemption*. Finally, a motivational transformation refers to a complete shift in one's purpose or perceived direction in life; we label this change a *calling* (see also Dik et al., 2017).

PURPOSE OF THE HERO'S TRANSFORMATION

The purpose of the hero's journey is to provide a context or blueprint for human metamorphosis. Why do we need such life-changing growth? Allison and Setterberg (2016) argue that people are born "incomplete" psychologically and will remain incomplete until they encounter challenges that produce suffering and require sacrifice to resolve. Transcending life's challenges enables the hero to "undergo a truly heroic transformation of consciousness," requiring them "to think a different way" (Campbell, 1988, p. 155). This shift offers a new "map or picture of the universe and allows us to see ourselves in relationship to nature" (Campbell, 1991, p. 56). Buddhist traditions and twelve-step programs of recovery refer to transformation as an awakening. Using similar language, Campbell (2004, p. 12) described the function of the journey as a necessary voyage designed to "wake you up." The long-term survival of the human race may depend on such an awakening, as it becomes increasingly clear that the unawakened, pre-transformed state is unsustainable at the collective level. As individuals, transformation is necessary for our psychological, emotional, social, and spiritual well-being. Collectively, the survival of our planet may depend on broader, enlightened thinking from leaders who must be transformed themselves if they are to make wise decisions about human rights, climate change, peace and war, healthcare, education, and myriad other pressing issues. Nearly 50 years ago, Heschel (1973) opined that "the predicament of contemporary man is grave. We seem to be destined either for *a new mutation* or for destruction" (p. 176, italics added).

Allison and Goethals (2017) propose five reasons why transformation is such a key element in the hero's journey, and why it is essential for promoting our own and others' welfare. First, transformations foster developmental growth. Early human societies understood the usefulness of initiation rituals in promoting the transition from childhood to adulthood (van Gennep, 1909). A number of scholars, including Campbell, have pointed to the failure of our postmodern society to appreciate the psychological value of rites and rituals (Campbell, 1988; Rohr, 2011b; Le Grice, 2013). Stories of young people "coming-of-age" are common in mythic hero tales about children "awakening to the new world that opens at adolescence" (Campbell, 1988, p. 167). The hero's journey "helps us pass through and deal with the various stages of life from birth to death" (Campbell, 1991, p. 56).

The second function of heroic transformation is that it promotes healing. Allison and Goethals (2016) argue that sharing stories about hero transformations can offer many of the same benefits as group therapy (Yalom and Leszcz, 2005). These

benefits include the promotion of hope; the benefit of knowing that others share one's emotional experiences; the fostering of self-awareness; the relief of stress; and the development of a sense of meaning about life. A growing number of clinical psychologists invoke hero transformations to help their clients acquire the heroic attributes of strength, resilience, and courage (Grace, 2016). Recent research on *post-traumatic growth* demonstrates that people can overcome severe trauma and even use it to transform themselves into stronger, healthier persons than they were before the trauma (Ramos and Leal, 2013).

The third function of transformations focuses on their ability to promote social unity.

According to Campbell (1972, p. 57), hero transformations "drop or lift [heroes] out of themselves, so that their conduct is not their own but of the species, the society." The transformed hero is "selfless, boundless, without ego." The most meaningful transformations are a journey from egocentricity to sociocentricity, from elitism to egalitarianism (Campbell, 1949; Wilber, 2007a,b; Rohr, 2011b). No longer psychologically isolated from the world, the transformed person enjoys a sense of communion with others. In his description of the hero's journey, Campbell (1949, p. 25) wrote, "where we had thought to be alone, we *shall be with* all the world." Friedman (2017) has introduced the construct of self-expansiveness describing how boundaries between ourselves and others, and even between ourselves and the world, can be seen as permeable. As Friedman puts it, "viewing others as an alternate manifestation of oneself can promote heroism, as one's individual life is not viewed as separate" (p. 15).

Fourth, transformations also advance society in meaningful ways. The apex of the hero's journey is the hero's boon, or gift, to society. It is this gift that separates the hero's journey from simply being a test of personal survival. For the quest to be heroic, the classic heroic protagonist must put her newly acquired insights and gifts to use in order to better the world (Campbell, 1949; Rohr, 2011b). The heroic boon to society follows the successful completion of the individual journey, and so we can say that the social boon is entirely dependent upon the hero's personal transformation that made the individual quest a success. Hero mythology, according to Campbell (1972, p. 48), is designed to teach us that society is not a "perfectly static organization" but represents a "movement of the species forward."

Finally, transformations contribute to a deepening of our spiritual and cosmic understanding of the universe. According to Campbell (1988, p. 152), the hero's transformation involves learning "to experience the supernormal range of human spiritual life." Myths, he said, "bring us into a level of consciousness that is spiritual" (p. 19). In every hero tale, the hero must "die spiritually" and then be "reborn to a larger way of living" (p. 141), a process that is the enactment of a universal spiritual theme of death being the necessary experience for producing new life (Campbell, 1991, p. 102). Hero transformations supply cosmic wisdom. van Gennep (1909) observed that transformative rituals in early human tribes have "been linked to the celestial passages, the revolutions of the planets, and the phases of the moon. It is indeed a cosmic conception that relates the stages of human existence to those of plant and animal life and, by a sort of

pre- scientific divination, joins them to the great rhythms of the universe" (p. 194).

INTERNAL AND EXTERNAL SOURCES OF TRANSFORMATION

Allison and Goethals (2017) distinguished between sources of transformative change that come from within the individual and sources that originate from outside the individual. There are several types of *internal* sources of transformation. For example, transformation can arise as a result of natural human development. An initial transformative event, a sperm cell fertilizing an egg, leads to a zygote transforming into an embryo, which then becomes a fetus, a baby, a toddler, a child, an adolescent, a young adult, a mid-life adult, and an elderly adult. Another internal source of change resides in people's needs and goals. According to Maslow's (1943) pyramid of needs, an individual is motivated to fulfill the needs at a particular level once lower level needs are satisfied. Once the needs at the four lower levels are satisfied, one is no longer concerned with them or driven by them. In effect, one transitions to higher levels and eventually achieves self-actualization, during which one might enjoy *peak experiences* of having discovered meaning, beauty, truth, and a sense of oneness with the world – a transformative state reminiscent of James' (1902) description of the religiously converted individual.

A third internal source of transformative change is human transgression and failure. People often undergo significant change after being humbled by their "fallings and failings" (Rohr, 2011b, p. xv). Campbell (2004, p. 133) cautioned that not all heroic quests conclude with heroic triumph. "There is always the possibility for a fiasco," he said. These occasional fiascos can inspire heroic transformations by producing the kind of suffering needed as impetus for a greater hero journey. It is a general truth that for substance abusers to be sufficiently motivated to seek recovery from their addictions, they must reach a profound level of pain and suffering, commonly referred to as "hitting rock bottom." Suffering, according to Rohr (2011b, p. 68), "doesn't accomplish anything tangible but creates space for learning and love." This space has been called *liminal space* (Turner, 1966; van Gennep, 1909), defined as the transitional time and space between one state of being and an entirely different state of being. In liminal space, one has been stripped of one's previous life, humbled, and silenced.

Transgressions, and the liminal space that follows them, are the fertile soil from which heroic transformations bloom.

Another internal source of transformation is what Allison and Goethals (2017) call an enlightened dawning of responsibility. This dawning is captured in a simple phrase, composed of 10 two-letter words, "If it is to be, it is up to me" (Phipps, 2011). There is a long history of social psychological work devoted to studying the forces at work that promote the dawning of responsibility in emergency settings (Latane and Darley, 1969). Research has shown that in a crisis a small but courageous minority of people do step up to do the right thing even when there are strong pressures to avoid assuming

responsibility. These fearless social aberrants, most of whom are ordinary citizens, are able to transcend their circumstances and transform from ordinary to extraordinary. For example, about one-third of the participants in Milgram's (1963) obedience study defied the authority's command to continue applying painful electric shocks to another participant. Whistleblowers are another notable example; they have the mettle to step up and do right thing at great potential cost to themselves (Brown, 2017). Bystander training is now available to cultivate this dawning of responsibility in situations where transformative leadership is needed (Heroic Imagination Project, 2018).

External situational forces can also evoke transformative change. Situations, for example, can trigger emotional responses that transform us. This idea is consistent with the wisdom of James (1902, p. 77), who observed that "emotional occasions. . . . . .are extremely potent in precipitating mental rearrangements." Emotions need not be negative to induce change. Feelings of *elevation* can transform people psychologically and behaviorally (Haidt, 2003). People become elevated after witnessing a morally beautiful act, and this elevated feeling has been shown to produce altruistic acts (Thomson and Siegel, 2013). A second external source of transformation is the series of trials that all heroes must undergo during their journey. Suffering can be an internal cause of transformation when it results from self-destructive actions, but suffering caused by outside forces can serve as an external source of transformation. Campbell (1988, p. 154) argued that "trials are designed to see to it that the intending hero should be really a hero. Is he really a match for this task?" The time of greatest peril for the hero occurs when she enters the *belly of the whale* (Campbell, 1949). In stories of Jonah and Pinocchio, the belly can be entered literally, but typically the belly is symbolic of the hero's deepest inner-demons which must be "disempowered, overcome, and controlled" (p. 180). According to Campbell (1988), the hero's journey consists of the psychological task of overcoming one's fears and slaying one's dragons. This transformative process has been explored by positive psychologists who refer to it as part of the journey of post-traumatic growth, during which people are able to transform tragedy into triumph (Rendon, 2015).

A third external source of transformation is the vast hero literature and mythology to which we are exposed throughout our lives. Allison and Goethals (2014, 2016, 2017) have long argued that narratives about heroes, pervasive in all of storytelling from Gilgamesh to the present day, serve as a nourishing catalyst for transformative change. The central premise of the *heroic leadership dynamic* (HLD) is that our consumption of heroic tales takes place within an interactive system that is energetically in motion, and drawing us toward rising heroes and repelling us from falling ones. The HLD framework proposes two transformative functions of hero stories: an *epistemic* function and an *energizing* function. Hero narratives supply epistemic growth by offering mental schemas that describe prosocial action, reveal basic truths about human existence, unpack life paradoxes, and cultivate emotional intelligence. The epistemic value of hero tales is revealed in Campbell's (1988) observation that hero mythology offers insights into "what can be known but not told" (p. 206) and that "mythology is the womb of mankind's initiation

to life and death" (Campbell, 2002, p. 34). Hero tales also offer energizing benefits, providing people with agency and efficacy. Narratives of heroism bring about moral elevation, repair psychic wounds, and promote psychological growth (Kinsella et al., 2015, 2017; Allison and Goethals, 2016).

The fourth external source of transformation is the social environment of the hero. In hero narratives and classic mythology, the hero's journey is populated by numerous friends, companions, lovers, parent figures, and mentors who assist the hero on her quest (Campbell, 1949). The hero is always helped along the journey by the actual, imagined, or implied presence of others. Campbell also discussed the importance of encounters with parental figures; male heroes seek atonement with father figures, and female heroes seek it with mother figures.

Campbell also described the hero's brush with lovers and temptresses, who can either assist, distract, or do harm to the hero. Most people who are asked to identify their heroes describe a mentor or coach who exerted a transformative effect on them (Allison and Goethals, 2011; Goethals and Allison, 2012, 2014).

Campbell (1949) argued that the appearance of a mentor during the initiation stage of the hero's journey is a critically important component of the quest. Mentors help heroes become transformed, and later, having succeeded on their journeys, these transformed heroes then assume the role of mentor for others who are at earlier stages of their quests. In short, "transformed people transform people" (Rohr, 2014, p. 263). Mentors can have a transformative effect with their words of advice, with their actions, or both. Words can fall on deaf ears but one's actions, attitudes, and lifestyle can leave a lasting imprint. St. Francis of Assisi expressed it this way: "You must preach the Gospel at all times, and when necessary use words" (Rohr, 2014, p. 263). A mentor can be viewed as a type of hero who enhances the lives of others (Kinsella et al., 2015).

The hero's journey offers a transformative experience toward wisdom that can be shared later with others. In short, the journey prepares people for leadership roles. According to Burns (1978), transforming leaders strive to satisfy followers' lower needs (e.g., survival and safety) in preparation for elevating them to work together to produce significant higher-level changes. Burns portrayed transforming leadership as collaborative engagement "in such a way that leaders and followers raise one another to higher levels of motivation and morality" (p. 20). Followers are thus "elevated," creating a "new cadre of leaders" (p. 20). This conceptualization is consistent with Campbell's (1949) emphasis on the role of mentorship during the hero's journey. The mentor elevates the hero and prepares her for her future role as a mentor to others. Burns' framework also makes explicit a notion that is largely implicit in Maslow's (1943) model, namely, that the self-actualized person has become an elder, a mentor figure, and a moral actor who wields transformative influence over others. Erikson's (1994) theory of lifelong development makes the similar claim that older *generative* individuals, having been given so much early in life, are now in a position to give back to younger people.

Other theories also point to the transformative effect of mentoring and leadership.

Hollander (1995) proposed a two-way influence relationship between a leader and followers aimed primarily at attaining mutual goals. Hollander defined leadership as "a shared experience, a voyage through time" with the leader in partnership with followers to pursue common interests.

For Hollander, "a major component of the leader–follower relationship is the leader's perception of his or herself relative to followers, and how they in turn perceive the leader" (p. 55). Tyler and Lind (1992) have shown that these perceptions are crucially important in cementing good follower loyalty. Followers will perceive a leader as a "legitimate" authority when she adheres to basic principles of procedural justice. Leaders who show fairness, respect, and concern for the needs of followers are able to build followers' self-esteem, a central step in Maslow's (1943) pyramid, thereby fostering followers' transformative movement toward meeting higher-level needs.

THREE TRANSFORMATIVE ARCS OF HEROISM

Allison and Goethals (2017) identified three deficits of the hero at the initial stage of her journey. The untransformed hero is lacking (1) a sociocentric view of life; (2) an autonomy from societal norms that discourage transformation; and (3) a mindset of growth and change. Below we explain how the arc of heroic metamorphosis bends toward sociocentricity, autonomy, and growth.

Egocentricity to Sociocentricity

Campbell (2004, p. 55) believed that one of the central functions of hero mythology is to "get a sense of everything – yourself, your society, the universe, and the mystery beyond – as one great unit." He claimed that "when we quit thinking primarily about ourselves and our own self-preservation, we undergo a truly heroic transformation of consciousness" (Campbell, 1988, p. 155). In most hero narratives, the hero begins the journey disconnected from the world. She is a self-centered, prideful individual whose sole preoccupation is establishing her identity, her career, and her material world. The entire point of her hero journey is to awaken her to the broader goal of thinking beyond herself in achieving communion with the entire world and universe (Friedman, 2017). To the extent that we spend the first stages of our lives selfishly building our personal identities and careers, we may be designed to awaken in later stages to our original predisposition toward sociocentricity (Rohr, 2011b). Campbell (2001) urged us all to cultivate this greater purpose of forming compassionate unification with all of humanity. He believed this awakening is the central function of hero mythology.

Dependency to Autonomy

A person's willingness to deviate from the dominant cultural pattern is essential for heroic transformation. Heroes do the right thing, and do what they must do, regardless of authority, tradition, and consequence. Maslow (1943) called this characteristic *autonomy*. "There are the 'strong' people," wrote Maslow, "who can easily weather disagreement or opposition, who can swim against the stream of public opinion and who can stand up for the truth at great personal cost" (p. 379). Fulfillment of the lower needs in the pyramid is essential for autonomy to develop in individuals. "People who have been made secure and strong in the earliest years tend to remain secure and strong thereafter in the face of whatever threatens" (p. 380). Zimbardo (2008) has championed the idea that heroes are people with the ability to resist social pressures that promote evil, and that such resistance requires the moral courage to be guided by one's heart rather than by social cues. Zimbardo and other hero activists drive home the point that "the opposite of a hero isn't a villain; it's a bystander" (Chakrabortty, 2010; Langdon, 2018). While the transformed hero enjoys "union with the world," she remains an autonomous individual who can establish her own path in the world that is unfettered by pressures to conform to social pressures.

Stagnation to Growth

One can be autonomous but not necessarily growing and stretching toward realizing one's full potential. The pre-transformed hero naturally resists change, and thus severe setbacks may be her only impetus to budge. Without a prod, she will remain comfortable in her stagnation, oblivious to the idea that anything needs changing. The hero's journey marks the death of pretense and inauthenticity, and the birth of the person one is meant to be. Campbell (1988, p. 168) described the process as "killing the infantile ego and bringing forth an adult." Sperry (2011) has argued that people are so attached to their false selves that they fear the death of the false self even more than they fear the death of their physical self. Our growth can also be inhibited by a phenomenon called the crab bucket syndrome (Simmons, 2012). This syndrome describes the consequences of our entrenchment with our families, our friends, and our communities, and they with us. Any attempt we make to crawl up and out of the bucket is met with failure as the crabs below us pull us back down. For most of us, the hero's journey represents the best way, and perhaps the only way, to escape the bucket and discover our true selves. Campbell (1991) argued that a healthy, transformed individual accepts and embraces her growth and contradictions. "The psychological transformation," wrote Campbell, "would be that whatever was formerly endured is now known, loved, and served" (p. 207).

THREE ACTIVITIES PROMOTING TRANSFORMATION

Can anything be done to promote heroic transformation? We noted earlier that one cannot be in charge of one's own heroic transformation. According to Rohr (2011a), engineering our own personal metamorphosis on our own "is by definition not transformation. If we try to change our ego with the help of our ego, we only have a better-disguised ego" (p. 5). There are things we can do, however, to make transformation more likely. From our review of theory and research on heroism, developmental processes, leadership, and spiritual growth, we can identify three broad categories of activities that encourage

transformation. These activities include participation in training and developmental programs, spiritual practices, and (of course) the hero's journey. On the surface these activities appear dissimilar, yet engaging in these practices produces similar transformative results.

Training and Development Practices

In examining the characteristics of people who risked their lives to save others, Kohen et al. (2017) discovered several important commonalities. They found that these heroes "imagined situations where help was needed and considered how they would act; they had an expansive sense of empathy, not simply with those who might be considered 'like them' but also those who might be thought of as 'other' in some decisive respect; they regularly took action to help people, often in small ways; and they had some experience or skill that made them confident about undertaking the heroic action in question" (p. 1). With this observation, Kohen et al. (2017) raise four points about preparation for heroism. First, they note the importance of imagining oneself as ready and capable of heroic action when it is needed. This imagination component involves the development of mental scripts for helping, an idea central to Zimbardo's Heroic Imagination Project (2018) hero training programs. Established a decade ago, the Heroic Imagination Project aims to encourage people to envision themselves as heroes and to "prepare heroes in training for everyday heroic action." The group achieves this goal by training ordinary people to "master social and situational forces as well as their automatic human tendencies in order to act in ways that are kind, prosocial, and even heroic." Participants are trained to improve their situational awareness, leadership skills, moral courage, and sense of efficacy in situations that require action to save or improve lives.

Second, Kohen et al. (2017) emphasize the importance of empathy, observing that heroes show empathic concern for both similar and dissimilar others. A growing body of research supports the idea that empathy can be enhanced through training, an idea corroborated by the proliferation of empathy training programs around the world (Tenney, 2017). Svoboda (2013) even argues that empathy and compassion are muscles that can be strengthened with repeated use. Third, Kohen et al. (2017) note that heroes regularly take action to help people, often in small ways. Doing so may promote the self-perception that one has heroic attributes, thereby increasing one's chances of intervening when a true emergency arises. Finally, Kohen et al. (2017) observe that heroes often have either formal or informal training in saving lives. These skills and experiences may be acquired from training for the military, law enforcement, or firefighting, or they may derive from emergency medical training, lifeguard training, and CPR classes (Svoboda, 2013).

In a similar vein, Kramer (2017) has devised a methodology for helping people develop the courage to pursue their most heroic dreams and aspirations in life. He identifies such courage as *existential courage*, consisting of people's identity aspirations and strivings for their lives to feel meaningful and consequential. Kramer's technique involves fostering people's willingness to take psychological and social risks in the pursuit of desired but challenging future identities. His "identity lab" is a setting where students work individually and collaboratively to (1) identify and research their desired future identities, (2) develop an inventory or assessment of identity- relevant attributes that support the realization of those desired future identities, (3) design behavioral experiments to explore and further develop those self-selected identity attributes, and, finally, (4) consolidate their learnings from their experiments through reflection and assessment. Kramer's results show that his participants feel significantly more "powerful," "transformative," "impactful," and "effective" in pursuing their identity aspirations. They also report increased self-efficacy and resilience.

Another example of training practices can be found in initial rituals and rites of passages found in many cultures throughout the world. Although modern Western cultures have eliminated the majority of these practices, most cultures throughout history did deem it necessary to require adolescents, particularly boys, to undergo rituals that signaled their transformation into maturity and adulthood (Turner, 1966; van Gennep, 1909). In many African and Australian tribes, initiation requires initiates to experience pain, often involving circumcision or genital mutilation, and it is also not uncommon for rituals to include a challenging survival test in nature. These initiation tests are considered necessary for individuals to become full members of the tribe, allowing them participate in ceremonies or social rituals such as marriage. Initiations are often culminated with large elaborate ceremonies for adolescents to be recognized publicly as full-fledged adult members of their society.

Child-rearing can serve as another type of transformative training practice. A striking example can be seen in Fagin-Jones's (2017) research on how parents raised the rescuers of Jews during the Holocaust. Fagin-Jones found that the parenting practices of rescuers differed significantly from the parenting of passive bystanders. Rescuers reported having loving, supportive relationships with parents, whereas bystanders reported relationships with parents as cold, negative, and avoidant. More rescuers than bystanders recalled their parents as affectionate and engaged in praising, hugging, kissing, joking, and smiling. These early cohesive family bonds encouraged other-oriented relationships based on tolerance, inclusion, and openness.

Rescuers reported that their family unit engendered traits of independence, potency, risk-taking, decisiveness, and tolerance. Bystanders, in contrast, recalled a lack of familial closeness that engendered impotence, indecisiveness, and passivity. Rescuers' parents were less likely than bystanders' parents to express negative Jewish stereotypes such as "dishonest," "untrustworthy," and "too powerful." Overall, rescuers were raised to practice involvement in community, commitment to others' welfare, and responsibility for the greater good. In contrast, bystanders' parents assigned demonic qualities to Jews and promoted the idea that Jews deserved their fate.

Spiritual Practices

For millennia, spiritual gurus have extolled the benefits of engaging in a variety of spiritual practices aimed at improving one's mental and emotional states. Recent research findings in cognitive neuroscience and positive psychology are now beginning to corroborate these benefits. Mindfulness in particular

has attracted widespread popularity as well as considerable research about its implications for mental health. The key component of mindfulness as a mental state is its emphasis on focusing one's awareness solely on the present moment. People who practice mindful meditation show significant decreases in stress, better coping skills, less depression, improved emotional regulation, and higher levels of resilience (Hofmann et al., 2010). Mindful meditation quiets the mind and thus "wakes us up to what is happening," allowing "contact with life" (Hanh, 1999, p. 81). Tolle (2005) argues that living in the present moment is a transformative experience avoided by most people because they habitually choose to clutter their minds with regrets about the past or fears about the future. He claims that "our entire life only happens in this moment. The present moment is life itself" (p. 99). Basking in the present moment is the basis of the psychological phenomenon of "flow" described by Csikszentmihalyi (2008). When experiencing flow, people are "in the zone," fully present, and completely "immersed in a feeling of energized focus" (p. 45).

Related to mindfulness is the process of non-dualistic thinking (Loy, 1988) also called *right* thinking (Hanh, 1999), *contemplative* thinking (Rohr, 2009), *third-force* thinking, and the third eye (Song, 2002). The Indian "tika" placed on the human forehead is more than decoration; it signifies a non-dual way of viewing the world. According to Rohr (2009), non-dual thinking is deemed necessary for understanding phenomena that defy rational analysis: love, death, God, suffering, and eternity. The transcendent nature of mindful, non-dual thinking shares many of the characteristics of the heroically transformed mind that we have discussed in this article.

The spiritual attribute of humility can also be transformative. When asked to name four cardinal virtues, St. Bernard is reported to have answered: "Humility, humility, humility, and humility" (Kurtz and Ketcham, 1992). Humility has been shown to be linked to increased altruism, forgiveness, generosity, and self-control (Worthington et al., 2017). One can argue that humility cannot be practiced, as the idea of getting better at humility runs contrary to being humble. However, we suspect that one can practice humility by adopting the habit of admitting mistakes, acknowledging personal faults, avoiding bragging, and being generous in assigning credit to others.

Gratitude is another transformative spiritual practice validated by recent research. Algoe (2012) found that gratitude improves sleep, patience, depression, energy, optimism, and relationship quality. Practitioners have developed gratitude therapy as a way of helping clients become happier, more agreeable, more open, and less neurotic. Moreover, neuroscientists have found that gratitude is associated with activity in areas of the brain associated with morality, reward, and value judgment (Emmons and Stern, 2013). Closely related to gratitude are experiences with wonder and awe, which have been shown to increase generosity and a greater sense of connection with the world (Piff et al., 2015). Enjoying regular doses of wonder is a telltale trait of the self-actualized individual (Maslow, 1943).

Another transformative spiritual practice is forgiveness. Research shows that people who are able to forgive others have improved relationships, better mental health, lower stress and hostility, improved blood pressure, less depression, and a healthier immune system (Worthington, 2013). "Letting go" is another spiritual practice that can produce transformation. It has also been called release, acceptance, or surrender. Buddhist teach Hanh (1999, p. 78) claims that "letting go give us freedom, and freedom is the only condition for happiness." James (1902) also described the beneficial practice of letting go among religiously converted individuals: "Give up the feeling of responsibility, let go your hold, resign the care of your destiny to higher powers, be genuinely indifferent as to what becomes of it all, and you will find not only that you gain a perfect inward relief, but often also, in addition, the particular goods you sincerely thought you were renouncing" (p. 110).

Finally, we turn to the complex emotion of love as a transformative agent. In addition to starring in *Casablanca*, Humphrey Bogart played the lead role in *Sabrina*, another film demonstrating the transformative power of love. In *Sabrina*, Bogart played the role of Linus, a workaholic CEO who has no time for love. His underachieving brother David begins a romance with a young woman named Sabrina, and it becomes clear that this budding relationship jeopardizes a multi-million-dollar deal that the company is about to consummate. To undermine the relationship, Linus pretends to show romantic interest in Sabrina, and he succeeds in winning her heart. Despite the pretense, Linus falls in love for the first time in his life, resigns as CEO, and runs away with Sabrina to Paris. Love has completely transformed him from a cold, greedy businessman into a warm, enlightened individual. Similar transformations in film and literature are seen in Ebenezer Scrooge (in *A Christmas Carol*), the Grinch (in *How the Grinch Stole Christmas*), Phil Connors (in *Groundhog Day*), and George Banks (in *Mary Poppins*).

In *Man's Search for Meaning*, Frankl (1946, p. 37) wrote, "The salvation of man is through love and in love." Hanh (1999, p. 170), moreover, weighs in that "love, compassion, joy, and equanimity are the very nature of an enlightened person." Loving kindness also transforms us biologically (Keltner, 2009). People who make kindness a habit have significantly lower levels of stress hormones such as cortisol. Making an effort to help others can lead to decreased levels of anxiety in individuals who normally avoid social situations. Being kind and even witnessing kindness have also been found to increase levels of oxytocin, a hormone associated with lower blood pressure, more sound sleep, and reduced cravings for drugs such as alcohol and cocaine. Loving others lights up the motivation and reward circuits of the limbic system in the brain (Esch and Stefano, 2011). Research also reveals that people who routinely show acts of love live longer compared to people who perform fewer loving actions (Vaillant, 2012).

The Hero's Journey

We opened this article by noting that the only way most of us undergo transformation is to embark on the hero's journey. While we have complete control over whether we receive training that can facilitate a heroic metamorphosis, and over whether we engage in spiritual practices, we have far less control over our participation in the classic hero's journey. We can only

remain open and receptive to the ride that awaits us. As we have noted, our departure on the journey can be jarring – we often experience an accident, illness, transgression, death, divorce, or disaster. The best we can do is fasten our seatbelts and trust that the darkness of our lot will eventually transform into lightness. But we cannot remain passive. During the journey we must be diligent in doing our part to secure allies and mentors, and to take actions that cultivate strengths such as resilience, courage, and resourcefulness (Williams, 2018). After being transformed ourselves, we feel the obligation to transform others in the role of mentor. Having traversed the heroic path, we may use our heroism to craft a newfound purpose for our existence, a purpose that drives us to spend our remaining years making a positive difference in people's lives. Bronk and Riches (2017) call this process *heroism-guided purpose*.

ADDITIONAL ISSUES WORTH PONDERING

Several unexplored issues involving heroic transformation deserve more thorough treatment than we can devote to them here. These issues focus on education, religion, gender, inclusive transcendence, and barriers to transformation. We give brief attention to these topics below.

Education and Transformation

On July 16, 2003, legendary President of South Africa Nelson Mandela delivered a speech in support of the Mindset Network, a non-profit organization designed to improve educational opportunities for children of all ages. "Education," he said, "is the most powerful weapon which you can use to change the world." This statement attracted widespread media attention and remains a highly recurring internet meme today. A Google search of "education can change the world" yields thousands of hits echoing Mandela's claim and extending the idea to include education being the key "to success," "to happiness," "to freedom," "to the world," and "to the future." Summing up our supreme collective confidence in education, United Nations Emergency Relief Coordinator Mark Lowcock declared that "Education is the key to everything" (Theirworld, 2017).

Are these claims true? We believe it is a mistake and perhaps even dangerous to equate education with transformation. Consider, for example, the link between education and crime. Some studies suggest that education mitigates crime (Buonanno and Leonida, 2006; Machin et al., 2011) while other studies find that education either plays little or no role in preventing violence. Bergen and Pandey (2005) report that the vast majority of terrorists who perform violent acts are college educated. For example, all 12 men involved in the 1993 World Trade Center attack had a college education. All the pilots in the September 11th terrorist attacks and their collaborators, as identified by the 9/11 commission, attended universities. The lead pilot, Mohamed Atta, was college-educated, and the operational planner, Khalid Sheikh Mohammed, studied engineering in North Carolina. The chilling masked figure on many ISIS beheading videos was Mohammed Emwazi, who had a college

degree in computer programming. In the same vein, Ramsland (2015) has found that some of the most notorious serial killers of our time were highly educated, including Ted Bundy and the "Unabomber" Ted Kaczynski.

We do not wish to undersell education's positive consequences for individuals and societies. Improving educational opportunities for citizens no doubt helps people satisfy needs in Maslow's (1943) hierarchy, especially those at the lower levels of the pyramid. Nelson Mandela was no doubt correct about education improving the quality of life for communities operating near subsistence levels. Our claim is that education is insufficient for meeting higher level needs of esteem and for cultivating social belongingness, self-transcendence, union with the world, and self-actualization. In short, education is a beginning step toward transformation but falls short in fully producing a truly awakened individual.

Religion and Transformation

As noted earlier, James (1902) described the psychological consequences of religious conversion as including feelings of peace, the ability to see clearly, the sense of union with all of humanity, a feeling of newness, the experience of happiness, the desire for generosity, and the sense of being part of something bigger than oneself. While these results of conversion are all signs of healthy religion, many of us are very well aware of "religious" individuals who preach war instead of peace, who exclude rather than include, who display anger in lieu of joy, and who show greed instead of generosity. In short, being "religious" and even engaging in religious practices such as attending church does not guarantee the kind of religious conversion experiences described by James. In fact, going through the motions of religion can heighten one's sense of righteousness and arrogance, setting in motion a dark transformation toward principles that are antithetical to James' observation of mature religion. Many people who are "holier than thou" end up holier than no one. Rohr (2010) argues that the litmus test for healthy spiritual transformation is whether one shows "a movement toward the edge, the outside, the lower, the suffering, and the simple. It's never about climbing."

Women as Transformers

In his studies of initiation rituals worldwide, Rohr (2005) observed that non-western cultures throughout history have been more likely to require males to participate in these rites of passage as compared to females. Underlying this gender difference is the widespread belief that young males require initiation rituals to transform them into men, whereas young females tend to be naturally capable of transforming into womanhood without formal rituals. Differences in biology and culturally assigned gender roles have been posited to explain this difference (Rohr, 2005; Formica, 2009). For women, transformation is corporeal. Women personally undergo biological transformations in processes such as menstruation, pregnancy, labor, and breastfeeding. Throughout most of human history, women have also been assigned culturally mandated activities involving transformation. For example, child-rearing traditionally involved women transforming children into adults.

Moreover, most human cultures have historically assigned women the task of preparing food for the family, during which women transformed wheat into bread and cream into butter.

If, as we have argued, transformation involves promoting unity and adopting a sociocentric mindset, then women may be agents of transformation. Throughout history, men have built things, fixed things, and defended us from things (Rohr, 2005) – all in the service of satisfying lower level needs. True transformation, however, occurs at higher levels where women may have the advantage. Rohr has even boldly claimed that "transformation is deeply embedded in feminine consciousness" (see also Ross, 2017). In her review of research on gender differences in leadership effectiveness, Hoyt (2014) found convincing evidence that women may be more transformative as political leaders. Compared to men, women leaders are more likely to improve standards of living, education, and healthcare. They enjoy more success in peace negotiations and are more likely to reach across party lines. Women more so than men are likely to adopt democratic and participatory styles of leadership. Moreover, women are more likely to follow ethical guidelines, engage in philanthropy, and promote the welfare of women, children, and families. With all their accomplishments as leaders, women may also show more humility than men (Fumham et al., 2001; Perry, 2017). Over 2500 years ago, the Tao Te Ching offered this wise description of women as humble, transformative leaders:

> Can you play the role of woman?
> Understanding and being open to all things. . .
> Giving birth and nourishing,
> Bearing but not possessing,
> Working yet not taking credit,
> Leading yet not dominating,
> This is the Primal Virtue.

Transcend and Include

Central to the phenomenon of transformation is the principle of *transcend and include* (Wilber, 2001). Higher stages of transformation do not discard the values of the lower stages; they include them. When we are young, we hold strong opinions that later seem naïve to us, yet we are not necessarily "wrong" at the time; we are merely incomplete. An illustration of this idea can be found in our musings about our childhood baseball heroes, Willie Mays (for George Goethals) and Willie Stargell (for Scott Allison). We both freely admit that our taste in heroes has evolved and matured since the 1950s and 1960s, yet if you ask us if that means that Mays and Stargell are no longer our heroes, we will quickly tell you that they remain our heroes to this very day. Maintaining this preference exemplifies the principle of transcend and include.

Transformation to a higher level of consciousness always transcends but also includes the lower levels (Rohr, 2011b). This does not mean that we equate Mays and Stargell with Gandhi and Mandela. It means that we appreciate their heroic influence on us during a crucial time in our development.

Campbell's (1949) understanding of the transform and include principle is seen in his description of the transformed hero as the "master of both worlds." At the end of their transformative journey, heroes are as comfortable navigating in their original world as in the new world that they now inhabit. There are implications of this principle for gender roles. Male- oriented activities of making, fixing, and protecting must be transcended by female-oriented activities of inclusion, participation, and harmony. But with transcendence must come inclusion, as we cannot expect to survive as a society without always leaving room for those so-called male activities.

Transformation Toward Psychopathology

Heroic transformation does not always lead to improvement in an individual's well-being. Recent research has revealed that adopting a heroic self-concept can at times produce significant psychological maladjustment (Shahar, 2013; Israeli et al., 2018). From this perspective, a heroic self-representation may develop when people experience personal threat, stress, and challenge, either in themselves or in others to whom they are close. These heroic self-representations can assume the form as the *self-as-savior*, the *self-as-conqueror*, or *heroic identification*. When confronting these psychological challenges, people may identify with the ideal heroic image of the person who can conquer any difficult obstacle or who can heroically remove those obstacles for suffering others. The consequences of taking on this role of a hero can be significant increases in perceived stress, self-criticism, lack of a sense of coherence, general psychopathology, maternal overprotection, dissociative depersonalization and absorption, transliminality, PTSD severity, and attachment anxiety.

Shahar (2013) and Israeli et al. (2018) have uncovered convincing evidence for this type of pathological heroic transformation. These scholars studied adults during a prolonged exposure 'Operation Protective Edge,' which occurred in Israel between July 8, 2014 and August 26, 2014 (Israeli et al., 2018). The operation measured Israeli citizens' emotional states while they were exposed to extensive air strikes, ground fighting in Gaza, and continuous large-scale rocket fire from Gaza to Israel. The results showed that participants' heroic identification predicted increased anxious mood and negative affect. Moreover, participants who viewed themselves as self-as-savior showed an increased anxious mood under high levels of perceived-stress related to the missile attacks. Israeli et al. (2018, p. 23) concluded that "under stress, heroic identification increases characterological self-blame/self-criticism and experiential avoidance, and decreases help-seeking." These findings are fascinating in pointing toward the potential harm associated with undergoing a heroic transformation. Whereas we argue that heroic transformation is a necessary and positive step toward mature growth and achieving one's full potential, it seems clear that taking one's heroism to an extreme under stressful circumstances can lead to psychological harm. We believe that the research reported by Shahar (2013) and Israeli et al. (2018) is extremely important in identifying boundary or delimiting conditions of positive heroic transformation effects. Future research might productively be directed toward

further establishing the circumstances under which adopting a heroic self-representation yields favorable versus unfavorable consequences for people.

Barriers to Transformation

We now turn to factors that can stand in the way of people undergoing a positive transformative experience in life. The largest barrier, of course, is a person's unwillingness to heed the call to go on the hero's journey. We all know people, including prominent world leaders, who are "stuck" in early stages of development. It would behoove the world to understand why so many people are stuck and what can be done to nudge more of us along the transformative journey. Earlier we reviewed activities that promote transformation, and one might argue that any barriers to change are merely the inverse of these promotional activities. While there may be some truth in this idea, it is also true that some barriers are less intuitive or obvious than one might suspect. The great Islamic poet Rumi once offered this advice to those seeking enlightenment: the task is sometimes not to pursue a transformative loving experience "but merely to seek and find all the barriers within yourself that you have built against it" (Barks, 2005, p. 18).

A major source of arrested development is the problem of self-ignorance. A recurring theme in psychological research is that people are unaware of much of their own psychological functioning (Nisbett and Wilson, 1977; Wegner, 2002; Bargh and Morsella, 2008; Alicke, 2017). This lack of self-awareness may explain people's resistance to transformative growth. Early psychoanalytic theories of Freud, Adler, and Horney were the first to point to the destructive effects of behaving unconsciously. Jung (1956) described the *shadow* as the dark, unknown aspects of our personalities that prevent us from transforming into our full potential. Building on Jung's work, Campbell observed that all "the images of [hero] mythology are referring to something in you," and that our shadow impedes our ability to make the best use of these images (p. 68).

A second barrier is found in impoverished environments that deny people opportunities for transformation. Maslow's (1943) model of hierarchical needs suggests that people can get stuck at lower stages of the hierarchy that focus on satisfying basic biological and security needs. Heroic potential may be suppressed when individuals are afflicted by poverty or safety concerns that hinder their ability to progress upward in the hierarchy toward higher-level goals. Resolving this problem is easy in theory but extremely difficult in practice, as most world societies either lack the will or the means to eliminate poverty. Related to this idea is another barrier – exposure to traumatic events that can impede people's ability to undergo transformative growth. Trauma disrupts people's sense of safety and their ability to cope with the overwhelming threat and danger, damaging their physical, emotional, and cognitive functioning processes (Keck et al., 2017). Safety and security needs become paramount to the traumatized individual, rendering higher level needs unimportant. The good news is that most people can show great progress in recovering from the deleterious effects of trauma. This healing is the basis of the hopeful phenomenon of post-traumatic growth (Rendon, 2015).

A fourth barrier to transformation is people's strong tendency to self-identify as victims.

Individuals who have been harmed and who derive their entire personal identity from being wronged by someone else, or by society, may find it difficult to grow and transcend their victimhood. We are not making the claim that there are no legitimate victims; there most certainly are people who have been harmed and have real grievances. Our argument is that adopting a strong and permanent victim identity is a sure way of avoiding growth and moving beyond the pain of having been harmed. A highly unfortunate consequence of harboring a victim mindset is the need to scapegoat. People tend to reason that if someone has harmed them, then that perpetrator must be punished. There is no doubt that scapegoating others has been the primary cause of most violence and warfare throughout human history. Until people learn to take individual responsibility for their lives and for their anger, the deadly duo of victimhood and scapegoating will continue to work in concert to thwart heroic transformation.

Another barrier to transformation lies in the absence of good mentorship. Social sources of wisdom, inspiration, and change are critical elements of the hero monomyth as described by Campbell (1949). These social sources appear in the form of friends, mentors, peers, and allies, all of whom represent rich and essential sources of transformation. There are times, moreover, when people encounter the wrong mentor whose advice does more harm than good. Allison and Smith (2015) used the term *dark mentors* to describe these damaging guides who not only undermine people's ability to walk the heroic path; they encourage us down the *wrong* path.

Severe mental and physical illness can also impede people's ability to undergo heroic transformation. Most individuals facing severe mental or physical disability are unable to reap the benefits of the hero's journey because they are preoccupied with managing their condition. Related to this problem is the prevalence of narcissism. Psychologists believe that roughly 6% of US adults are afflicted with narcissistic personality disorder (Bressert, 2018), which means that at least 15 million Americans may be narcissists. The characteristics of narcissism are a heightened sense of importance, a drive for unlimited success, a belief in one's special nature, exploitation of people, little empathy, and an arrogant attitude. Narcissists are unlikely to undergo heroic transformation because they don't believe they need one and thus avoid it entirely (Worthington and Allison, 2018). The narcissist assigns blame for his problems to others, leading the him to believe that other people need to change rather than the narcissist himself.

Finally, people may avoid heroic transformation because they lack psychological flexibility, defined as an individual's ability to adapt to fluctuating situational demands. Those classified as low in psychological flexibility have been shown to experience less growth and development (Kashdan and Rottenberg, 2010). To help people overcome inflexibility, Hayes et al. (2011) developed a therapeutic approach called acceptance and commitment therapy (ACT). The goal of ACT is to increase people's ability to remain in the present moment as a conscious human being, and to learn new behaviors that serve desired goals. Psychological flexibility can be achieved through six core ACT processes, several of which

sound like mindful pathways to Buddhist enlightenment. The six elements of ACT are acceptance, cognitive defusion, presence, seeing the self in context, values, and committed action. All of these processes reflect positive psychological and spiritual skills that enable people to grow and evolve into healthy adaptive human beings. They also resemble Franco et al. (2016) skillset of heroic eudaimonia, which includes mindfulness, autonomy, and efficacy (see also Jones, 2017).

CONCLUSION

This article has reviewed the functions, processes, and consequences of the hero's transformation. William James once observed, "Whenever one aim grows so stable as to expel definitively its previous rivals from an individual's life, we tend to speak of the phenomenon, and even *wonder* at it, as a transformation" (James, 1902, p. 70, italics added). James' use of the word "wonder" implies that people are moved by the transformations they see in people, and also that these transformations are a rare occurrence. As did James, we suspect that many people spend their entire lives resisting change, denying the need for it, and suffering as a result of avoiding it. As Jung (1945) observed, "There is no coming to consciousness without pain. People will do anything, no matter how absurd, in order to avoid facing their own soul. One does not become enlightened by imagining figures of light, but by making the darkness conscious" (p. 335).

The transformed hero exemplifies the zenith of human development. Psychologists have called this state self-actualization (Maslow, 1943), the condition of well-being that allows people to flourish (Seligman, 2011), the achievement of "bliss" (Campbell, 1988), and the experience eudaimonia (Franco et al., 2016). From their journey, heroes accumulate wisdom about their place in the world; they acquire the courage to face their deepest fears; they connect with all of humanity; they seek justice no matter the cost to themselves; they show humility; and they embark on a journey that "opens the world so that it becomes transparent to something that is beyond speech, beyond words, in short, to what we call transcendence" (Campbell, 2014, p. 40; see also Friedman, 2017). The wisdom of writers and philosophers, from Homer in 800 BCE to Phil Zimbardo today, informs us that we are all called to lead a heroic life. Yet most people are unaware of this fact, or they face impediments that impede the realization of their heroic potential. If the ultimate goal of the hero's journey is for the hero to bestow the world with transformative gifts, then one would think that the world would be doing everything possible to promote the hero's journey for everyone. We hope that this article represents progress toward shedding light on why transformation is elusive and what can be done to promote it.

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All authors contributed equally to the development and expression of the ideas in this article.

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REFERENCES

Algoe, S. B. (2012). Find, remind, and bind: the functions of gratitude in everyday relationships. *Soc. Personal. Psychol. Compass* 6, 455–469. doi: 10.1111/j.1751-9004.2012.00439.x

Alicke, M. (2017). *Willful Ignorance and Self-Deception. Psychology Today.* Available at: https://www.psychologytoday.com/us/blog/why-we-blame/201709/willful-ignorance-and-self-deception

Allison, S. T. (2015). The initiation of heroism science. *Heroism Science* 1:1.

Allison, S. T., and Goethals, G. R. (2011). *Heroes: What They do and Why we Need Them.* New York, NY: Oxford University Press.

Allison, S. T., and Goethals, G. R. (2013). *Heroic Leadership: An Influence Taxonomy of 100 Exceptional Individuals.* New York, NY: Routledge. doi: 10.4324/9780203100882

Allison, S. T., and Goethals, G. R. (2014). "Now he belongs to the ages: the heroic leadership dynamic and deep narratives of greatness," in *Conceptions of Leadership: Enduring Ideas and Emerging Insights*, eds G. R. Goethals, S. T. Allison, R. Kramer, and D. Messick (New York, NY: Palgrave Macmillan). doi: 10.1057/9781137472038.0011

Allison, S. T., and Goethals, G. R. (2016). Hero worship: the elevation of the human spirit. *J. Theory Soc. Behav.* 46, 187–210. doi: 10.1057/9781137472038.0011

Allison, S. T., and Goethals, G. R. (2017). "The hero's transformation," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge). doi: 10.1111/jtsb.12094

Allison, S. T., and Setterberg, G. C. (2016). "Suffering and sacrifice: individual and collective benefits, and implications for leadership," in *Frontiers in Spiritual Leadership: Discovering the Better Angels of Our Nature*, eds S. T. Allison, C. T. Kocher, and G. R. Goethals (New York, NY: Palgrave Macmillan).

Allison, S. T., and Smith, G. (2015). *Reel Heroes & Villains.* Richmond, VA: Agile Writer Press.

Bargh, J. A., and Morsella, E. (2008). The unconscious mind. *Perspect. Psychol. Sci.* 3, 12–30. doi: 10.1111/j.1745-6916.2008.00064.x

Barks, C. (2005). *Rumi: The Book of Love.* New York, NY: Harperbooks.

Bergen, P., and Pandey, S. (2005). *The Madrassa Myth.* New York, NY: The New York Times.

Bergman, I. (1961). *Through a Glass Darkly.* Stockholm: Janus Films.

Bressert, S. (2018). *Narcissistic Personality Disorder. Psych Central.* Available at: https://psychcentral.com/disorders/narcissistic-personality-disorder/ [accessed May 21, 2018].

Bronk, K. C., and Riches, B. R. (2017). "The intersection of purpose and heroism: a study of exemplars," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Brown, A. J. (2017). "Whistleblowers as heroes," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Buonanno, P., and Leonida, L. (2006). Education and crime: evidence from Italian regions. *Appl. Econ. Lett.* 13, 709–713. doi: 10.1080/13504850500400 7376

Burns, J. M. (1978). *Leadership.* New York, NY: Harper & Row.

Campbell, J. (1949). *The Hero with a Thousand Faces.* New York, NY: New World Library.

Campbell, J. (1972). *Myths to Live by.* New York, NY: Viking Press.

Campbell, J. (1988). *The Power of Myth.* New York, NY: Anchor Books.

Campbell, J. (1991). *Reflections on the Art of Living.* New York, NY: HarperCollins.

Campbell, J. (2001). *Thou Art that: Transforming Religious Metaphor.* Novata, CA: New World Library.

Campbell, J. (2002). *Flight of the Wild Gander*. San Francisco, CA: New World Library.

Campbell, J. (2004). *Pathways to Bliss*. Novato, CA: New World Library.

Campbell, J. (2014). *The Hero's Journey*. San Francisco, CA: New World Library.

Chakrabortty, A. (2010). *Brain Food: The Psychology of Heroism*. Available at: http://www.theguardian.com/science/2010/mar/09/brain-food-psychology-heroism [accessed September 15, 2015].

Csikszentmihalyi, M. (2008). *Flow: The Psychology of Optimal Experience*. New York, NY: Harper.

Dik, B. J., Shimizu, A. B., and O'Connor, W. (2017). "Career development and a sense of calling: contexts for heroism," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Efthimiou, O. (2015). The search for the hero gene: fact or fiction? *Int. Adv. Heroism Sci.* 1, 1–6.

Efthimiou, O. (2017). "The hero organism: advancing the embodiment of heroism thesis in the 21st century," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Efthimiou, O., and Allison, S. T. (2017). Heroism science: frameworks for an emerging field. *J. Humanist. Psychol.* 41, 1–15. doi: 10.1177/0022167817708063

Efthimiou, O., Allison, S. T., and Franco, Z. E. (2018a). "Definition, synthesis, and applications of heroic wellbeing," in *Heroism and Wellbeing in the 21st Century: Applied and Emerging Perspectives*, eds O. Efthimiou, S. T. Allison, and Z. E. Franco (New York, NY: Routledge). doi: 10.4324/9781315409023

Efthimiou, O., Allison, S. T., and Franco, Z. E. (2018b). "Heroism and wellbeing in the 21st century: recognizing our personal heroic imperative," in *Heroism and Wellbeing in the 21st Century: Applied and Emerging Perspectives*, eds O. Efthimiou, S. T. Allison, and Z. E. Franco (New York, NY: Routledge). doi: 10.4324/9781315409023

Efthimiou, O., and Franco, Z. E. (2017). Heroic intelligence: the hero's journey as an evolutionary and existential blueprint. *J. Genius Eminence* 2, 32–43.

Emmons, R. A., and Stern, R. (2013). Gratitude as a therapeutic intervention. *J. Clin. Psychol.* 69, 846–855. doi: 10.1002/jclp.22020

Erikson, E. H. (1994). *Identity and the Life Cycle*. New York, NY: W. W. Norton & Company.

Esch, T., and Stefano, G. B. (2011). The neurobiological link between compassion and love. *Med. Sci. Monit.* 17, 65–75. doi: 10.12659/MSM.881441

Fagin-Jones, S. (2017). "Holocaust heroes: heroic altruism of non-jewish moral exemplars in Nazi Europe," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Formica, M. J. (2009). *Male Initiation in Post-Modern Culture*. Available at: https://www.psychologytoday.com/us/blog/enlightened-living/200903/male-initiation-in-post-modern-culture

Franco, Z. E., Efthimiou, O., and Zimbardo, P. G. (2016). "Heroism and eudaimonia: sublime actualization through the embodiment of virtue," in *Handbook of Eudaimonic Wellbeing*, ed. J. Vittersø (New York, NY: Springer).

Frankl, V. (1946). *Man's Search for Meaning*. Vienna: Verlag für Jugend und Volk.

Friedman, H. L. (2017). Everyday heroism in practicing psychology. *J. Humanist. Psychol.* 58:002216781769684. doi: 10.1177/0022167817696843

Fumham, A., Osoe, T., and Tang, T. L. (2001). Male hubris and female humility? *Intelligence* 30, 101–115.

Goethals, G. R., and Allison, S. T. (2012). Making heroes: the construction of courage, competence and virtue. *Adv. Exp. Soc. Psychol.* 46, 183–235. doi: 10.1016/B978-0-12-394281-4.00004-0

Goethals, G. R., and Allison, S. T. (2014). "Kings and charisma, Lincoln and leadership: an evolutionary perspective," in *Conceptions of Leadership: Enduring Ideas and Emerging Insights*, eds G. R. Goethals, S. T. Allison, R. Kramer, and D. Messick (New York, NY: Palgrave Macmillan). doi: 10.1057/9781137472038

Grace, J. (2016). *Heroic Counseling*. Available at: https://blog.richmond.edu/heroes/2015/09/01/jaime-graces-heros-journey/ [accessed September 10, 2015].

Haidt, J. (2003). "Elevation and the positive psychology of morality," in *Flourishing: Positive Psychology and the Life Well-Lived*, eds C. L. M. Keyes and J. Haidt (Washington DC: American Psychological Association), 275–289. doi: 10.1037/10594-012

Hanh, T. N. (1999). *The Heart of the Buddha's Teaching*. New York, NY: Broadway Books.

Hayes, S. C., Strosahl, K. D., and Wilson, K. G. (2011). *Acceptance and Commitment Therapy: The Process and Practice of Mindful Change*. New York, NY: The Guilford Press.

Heroic Imagination Project (2018). Available at: https://www.heroicimagination.org/

Heschel, A. J. (1973). *A Passion for Truth*. Woodstock, GA: Jewish Lights.

Hofmann, S. G., Sawyer, A. T., Witt, A. A., and Oh, D. (2010). The effect of mindfulness-based therapy on anxiety and depression: a meta-analytic review. *J. Consult. Clin. Psychol.* 78, 169–183. doi: 10.1037/a0018555

Hollander, E. P. (1995). Ethical challenges in the leader–follower relationship. *Bus. Ethics Q.* 5, 55–65. doi: 10.2307/3857272

Hoyt, C. L. (2014). "Social identities and leadership: the case of gender," in *Conceptions of Leadership: Enduring Ideas and Emerging Insights*, eds G. R. Goethals, S. T. Allison, R. M. Kramer, and D. M. Messick (New York, NY: Palgrave Macmillan).

Israeli, H., Itamar, S., and Shahar, G. (2018). The heroic self under stress: prospective effects on anxious mood in Israeli adults exposed to missile attacks. *J. Res. Pers.* 75, 17–25. doi: 10.1016/j.jrp.2018.05.003

James, W. (1902). *The Varieties of Religious Experience*. Boston, MA: Bedford. doi: 10.1037/10004-000

Jones, P. (2017). Mindfulness-based heroism: creating mindful heroes. *J. Humanist. Psychol.* 58:002216781771130. doi: 10.1177/0022167817711303

Jung, C. (1945). *Alchemical Studies*. Princeton, NJ: Princeton University Press.

Jung, C. (1956). *The Archetypes and the Collective Unconscious*. Princeton, NJ: Princeton University Press.

Kashdan, T., and Rottenberg, J. (2010). Psychological flexibility as a fundamental aspect of health. *Clin. Psychol. Rev.* 30, 865–878. doi: 10.1016/j.cpr.2010.03.001

Keck, B., Compton, L., Schoeneberg, C., and Compton, T. (2017). Trauma recover: a heroic journey. *Heroism Sci.* 2:5.

Keltner, D. (2009). *Born to be Good*. New York, NY: Norton & Company.

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015). Lay perspectives on the social and psychological functions of heroes. *Front. Psychol.* 6:130. doi: 10.3389/fpsyg.2015.00130

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2017). "Attributes and applications of heroes: a brief history of lay and academic perspectives," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Kohen, A., Langdon, M., and Riches, B. R. (2017). The making of a hero: cultivating empathy, altruism, and heroic imagination. *J. Humanist. Psychol.* 41, 1–17. doi: 10.1177/0022167817708064

Kramer, R. M. (2017). "To become or not to become? Existential courage and the pursuit of desired identities," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Kurtz, E., and Ketcham, K. (1992). *The Spirituality of Imperfection*. New York, NY: Bantam Books.

Langdon, M. (2018). *The Hero Construction Company*. Available at: http://www.theherocc.com/ [accessed June 15, 2018].

Latane, B., and Darley, J. (1969). Bystander "Apathy". *Am. Sci.* 57, 244–268.

Le Grice, K. (2013). *The Rebirth of the Hero: Mythology as a Guide to Spiritual Transformation*. London: Muswell Hill Press.

Lopez, S. J., and Snyder, C. R. (eds). (2011). *The Oxford Handbook of Positive Psychology*. New York, NY: Oxford University Press.

Loy, D. (1988). *Nonduality*. New York, NY: Humanity Press.

Machin, S., Olivier, M., and Sunčica, V. (2011). The crime reducing effect of education. *Econ. J.* 121, 463–484. doi: 10.1111/j.1468-0297.2011.02430.x

Maslow, A. (1943). A theory of human motivation. *Psychol. Rev.* 50, 370–396. doi: 10.1037/h0054346

Milgram, S. (1963). Behavioral study of obedience. *J. Abnorm. Soc. Psychol.* 67, 371–378. doi: 10.1037/h0040525

Nisbett, R., and Wilson, T. D. (1977). Telling more than we can know. *Psychol. Rev.* 84, 231–259. doi: 10.1037/0033-295X.84.3.231

Perry, G. (2017). *The Descent of Man*. New York, NY: Penguin Books.

Phipps, R. (2011). *My Trip to Melbourne*. Available at: http://quotationsbook.com/quote/35768/ [accessed September 8, 2015].

Piff, P. K., Dietze, P., Feinberg, M., Stancato, D. M., and Keltner, D. (2015). Awe, the small self, and prosocial behavior. *J. Pers. Soc. Psychol.* 108, 883–899. doi: 10.1037/pspi0000018

Ramos, C., and Leal, I. (2013). Posttraumatic growth in the aftermath of trauma: a literature review about related factors and application contexts. *Psychol. Commun. Health* 2, 43–54. doi: 10.5964/pch.v2i1.39

Ramsland, K. (2015). *Educated Serial Killers. Psychology Today.* Available at: https://www.psychologytoday.com/us/blog/shadow-boxing/201509/educated-serial-killers

Rank, O. (1909). *Der Mythus von der Geburt des Helden.* Berlin: Franz Deuticke.

Rendon, J. (2015). *Upside: The New Science of Post-Traumatic Growth.* New York, NY: Touchstone.

Rohr, R. (2005). *On Transformation [Audiobook].* Cincinnati, OH: Franciscan Media.

Rohr, R. (2009). *The Naked Now: Learning to See What the Mystics See.* New York, NY: Crossroad Publishing Company.

Rohr, R. (2010). *Richard Rohr on Transformation [Audiobook].* Cincinnati, OH: St. Anthony Messenger Press.

Rohr, R. (2011a). *Breathing Under Water.* Cincinnati, OH: Franciscan Media.

Rohr, R. (2011b). *Falling Upward.* Hoboken, NJ: Jossey-Bass.

Rohr, R. (2014). *Eager to Love.* Cincinnati, OH: Franciscan Media.

Ross, S. L. (2017). The making of everyday heroes: women's experiences with transformation and integration. *J. Humanist. Psychol.* 41, 1–23. doi: 10.1177/0022167817705773

Sedikides, C., and Hepper, E. G. D. (2009). Self-improvement. *Soc. Personal. Psychol. Compass* 3, 899–917. doi: 10.1111/j.1751-9004.2009.00231.x

Seligman, M. E. P. (2011). *Flourish.* New York, NY: Atria Books.

Shahar, G. (2013). The heroic self: conceptualization, measurement, and role in distress. *Int. J. Cogn. Ther.* 6, 248–264. doi: 10.1521/ijct.2013.6.3.248

Simmons, A. (2012). *The Crab Syndrome.* San Antonio, TX: Antuan Simmons.

Song, C. (2002). *Third-Eye Theology.* Eugene, OR: Orbis Books.

Sperry, L. (2011). *Spirituality in Clinical Practice.* New York, NY: Routledge.

Svoboda, E. (2013). *What Makes a Hero? The Surprising Science of Heroism.* London: Current.

Swann, W. B. Jr. (2012). "Self-verification theory," in *Handbook of Theories of Social Psychology*, eds P. Van Lang, A. Kruglanski, and E. T. Higgins (London: Sage), 23–42. doi: 10.4135/9781446249222.n27

Tenney, M. (2017). *Why you should Train for Empathy, and How to do it. Huffington Post.* Available at: https://www.huffingtonpost.com/matt-tenney/why-you-should-train-for-_b_7485950.html

Theirworld (2017). *Education is the Key to Everything, Says New Chief of UN Humanitarian Aid.* Available at: https://theirworld.org/news/new-un-humanitarian-chief-mark-lowcock-education-key-to-everything

Thomson, A. L., and Siegel, J. T. (2013). A moral act, elevation, and prosocial behavior: moderators of morality. *J. Posit. Psychol.* 8, 50–64. doi: 10.1080/17439760.2012.754926

Tolle, E. (2005). *A New Earth.* New York, NY: Penguin Books.

Turner, V. W. (1966). *The Ritual Process: Structure and Anti-Structure.* Ithaca, NY: Cornell University Press.

Tyler, T. R., and Lind, E. A. (1992). A relational model of authority in groups. *Adv. Exp. Soc. Psychol.* 25, 115–191. doi: 10.1016/S0065-2601(08)60283-X

Vaillant, G. E. (2012). *Triumphs of Experience.* Cambridge, MA: Belknap Press. doi: 10.4159/harvard.9780674067424

van Gennep, A. (1909). *The Rites of Passage.* Paris: Émile Nourry.

Wade, G. H. (1998). A concept analysis of personal transformation. *J. Adv. Nurs.* 28, 713–719. doi: 10.1046/j.1365-2648.1998.00729.x

Wegner, D. (2002). *The Illusion of Conscious Will.* Cambridge, MA: MIT Press. doi: 10.7551/mitpress/3650.001.0001

Wilber, K. (2007a). *A Brief History of Everything.* Boulder, CO: Shambhala.

Wilber, K. (2007b). *Integral Spirituality.* Boulder, CO: Shambhala.

Williams, C. (2018). "The hero's journey: a mudmap to wellbeing," in *Heroism and Wellbeing in the 21st Century: Applied and Emerging Perspectives*, eds O. Efthimiou, S. T. Allison, and Z. E. Franco (New York, NY: Routledge).

Worthington, E. L. (2013). *Forgiveness and Reconciliation: Theory and Applications.* New York, NY: Routledge.

Worthington, E. L., and Allison, S. T. (2018). *Heroic Humility: What the Science of Humility Can Say to People Raised on Self-Focus.* Washington, DC: American Psychological Association. doi: 10.1037/0000079-000

Worthington, E. L., Davis, D. E., and Hook, J. N. (eds). (2017). *Handbook of Humility: Theory, Research, and Applications.* New York, NY: Routledge.

Wilber, K. (2001). *A Theory of Everything.* Boulder, CO: Shambhala.

Yalom, I., and Leszcz, M. (2005). *Theory and Practice of Group Psychotherapy.* New York, NY: Basic Books.

Zimbardo, P. (2008). *The Lucifer Effect: Understanding how Good People Turn Evil.* New York, NY: Random House.

Exploring Narrative Structure and Hero Enactment in Brand Stories

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This study examines how audiovisual brand stories both invite and enable consumers to enact heroic archetypes. Integrating research on the archetypal structure of narratives with research on the event structure of narratives, we distinguish singular plot stories (i.e., stories that *show* a Hero's Journey) from embedded plot stories (i.e., stories that not only show but also *tell* one or more Hero's Journeys) and develop a conceptual and narratological framework to analyze their structural elements. Application of the framework to 20 brand stories representing 8 different brands reveals meaningful variation in elements between the singular plot stories and embedded plot stories. Differences in the expression of archetypes and event structure are argued to evoke different types of Hero enactment which in turn result in different outcomes. We specifically hypothesize that the enactment of heroic archetypes in singular plot stories primarily results in *catharsis* (pleasure), whereas the enactment of heroic archetypes in embedded plot stories primarily results in an outcome we describe as *phronesis*: a form of moral sense making of the self that advances one's practical wisdom and prudence. The final section of the paper discusses how cathartic and phronetic outcomes of hero enactment may foster the psychological bonding between brand and consumer, and invite consumers to align their moral values with the values that are reflected by heroic character traits. The central aims of the analysis presented are to provide an exploration of narrative phenomena in a reasonably broad range of brand story videos and foremost to provide a conceptual framework with an applicable instrument suited to analyze relevant categories in these brand stories. The present study is interdisciplinary in its approach to a contemporary, developing marketing phenomenon, applying psychological modeling of archetypes and heroic values with narratological insights on perspective-taking and story structure. Its contribution is to systemize, from a narratological viewpoint, how various narrative archetypes in brand video stories may contribute to the development of brand-consumer relations.

Keywords: archetype, brand story, brand video, catharsis, enactment, heroism, narrative, phronesis

INTRODUCTION

Stories are told in every domain of social life: parents tell their children bedtime stories about dragons and castles, teachers tell their students stories about history and society, musicians sing their fans stories about budding and fading romances, organizations tell their stakeholders stories about their past performances and future goals, and novelists tell their readers stories about possible lives in possible worlds. The human inclination to communicate via stories rather than expository

information is often explained by the presumption that narrative is deeply rooted in both our cultural and biological makeup (e.g., Boyd, 2009; Niles, 2010). It has in fact been argued, most notably by Bruner (1986), that narrative is a specific mode of thought, different from logical reasoning, on which we rely in making sense of the world and the self (see also Bruner, 1991, 2004).

While each story is unique and stories vary greatly in content and style, they share a foundation of recurring prototypical elements called archetypes. Perhaps the most well-known character archetype is that of the Hero who embarks on a quest to find a treasure and faces one or more obstacles along the journey while being supported by a helper. This template of *The Hero's Journey* (Campbell, 1949) can be recognized in stories as diverse as ancient poems such as The Odyssey, Hollywood movies such as the Indiana Jones series, and brand advertisements. An example of the latter category is a Dutch story from 2016 by tea brand Pickwick.[1] The audiovisual story is part of a campaign entitled "Tea Topics" which released a series of brand videos in which customized tea labels play a central role. Beau's Tea Topic is about a young girl who is frustrated that her mother, whom she used to be very close to, has been spending an increasing amount of time with her smartphone and less with her daughter (see **Figure 1**). In the filmed narrative, she invites her mother for a walk in the woods, and sitting down for a rest she hands her mother a tea bag with a question printed on its label: *Could you please turn off your phone for 1 day?* The girl subsequently explains her frustration, upon which the mother makes a promise to change her behavior. After this exchange, they drink tea together and walk back arm in arm. In this story, the archetypal role played by the girl is that of the Hero, whereas the brand fulfills the archetypal role of the Helper that supports the Hero in completing the difficult quest of confronting her mother with her behavior so as to restore their relationship.

Brand stories like the Pickwick story deviate from traditional marketing and advertising efforts in that the promotion of the product or service is of secondary importance (Laurence, 2018). The central goal of brand stories is to "design brand experiences that stretch beyond mere products and price points" (Smith and Wintrob, 2013, p. 37). A specific consumer experience is that of *archetype enactment*, which refers to the experience of adopting the role of an archetypal character and vicariously performing the actions central to the brand story (Woodside et al., 2008). This enactment, which has both a psychological and an embodied component, may result in pleasure and in sense making (Woodside, 2010). Although pleasure and sense making are both consumer-centered (rather than brand-centered) outcomes, they differ in that the former is dominantly emotional in nature and the latter dominantly rational. The present study explores how brand stories aim to evoke these outcomes by scrutinizing the narrative structures of brand stories. Specifically, it will be studied how narrative brand videos both invite and enable viewers to enact heroic archetypes. To that end, research on the archetypal structure of narratives (Campbell, 1949) is integrated with research on the event structure of narratives (Labov and Waletzky, 1967; Labov, 2010), leading up the development of a

conceptual framework to analyze audiovisual brand stories. We subsequently analyze 20 brand stories in an initial assessment of the framework's viability. Results of the analysis give rise to the generation of testable hypotheses about the relation between the archetypal and narrative structure of brand stories, the nature of consumers' hero enactment, and outcomes of pleasure and sense making. As such, this study aims to further develop the evolving field of Heroism Science (Allison, 2016).

FIGURE 1 | Start of the Pickwick story showing the mother occupied with her smartphone. Image reproduced with the permission of Jacobs Douwe Egberts.[2]

Narrative Archetypes

Research on narrative archetypes is rooted in the work by Jung (1916) and Campbell (1949). Central to their work is the understanding that part of the human psyche is universal in that it houses "content and modes of behavior that are more or less the same everywhere and in all individuals" (Jung, 1916, p. 4). This "collective unconsciousness" is structured around recurrent patterns and symbols called *archetypes*. Archetypes can be *events*, such birth and initiation, *figures*, such as the hero and the trickster, or *motifs*, such as the apocalypse and the deluge. Jung (1916) proposes that archetypes are both innate and universal, which, as he argues, explains for their capacity to organize human experience and to guide people through the cycle of life, from the early stage of being born and parented to the final stage of preparing for death. Archetypes are in this view understood to be unconscious concepts that change into "conscious formulae" through expression in cultural artifacts such as myths and fairytales (Jung, 1916, p. 4).

The expression of an archetype in cultural artifacts reinforces the archetype through repetition. In narrative in particular, the same archetypes are evoked over and over again, across time as well as across cultures. As argued by Campbell (1949), virtually all narratives are structured around a limited number of archetypes. A highly dominant structure is that of *The Hero's Journey*, a generic template of archetypal events,

[1]https://www.youtube.com/watch?v=GBi77q-BY3s

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[2] JACOBS DOUWE EGBERTS, owner of Pickwick, has given permission to the authors to use figures and stills from the video "Pickwick: de Tea Topic van Beau" in this article. The authors hereby confirm that writing this article was their own initiative.

figures, and motifs of which the details vary per story. This "monomyth" is described by Campbell (1949, p. 23) as follows:

> "A hero ventures forth from the world of common day into a region of supernatural wonder: fabulous forces are there encountered and a decisive victory is won: the hero comes back from this mysterious adventure with the power to bestow boons on his fellow man".

Instantiations of The Hero's Journey include several or all of seventeen stages that are divided into three acts: the departure, the initiation, and the return. The *call to adventure* marks the beginning of the journey, when the Hero is "drawn into a relationship with forces that are not rightly understood" (Campbell, 1949, p. 42). Upon responding to the call, an encounter with a *supernatural aid* is likely to follow that provides the Hero with "amulets against the dragon forces he is about to pass" (Campbell, 1949, p. 59). In the Pickwick story, the brand provides the girl with the courage to confront her mother with her egocentric behavior by means of a tea bag which has the message printed on the label.

In the initiation stage the Hero faces and overcomes difficult obstacles, with the result of being rewarded with a treasure. Drinking tea with a mother who is not distracted by her smartphone is Beau's treasure in the Pickwick story, received after overcoming the obstacle of having a difficult conversation about her feelings. The Hero then returns home, transformed by the journey. Pickwick depicts this return in the final shot of the video when Beau and her mother walk away from the camera, now arm in arm (see **Figure 2**). Notably, both characters have undergone a transformation that can be characterized as emotional in nature (Allison and Smith, 2015): Beau has transformed from frustrated to courageous and happy and the mother has transformed from a distracted and disconnected into an attentive and committed person. The mother has in fact undergone the greatest transformation, which exemplifies how heroes need not always be significantly transformed themselves but can express their heroism by sparking transformations in others (Allison and Goethals, 2017). In addition, viewers may identify either with the narrative's central hero or with another character depending on their own cultural or societal position, for instance – in the Pickwick story's case – as a daughter or as a mother.

Both Jung's work on archetypes and Campbell's work on the Hero's Journey have been criticized for providing a gendered, i.e., dominantly masculine, account of heroism (e.g., Goldenberg, 1976; Nicholson, 2011). The concepts developed in their work are nevertheless useful in understanding why people are naturally attracted to stories: their generic template shows similarities with the life cycle of individuals. Like the Hero in a narrative, individuals undergo transitional stages in their lives. These include changes resulting from life experiences (separation, moving elsewhere, job change) as well as life transitions and changes in societal status (adolescence, relationship, parenthood, old age), that are ritualized and celebrated in *rites of passage* (such as wedding, baptism, first Communion, bat and bar mitzvah, funeral; see Van Gennep, 1909). The resemblance of life cycles and their transitional phases makes stories universally resonating

FIGURE 2 | End of the Pickwick story showing mother and daughter walking away arm in arm. Brand slogan *Pickwick - Neem de Tijd [Take the Time]*. Image reproduced with the permission of Jacobs Douwe Egberts.

and explains why they can generate deeper insight into the self and the other. Research on archetypes provides us with a framework within which to deepen this understanding and in particular with the language and concepts to capture the nature of the relation between story characters and audience members. The framework has proven useful in the analysis of stories as diverse as narrative video games (Buchanan-Oliver and Seo, 2012) and popular songs (Almén, 2003). The present study employs and extends the conceptual framework to examine the characteristics of audiovisual brand stories with the goal of gaining insight into as well as formulating expectations about the experiences these stories elicit in consumers. Understanding the relation between narrative archetypes, archetype enactment, and narrative outcomes can be advanced by examining the archetypal structure in combination with narrative structure, i.e., the presentation of elements that together form the story plot.

Story Structure

Research on narrative plot structures has a long history and is similar to research on narrative archetypes in its focus on recurring story patterns. Much work in this area has been concerned with folktales. Propp (1928), for example, identified 31 elements that are characteristic of Russian fairytales. This inventory includes an *absentation* that marks the beginning of a fairytale in which one of the characters leaves home, a struggle, a victory, a return, and, finally, a wedding. This classification has, indeed, been of influence to Campbell's (1949) work on The Hero's Journey.

Departing from narratives in dialog, a complementary structural classification of story elements was developed by Labov and Waletzky (1967). Their influential categorization is based on the notion of narratives' tellability, that is, the degree to which the story's plot allows the narrator to claim interactive space and attention. Analyzing conversational stories, they distinguish six core elements that together form the essential story plot (Labov and Waletzky, 1967; Labov, 2010). The *orientation* refers to the opening of the story world by introducing the setting and characters (who? what? where? when?). The first scenes of the Pickwick story constitute the orientation by introducing the

FIGURE 3 | Still from the *Pickwick* story showing the mother opening the packaging and revealing the customized question printed on the tea bag label. Image reproduced with the permission of Jacobs Douwe Egberts.

FIGURE 4 | Still from the Pickwick Story showing Beau who, after her mother has read the tea bag label, tells her that she should spend more time with her [literally*: You have less time for me*]. Image reproduced with the permission of Jacobs Douwe Egberts.

FIGURE 5 | Still from the *Pickwick* story showing Beau and her mother before the critical event, looking into the camera and the mother talking into the camera. [Literally: *"I really have no idea what Beau is about to ask me. Really not, no."*] Image reproduced with the permission of Jacobs Douwe Egberts.

characters and the story's setting. Images of the Heroine Beau, playing a match with her soccer team, her father and her mother are accompanied by Beau's voice: *"I am Beau. This is my father and he is my soccer coach. And this is my mom and she is always busy with her phone."*

The *complicating actions* are the events leading up to the *critical event* of the story: the central event that lends the story its 'tellability,' i.e., the reason and justification for the story to be told. The function of the complicating actions is to lead the viewer to the critical event: Beau asking her mother, by handing her a customized tea bag label, to turn her phone off for 1 day (see **Figure 3**). Notably, the critical event is the first part of the story in which Pickwick plays a role. At this crucial point, the tea bag is shown from the perspective of the mother as if we are looking through her eyes. We read along with her the question printed on its label: *"Could you please turn off your phone for 1 day?"*

The *resolution* refers to the story's outcome. Beau's mother responds positively to the question, after which Beau explains that she would like some more attention. After a brief moment of reluctance, her mother agrees once more to change her behavior. During this dialog, the camera switches from over mother's shoulder when Beau is talking to over Beau's shoulder when her mother is talking, thus signifying the importance of listening to one another. Then a close-up of two cups of tea is shown, which communicates to the consumer that drinking tea together provides a good opportunity for listening and talking (see **Figure 4**).

The *coda* is the moment where the connection is made with the here-and-now speech situation (in interaction, serving to offer the other interlocutor an opportunity to take over the turn). Thus, it refers to the transition from the story world back into the here-and-now. The final scene of the Pickwick story (see **Figure 2** above) constitutes the coda by showing Beau and her mother walking away from the camera. The brand's logo is shown along with the slogan "Take the time." Here, the Pickwick brand functions as a bridge between the story world and the here-and-now world of the viewer in which the brand's slogan functions as an advice to the viewer: *[You] take the time [in your own situation]*.

Throughout a story, *evaluations* can be used that signify the character's or the narrator's comments on the events. Evaluations are typically quotations expressing personal experiences (Labov, 2010), such as the emotional impact of the story events or the considerations taken into account when facing a dilemma. The critical event of the Pickwick story is preceded by an evaluation (see **Figure 5**). This evaluative scene shows Beau standing next to her mother, both looking in the direction of the camera, with the mother stating she has no clue what her daughter is up to. Such evaluations, spoken outside the kernel narrative, serve to facilitate the viewers' identification with particular narrative characters' experiences – typically extraordinary or impactful experiences that justify the story to be told (cf. Bell, 1995; Labov, 2010). This will be elaborated in the next section.

Narrating Voices
Audiovisual brand stories such as the Pickwick story of Beau invite the viewer to enact narrative characters' acts and emotions. This is facilitated not only by visual elements *showing* the story, but also by auditive elements such as speech and textual

elements *telling* the story. Visual, auditive and textual elements typically interact in brand videos in representing a story from various – possibly intertwined – perspectives (Sweetser, 2017). For instance, characters can talk to each other within the story or to him- or herself, but alternatively, the character can speak either directly to the camera, implying they talk to an invisible person standing next to the camera, or directly to the viewer in a voice-over or text-over while footage of the past or future experiences of the character is shown.

These distinctive positions steer different, genre-connected expectations. Two main brand story genres can be distinguished: singular narratives and embedded narratives. In a singular (fictional) narrative, the story is *shown* by events that tell themselves (De Jong, 2014, p. 4), played out by characters who navigate on a narrative timeline unconnected to the viewer; direct interaction with the film maker and/or viewer is not part of the narrative world. Such interactions are, by contrast, characteristic of embedded narratives. In an embedded narrative, characters refer to themselves and their opinions in interaction with the film maker and/or the viewer (De Jong, 2014, p. 4). This indicates that the (most often non-fictional) characters are not separated from, but connected to the viewers' time line (Sanders and Van Krieken, forthcoming). Inserting such film maker- or viewer-directed utterances supports and legitimizes the narrative's credibility, specifically when *evaluations* are brought in: moments where characters *tell* about their thoughts, feelings and strivings. For instance, the transition from the orientation to the complicating actions is in the Pickwick story marked by a change in setting from the soccer field to Beau's bedroom (see **Figure 6**), where she explains to an interlocutor who is not visible that recent changes in her mother's behavior have negatively affected their once close relationship.

This scene bears resemblance to what has been identified as a legitimizing scene in written newspaper narratives (Van Krieken and Sanders, 2016; Van Krieken et al., 2016). In such news stories, which reconstruct past news events (such as a crime or disaster), frequent transitions take place to a setting – typically a press conference, interview, or court session – in which the news actors elaborate and reflect on these events. Such settings

are conceptualized as legitimizing because they serve a function of demonstrating that the journalist rightfully and truthfully reconstructs the narrative sequence of news events. Likewise, the scene in Beau's bedroom fulfills a legitimizing function in that it introduces Beau as a real person with a real problem, thereby lending the story authenticity and credibility.

The story's credibility is further enhanced by subsequent short clips that support Beau's speech and that are ostensibly captured by a hidden camera: a clip showing mom sitting in the living room, watching her phone again and not paying attention to her daughter coming in and giving her a kiss; and a clip showing a clearly frustrated Beau at a bus stop, sitting next to her mother who is watching her phone (see **Figure 7**).

During these scenes from various locations, Beau's voice continues to narrate about the recent estrangement between her mother and herself, thus supporting the tellability of the story of which the climax is about to be shown. The embedding evaluative scenes invite the viewer to identify with the Hero character's authentic experiences. Embedding a story plot puts a focus on a particular character as the Speaking Hero whose voice interacts with the viewer in *telling* aspects of the story on top of what is *shown*, thus offering an instrument to further enhance identification with brand stories' Heroes. In branding and marketing literature, such identification by consumers is defined in terms of Hero enactment.

Hero Enactment

Branding experts' interest in narrative archetypes has increased exponentially over the past two decades, as witnessed by a growing number of professional books promoting storytelling as a communication mode capable of creating strong brands (e.g., Martin, 2010; Gioglio and Walter, 2018). Practitioners and scholars alike consider narrative archetypes effective in establishing meaningful psychological relations between brand and consumer (Herskovitz and Crystal, 2010; Nelson, 2018). These relations emanate through the identification of connections between the narrative of the brand and the autobiographical narrative of the consumer (Ochoa and Lorimer, 2017). Narrative archetypes

FIGURE 6 | Still showing Beau talking to an invisible interlocutor in her bedroom, telling that the only way to reach her mother was [Literally: *"to send her an app and talk to her that way"*]. Image reproduced with the permission of Jacobs Douwe Egberts.

FIGURE 7 | Still from the Pickwick story showing Beau sitting next to her mother at a bus stop. Image reproduced with the permission of Jacobs Douwe Egberts.

are instruments to disclose as well as interpret these connections via a process of identity mapping. Archetypes communicated by a brand express its identity and resonate therefore most with individuals whose (desired) identity is, at least at that specific moment in their lives, composed of the same archetypes. In other words, consumers identify with brands whose identities map onto their own identities in terms of its archetypal components. This *consumer-brand-identification* has various positive effects for the brand: it increases commitment to the brand (Tuškej et al., 2013), brand loyalty and brand advocacy (Stokburger-Sauer et al., 2012), and purchase intentions (Kuenzel and Vaux Halliday, 2008).

The consumer's relation with a brand can manifest itself at different levels, dependent on the needs and goals of the consumer (Schmitt, 2012). At the object-centered level, the relationship is driven by a functional need to acquire information about and benefits from the brand. At the self-centered level, the relationship between brand and consumer is characterized by its personal relevance to the consumer. At the social level, the relationship is driven by the consumer's desire of belonging to a community. While consumers can engage in relations with brands at one, two, or all three levels, the importance of the relation to the consumer increases from little meaningful at the object-centered level to intermediate meaningful at the self-centered level and, finally, to most meaningful at the social level. Brands can develop and foster these relations through advertising. Whereas traditional advertisements typically focus on product characteristics and service promotion, thus appealing to the object-centered level, brand stories are much more aimed at consumers and their individual and social identities, thus appealing to the self-centered and social level. The Pickwick story, for example, does not include explicit information about the tea product nor about the brand. Instead, it relates the individual experiences of a young girl in her efforts to improve the relationship with her family. The story thus communicates to consumers that the Pickwick brand enables them to be empathetic and brave individuals and, by implication, to create and maintain strong social bonds. As such, the story is targeted at both the self-centered and the social level of the consumer's relation with the brand.

The concept of *archetype enactment* helps to understand the process via which brand stories affect the relation between consumer and brand (Woodside et al., 2008; Woodside, 2010). When enacting an archetype in a story, consumers adopt the role of a narrative character and vicariously experience in cognitive, emotional, moral or even embodied way, the narrated actions and events (Efthimiou, 2016; Sanders, 2017; Van Krieken et al., 2017). Enacting an archetype implies that the consumer is not a passive audience member, but, via simulation, an active participant in the story (cf. Mar and Oatley, 2008; Oatley, 2011). Because such participation is an intense form of story processing, it may result in positive outcomes for the consumer that stretch beyond the boundaries of the story into the daily life of the consumer, such as pleasure and sense making, which have been identified as the main outcomes of archetype enactment (Woodside, 2010). Although a single brand story can evoke either one or both outcomes, achieving "deep satisfying levels of sense making" is

argued to be facilitated by pleasure, implying that sense making is of higher order (Woodside, 2010, p. 534).

Feelings of pleasure arise from the intense emotions experienced by the consumer and have therefore been described as *cathartic* in nature (Woodside, 2010; derived from the Greek noun *catharsis*). In the Pickwick story, emotional relief and happiness are felt when the young girl's request visually stirs her mother and brings mother and daughter together. By contrast, sense-making is primarily rational and may arise from enacting the character's examination of the self and others. Enacting the moral judgments narrative characters make with regard to their actions and decisions and those of others may cause consumers to evaluate and sharpen their own moral views. This outcome we describe as *phronetic* in nature: it is a form of moral sense making of the self that advances one's practical wisdom and prudence [derived from the Greek noun *phronesis*; see Aristotle's (2011) Nichomachean Ethics for an elaborate treatment of the concept]. The Pickwick story appeals to morality in two ways. First, the young girl implicitly characterizes her mother's behavior as morally inappropriate in the sense that it harms the family bond. Second, in facing the difficult task of confronting her mother with her behavior in an attempt to reestablish the bond, she finds courage by accepting the practical help of a teabag label, by implication advocating the wisdom of drinking tea together; note that the brand's slogan is Take the Time (Dutch *Neem de Tijd*). Consumers enacting the Hero archetype may be prompted to reevaluate their own family relations and, when considered necessary, may find themselves empowered to take action in a prudent way, for instance by taking the time to drink tea together and bringing up what is essential. Such an outcome is in line with the understanding that hero narratives fulfill two related functions: an *epistemic* function by offering scripts for prosocial action, by revealing fundamental truths about human existence and life paradoxes, and by cultivating emotional intelligence; and an *energizing* function by promoting moral elevation, inspiring psychological growth, and offering options and motivations to act (Allison and Goethals, 2016). In the Pickwick narrative, a script for confrontation and reconciliation is offered that presupposes a courageous and empathetic modus operandi; these traits in the story's hero may be evoked and enforced in viewers when they imagine acting out a similar line of events in their own context. The quality of "becoming the Hero" via heroic enactment is thus strengthened if the use of archetypes from The Hero's Journey resonates heroic traits and their corresponding moral values of the brand story's narrative characters.

The Hero character traits and values in brand stories may be aligned with traits and values that have been associated with heroes and moral exemplars in the heroism literature (Allison and Goethals, 2016; Fagin-Jones, 2017). Allison and Goethals (2011) distinguish eight trait clusters of Heroes: smart, strong, caring, selfless, charismatic, resilient, reliable, and inspiring (the "Great Eight"; Allison and Goethals, 2011). From these traits, the Heroine character in the Pickwick narrative can be described as selfless (for being brave in revealing her deepest wishes while confronting her mother) and caring (for being empathetic and committed to the bond between her mother and herself), but also smart (for using a cleverly disguised strategy) and resilient

(for enduring the previous period of detachment and staying committed).

The great diversity in brand stories, specifically in their expression of narrative archetypes, allows for different ways in which consumers' archetype enactment can lead to cathartic and phronetic outcomes, and for resonating with various (combinations of) traits and values in heroic characters. Crucially, not all stages and characters of The Hero's Journey have to be represented in a given narrative and, likewise, some stages and narrative roles may be emphasized more strongly than others. Understanding the relative importance of the various stages helps to understand the nature of archetype enactment pursued by brand stories. For example, a given brand story may invite consumers to enact the Hero while the brand is framed as the Helper supplying a Supernatural Aid, which is the case in the Pickwick story. Another brand story may invite consumers to enact the Helper archetype that helps the brand, represented as the Hero, to fulfill its journey. The brand as Supernatural Aid could be introduced during the resolution, supportive to the Hero in celebrating the completion of the quest, inviting the consumer to enact the reward of cathartic feelings such as *decreased vulnerability* and *satisfaction*. This type of enactment is evoked by the Pickwick story: during the story's resolution, daughter and mother drink Pickwick tea together. Alternatively, or complementary, the Brand as Supernatural Aid can be introduced or foregrounded during the critical event, when it is supportive to the Hero in dealing with obstacles, inviting the consumer to enact phronetic experiences in which *wisdom* and *guidance* are central. This is also the case in the Pickwick story, in which the customized tea bag label is introduced during the story's critical event: the young girl confronting her mother. In other words, the combination of a story's archetypal structure and its narrative structure is meaningful and can be expected to influence the nature and outcome of the consumer's archetype enactment.

Summarizing the previous, consumer enactment of brand story Heroes is likely to vary because of specific archetypal structures in the narrative plot and may be enforced by the narrative plot *showing* the story, as well as by the embedding of interactive voices *telling* the story. Depending on the interplay between showing the narrative plot and telling by narrative voices, enactment can invite consumers to develop feelings toward the brand that represent catharsis or phronesis, as well as moral values that align with heroic character traits that are reflected in the story plot. In the remainder of this study, we aim to explore how showing and telling interact in brand story videos to explain for various types of narrative enactment with brands' archetypal Heroes. Following up on previous research entailing case studies (Papadatos, 2006; Ochoa and Lorimer, 2017; Laub et al., 2018), we present a conceptual framework that allows for an interdisciplinary and systematic investigation of brand stories. In this approach, the psychological models on archetypes and their representation are combined with psychological insights on heroic values and with narratological insights on perspective-taking and story structure. The resulting framework is applied in an initial analysis of 20 brand videos, aiming to assess its viability and to formulate expectations on possible consumer effects.

STUDY

In order to gain more insight into the relation between brand stories and the nature and outcomes of archetype enactment, we conducted an analysis of a variety of brand stories. We showed the Pickwick brand story discussed in Section "Introduction" as well as a second, comparable brand story by Pickwick to a class of master students enrolled in a course on storytelling. We explained why these advertisements can be considered to be stories (rather than traditional non-narrative advertisements) and subsequently asked the students to select brand videos that they considered narrative and found to be attractive. This procedure allowed us to explore the extent to which brand stories that are *actually found* to be attractive by consumers display the archetypal structures that are *generally thought of* as being attractive. More specifically, it allowed us to determine the extent to which consumers are attracted to brand stories that show archetypal characteristics of The Hero's Journey. This aim was informed by the widespread but yet to be tested contention that consumers, as well as audience members in general, are attracted to stories more than to other communication formats because stories are structured around archetypes that people can and want to relate to (e.g., Papadatos, 2006; Herskovitz and Crystal, 2010; Nelson, 2018). This procedure also enabled us to attain the second aim of our study: uncovering how the archetypal and narrative structure of brand stories act and interact in eliciting different types of archetype enactment, and exploring how this enactment may in turn allow for cathartic and/or phronetic outcomes.

Collection of Brand Stories

A set of brand stories was collected by a group of 27 master students who were blind to the objectives of the study. Our aim was to assemble a representative set of at least 20 stories covering a reasonably broad range of brands. In small groups of two to four students, they were asked to collect videos that had been broadcast on television and/or posted online on corporate websites or social media channels. The students were instructed to select brand videos that met two criteria. First, they had to be *narratives* in terms of Labov and Waletzky's (1967) criteria: the videos must entail a time lapse in which, at the minimum, time progresses from T_0 to T_1 and must include at least one character that could be identified as *subject of consciousness*, i.e., a character who consciously experiences the story events (Sanders et al., 2012). Second, the brand videos had to be *appealing* to the students.

Analysis

First, the collected brand stories were categorized as either (1) singular plot stories or (2) embedded plot stories. A story was classified as a singular plot story if all story events took place on a single time line separate from the here and now. A story was classified as embedded plot story if it included interactive events taking place on multiple time lines that may, but do not necessarily have to be, connected to the here and now.

Next, the brand stories were analyzed on narrative structure (Labov and Waletzky, 1967; Labov, 2010) and archetypes

(Campbell, 1949). To this end, the videos were first divided into fragments. The demarcation of fragments was primarily based on episode transitions, i.e., whenever the story's setting changed in terms of time and/or place, this change was coded as the end of the current fragment and the beginning of a new fragment. Subsequently, each fragment was analyzed on a number of variables.

First, it was determined which element of Labov and Waletzky's (1967) structure the fragment gave expression to. A fragment was coded as (1) the orientation if it was part of the introduction of the story's characters and/or setting; as (2) a complicating action if it depicted one or more events central to the story plot; as (3) a critical event if it depicted the story's peak, i.e., the crucial event that makes the story worth to be told; as (4) the resolution if it depicted what happened after the critical event, i.e., the outcome of the story; as (5) the coda if it depicted a transition from the story world to the here and now; and as (6) an evaluation if it expressed a verbal evaluation of or reflection on the story's events. A single fragment could be coded as depicting multiple elements. Finally, if a fragment did not fit in either of these categories, it was coded as (7) none.

Second, the fragments were analyzed in terms of narrative archetypes and heroic values. The classification was a simplified version of Campbell's (1949) the Hero's journey. Taking into account the possibility that characters and objects can be presented as more than one archetype throughout the story, as well as the possibility that one archetypal role can be fulfilled by more than one character or object, the analysis was performed at the level of the fragment. For each fragment it was determined which narrative archetypes were depicted: (1) The Hero; (2) The Trickster; or (3) The Helper/Supernatural Aid. Based on Jung's (1916) and Campbell's (1949) descriptions of the various archetypes, a Hero was defined as the figure – either a person, object or concept – whose journey toward a specific goal is depicted. A Trickster was defined as a figure playfully deceiving or fooling the Hero. A figure was classified as a Helper/Supernatural Aid if it supported the Hero in overcoming obstacles and fulfilling the journey. A single fragment could depict more than one archetype. If the fragment did not display any archetypes, it was coded as (4) none. Each archetype was furthermore related to the actor performing the archetypal role, which could be (1) a character or (2) the brand. In addition, considering the story's plot and the brand's presumed goals with the story, it was determined which two of the eight basic heroic character traits and corresponding moral values – based on Allison and Goethals (2011) – were primarily reflected by the story's Hero(es): smart, strong, caring, selfless, charismatic, resilient, reliable, and/or inspiring.

The aim of the above analytical steps was to assess the type of consumer enactment and value alignment pursued by the brand stories based on their narrative and archetypal structure. In the final step, the representation of the brand was analyzed. For each fragment it was determined whether the brand was represented by means of (1) a product; (2) a logo; (3) a slogan; or (4) not represented. A single fragment could be coded as

including multiple brand representations. A schematic overview of the analytical procedure is provided in the **Appendix A1**.

Procedure

The brand stories were analyzed by a team of three coders with experience in qualitative and quantitative narrative analysis. One coder first divided the stories into analytical segments and categorized them in terms of narrative elements (Labov and Waletzky, 1967). The segmentation and coding were subsequently discussed with the second and third coder; any disagreements were resolved during the discussion. In the next two steps, coder 2 and 3 worked independently to categorize each story in terms of narrative archetypes; character trait and moral value expression; and brand representation. Finally, both categorizations were compared and any differences were discussed and solved between coder 2 and 3, resulting in further refinements of the coding scheme.

RESULTS

Brand Stories

The students' search resulted in a total of 20 brand stories representing seven different brands: Heineken (2), Dove (2), Efteling (a fairy tale inspired amusement park in the Netherlands) (3), Innocent Drinks (2), Nike, Inc. (5), WNF (the Dutch branch of the World Wide Fund for Nature) (3), and Coca-Cola (3). Two movies (one by Efteling and one by WNF) had no narrative time line and were excluded from the analysis.[3] The set was completed with two Pickwick stories[4], resulting in a set of 20 stories covering 8 brands. In doing so, we aimed to arrive at a set that was on the one hand broad enough to represent a reasonable segment of narrative brand videos while it was on the other hand narrow enough to represent brand *stories* rather than other types of brand video advertisements. The length of the stories ranged from 30 s to 4 min and 24 s, with a mean duration of 1 min and 45 s. The videos had been broadcast on television or posted online between 2013 and 2018.

A total of 12 stories were classified as an embedding story, whereas the remaining 8 stories were classified as singular plot stories. **Table 1** shows an overview of both categories and provides for each story a short plot description as well as the brand's goal.

Table 2 below shows the occurrence of the various narrative elements for the singular plots as well as the embedded story plots.

Narrative Structure

Table 2 shows that all brand stories in our set include an orientation and a coda, while not all show a resolution or evaluation. Typically, the singular plot stories had less explicit

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[3]These brand videos depicted a great number of characters, each in one singular shot which at the most *implied* a narrative behind each pictured character, without actually narrating that story; these two movies were not analyzed.

[4]The two Pickwick stories did not stand out from the other 18 brand movies: Fisher's exact tests revealed no differences on the relevant categories *narrative structure*, *archetypes* or *brand representation* (p's > 0.147).

TABLE 1 | Plot descriptions of the singular plot and embedded plot stories.

Singular plots	Plot description
(1) Efteling: Time for Each Other https://www.youtube.com/watch?v=AEZDj6oiinc	Heroic plot: a daughter of about 10 years old (=Heroine) in a family of four recreates the Efteling experience at home by decorating a room completely in the Efteling atmosphere, and in doing so she recreates the family's experience of unitedness in pleasure and wonder such as they experienced at De Efteling. Brand's presumed goal: evoking desire for togetherness connected to the Efteling experience, inviting the consumer to seek similar experiences with the brand. Reflected Heroic traits (moral values): caring and inspiring
(2) Efteling: The Efteling Amazes https://www.youtube.com/watch?v=kX1UBS27NNk	Max of about 8 years old (=Hero) introduces himself on his 1st day in a new class. He narrates about the unlikely adventures and achievements he made, receiving skeptical reactions of the teacher and classmates with one exception: a girl who understands that he is narrating his Efteling experience. Brand's presumed goal: supporting, and evoking desire for, self-confidence and wonder connected to the Efteling experience, inviting the consumer to seek similar experiences with the brand. Reflected Heroic traits (moral values): charismatic and inspiring
(3) Nike: Choose go https://www.youtube.com/watch?v=6MgmbV5SbsA	A girl of about 20 years old (=Heroine) hears the news that the world has stopped turning. Inspired by her mouse who runs in his wheel, she starts running and encourages other people to join her in an effort to start the world's turning again. This ultimately worldwide attempt succeeds, but runners appear to go the wrong way, and upon a new call they turn around to make the world turn the right way. At the end, the mouse in its wheel is shown again. Brand's presumed goal: evoking enjoyment and promoting bonding by enabling the heroes' enterprise. Reflected Heroic traits (moral values): smart and charismatic
(4) Coca-Cola: The Gardener https://www.youtube.com/watch?v=xgimZUUp5FM	A group of girls of about 20 years old tempts a young gardener (=Hero) to open a shaken can of Coca-Cola, thus wetting his t-shirt. He takes it off, wrings it out and goes on to mow the lawn, leaving the girls in awe. Brand's presumed goal: evoke enjoyment and reflect sexual attractiveness in identification with (consumption of) the brand Reflected Heroic traits (moral values): charismatic and strong
(5) Coca-Cola: Thank your Christmas Hero https://www.youtube.com/watch?v=ScD_XiKlOLg	A boy of about 10 years old (=Hero) travels with a slay full of coca cola bottles and offers one secretly to people he encounters who are doing their best for others on Christmas eve, including – at the end – Santa Claus himself. Brand's presumed goal: evoke enjoyment and promote altruism in identification with (consumption of) the brand Reflected Heroic traits (moral values): caring and inspiring
(6) Coca-Cola: Pool boy https://www.youtube.com/watch?v=iRigYg2dRZo	A brother and sister of about 20 years old (= Heroes) compete who reaches first with the pool boy to offer him a bottle of Coca-Cola. After overcoming various obstacles along the way, they finally face the pool boy, only to find out that their mother has already offered him a Coke. Brand's presumed goal: evoke enjoyment and promote playful competition, sexual attractiveness and tolerance in identification with (consumption of) the brand Reflected Heroic traits (moral values): caring (empathy, tolerance) and inspiring
(7) Heineken: Worlds Apart https://www.youtube.com/watch?v=_yyDUOw-BlM&t=6s	Six adult characters of various ages and both genders (=Heroes) are, in antagonist couples, challenged to solve a build a construction puzzle that in the end appears to be a bar, at which they drink a Heineken beer together. The challenges they have to overcome involve sharing and understanding their mutual attitudes and private histories. Brand's presumed goal: promote mutual understanding in identification with (consumption of) the brand Reflected Heroic traits (moral values): smart and caring (empathy, tolerance)
(8) Heineken: Champions League https://www.youtube.com/watch?v=-GBltOHBMj0	Three male characters between 25 and 30 years old, sitting on a terrace, are challenged to perform several soccer-related assignments striving for the missing part of a ticket to the Champions League Final. Their girlfriends, who are involved in the challenge, have the other half. In the end, the winning man (=Hero) is united with his girlfriend and the two have together one whole ticket. Brand's presumed goal: evoke enjoyment and promote playful competition in identification with (consumption of) the brand. Reflected Heroic traits (moral values): strong and smart
Embedded story plots	**Plot description**
(1) Dove: Beauty on your own terms https://www.youtube.com/watch?v=_XOa7zVqxA4	Six women of various ages (=Heroines) narrate the challenges they had to overcome in accepting their own beauty on their own terms, despite critical comments. Brand's presumed goal: supporting self-confidence by identification and representation of heroines. Reflected Heroic traits (moral values): charismatic and inspiring
(2) Dove: They said... https://www.youtube.com/watch?v=t7EjwAfMTPY	Jessica of about 30 years old (=Heroine) narrates how she, being a curvy beauty blogger, overcame the negative judgments of others on her physical appearance when she decided to start a beauty blog on her own terms. Brand's presumed goal: supporting self-confidence by identification and representation of heroine. Reflected Heroic traits (moral values): selfless (courage) and inspiring

(Continued)

TABLE 1 | Continued

Embedded story plots	Plot description
(3) Pickwick: Beau's Tea Topic https://www.youtube.com/watch?v=GBi77q-BY3s	Beau of about 12 years old (=Heroine) narrates how she and her mother have become estranged due to mom's overusing her smartphone. She invites her mother to go for a picnic. When sitting down, she presents a tea bag with a personalized label asking her mother not to use her smartphone for 1 day. Mother and daughter discuss the matter over a cup of tea, agree and leave the scene arm in arm.
	<u>Brand's presumed goal</u>: promoting confrontation and connection by enabling the hero's enterprise and enabling the consumer to partake in similar missions
	<u>Reflected Heroic traits (moral values)</u>: selfless (courage) and caring (empathy)
(4) Pickwick: Sanne's Tea Topic https://www.youtube.com/watch?v=--kM4PXABnk	Sanne of about 25 years old (=Heroine) narrates how she used to bully Baukje, a former classmate. She invites Baukje to meet in their old classroom. When sitting down, she gives her teabag with a personalized label, asking to forgive her. Both women break into tears, embrace and discuss things over a cup of tea.
	<u>Brand's presumed goal</u>: promoting confrontation and reconciliation by enabling the hero's enterprise and enabling the consumer to partake in similar missions
	<u>Reflected Heroic traits (moral values)</u>: selfless (courage) and caring (empathy)
(5) Innocent: Sustainable Bananas https://www.youtube.com/watch?v=grItlvtOJTo	Innocent (=Hero) narrates how it successfully sought for ways to deal with environmental and societal responsible banana growing companies.
	<u>Brand's presumed goal</u>: promoting enduring sustainability by identifying their own enterprise and enabling the consumer to partake in this mission
	<u>Reflected Heroic traits (moral values)</u>: resilient and reliable (social responsibility)
(6) Innocent: The Big Knit https://www.youtube.com/watch?v=T1b854BDX7w	Two elderly people, a woman and a man, narrate how they suffered from loneliness but have been brought together by Age UK, an organization supported by Innocent (=Hero) who contributes for each additional knit hat on Innocent bottles.
	<u>Brand's presumed goal</u>: supporting altruism by enabling consumers to partake in this enterprise
	<u>Reflected Heroic traits (moral values)</u>: caring (altruism) and reliable (social responsibility)
(7) Nike: Meet the runners: Lelisa Desisa https://www.youtube.com/watch?v=VOdYGKNMj7s	Lelisa's coach narrates how Lelisa – a young and highly talented running athlete (=Hero) – is gradually growing toward being a prize-winning marathon runner.
	<u>Brand's presumed goal</u>: supporting perseverance and self-manifestation by identification and representation of the hero
	<u>Reflected Heroic traits (moral values)</u>: strong and resilient
(8) Nike: Unlimited Mo Farah https://www.youtube.com/watch?v=_shug-k45Oo	Famous running athlete Mo Farah (=Hero) narrates, supported by images of himself in his training facilities, what it takes for him – training far from his home for long periods of time – to be a prize-winning runner and why he makes the effort.
	<u>Brand's presumed goal</u>: supporting perseverance and self-manifestation by identification and representation of hero
	<u>Reflected Heroic traits (moral values)</u>: strong and resilient
(9) Nike: Unlimited courage: Chris Mosier https://www.youtube.com/watch?v=_gq8PO9XK2Y	Triathlon athlete Chris Mosier (=Hero) narrates, elicited by questions posed to him by a narrator during various training contexts, what uncertainties he – being a transgender – had to overcome when aiming for the men's national athletic team.
	<u>Brand's presumed goal</u>: supporting perseverance and tolerance by identification and representation of hero
	<u>Reflected Heroic traits (moral values)</u>: resilient and caring (tolerance)
(10) Nike: Until we all win: Serena Williams https://www.youtube.com/watch?v=Ripg_LfJIeM	Multiple prize-winning tennis player Serena Williams (=Heroine) narrates, supported by images of successes and failures during her long career, what negative opinions of others she had to overcome to finally accept her own way of combining being a winner and being a woman.
	<u>Brand's presumed goal</u>: supporting perseverance and self-confidence by identification and representation of the hero
	<u>Reflected Heroic traits (moral values)</u>: resilient and inspiring
(11) WNF: Tiger Protector Pavel https://www.youtube.com/watch?v=2XOhBhKVtfU	Wildlife protector Pavel (=Hero) narrates how he makes an effort to protect tigers from poaching and maltreatment in the Russian wildlife, while he faces challenges such as severe cold and dangerous animals; in retrospective, he is shown to have lost a tiger due to poaching.
	<u>Brand's presumed goal</u>: representing sustainability and altruism by identifying their own enterprise and enabling the consumer to partake in this mission
	<u>Reflected Heroic traits (moral values)</u>: selfless (courage) and reliable (social responsibility)
(12) WNF: Tiger Protector Singye https://www.youtube.com/watch?v=V_u2h4oK_zQ	Wildlife protector Singye (=Heroine) narrates how she makes an effort to protect tigers from poaching in the Bhutan wildlife, while she is inspired by the Bhutan culture faces challenges such as dangerous poachers; in retrospective, she is shown to have been under the threat of poachers.
	<u>Brand's presumed goal</u>: representing sustainability and altruism by identifying their own enterprise and enabling the consumer to partake in this mission.
	<u>Reflected Heroic traits (moral values)</u>: selfless (courage) and reliable (social responsibility)

TABLE 2 | Frequencies and percentages of singular plots as well as embedded story plots featuring the various narrative characteristics.

Narrative characteristics	Singular plots N = 8	Embedded plots N = 12	Total N = 20
Narrative structure			
• Orientation	8 (100%)	12 (100%)	20 (100%)
• Complicating action	8 (100%)	11 (91, 7%)	19 (95%)
• Critical event	8 (100%)	11 (91, 7%)	19 (95%)
• Resolution	7 (87, 5%)	9 (75%)	16 (80%)
• Evaluation	3 (37, 5%)	12 (100%)	15 (75%)
• Coda	8 (100%)	12 (100%)	20 (100%)
Narrative archetypes[1]			
• Hero	8 (100%)	12 (100%)	20 (100%)
Character	8 (100%)	10 (83, 3%)	18 (90%)
Brand	0 (0%)	4 (33, 3%)	4 (20%)
• Trickster	3 (100%)	0 (0%)	3 (15%)
Character	2 (66, 7%)	0 (0%)	2 (10%)
Brand	2 (66, 7%)	0 (0%)	2 (10%)
• Helper/Supernatural Aid	8 (100%)	12 (100%)	20 (100%)
Character	2 (25%)	4 (33, 3%)	6 (30%)
Brand	8 (100%)	8 (66, 7%)	16 (80%)
Heroic traits and moral values[2]			
• Smart	4 (50%)	0 (0%)	4 (20%)
• Strong	2 (25%)	2 (16, 7%)	4 (20%)
• Caring	3 (37, 5%)	4 (33, 3%)	7 (35%)
• Selfless	0 (0%)	5 (41, 7%)	5 (25%)
• Charismatic	3 (37, 5%)	1 (8, 3%)	4 (20%)
• Resilient	0 (0%)	5 (41, 7%)	5 (25%)
• Reliable	0 (0%)	4 (33, 3%)	4 (20%)
• Inspiring	4 (50%)	3 (25%)	7 (35%)
Brand representation			
• Product	8 (100%)	7 (58, 3%)	15 (75%)
• Logo	8 (100%)	12 (100%)	20 (100%)
• Slogan	2 (25%)	6 (50%)	8 (40%)

[1] The sum of the frequencies reported for brand and character may exceed the total number of stories because a given archetypal role may be fulfilled by both brand and character in a single story.
[2] For each story, the two most applicable heroic traits were distinguished.

evaluations, because they show from the outside, rather than tell from the inside, what narrative characters experience. Noteworthy is that in all stories, a coda is part of the final fragment which signals a transition from the story world to the consumer's reality, typically depicting the brand in terms of its product, logo, and/or slogan. In a minority of the stories ($n = 3$), the coda was the only element in the story that represented the brand. This was for example the case in the two WNF stories about tiger protectors. In these stories the main characters narrate their experiences in protecting tigers from poachers, describing more general, recurring complicating actions such as dealing with harsh nature conditions as well as specific events such as an encounter with poachers. While these specific embedded story plots include a resolution representing the outcome of the events, the overarching general stories lack a resolution. The absence of a resolution signals that the resolution lies beyond the boundaries of the story and has yet to take place in the consumer's present

or future. The coda shows the logo of the WNF, which functions as a bridge between the problems narrated in the story and the solution that the brand is searching for in the here and now. WNF invites the consumer to take part in this search by using the hashtag #Iprotecttigers. In other stories of our set, the brand is, in one form or the other, represented in all elements of the narrative. The stories by Nike serve as an example: in these stories, the brand is represented throughout in terms of its products that are worn by the characters. The brand thus visually supports the Heroes from the beginning to the end of their journey.

Narrative Archetypes

The results show that two archetypes are present in all stories in our set: the Hero and the Helper/Supernatural Aid. In each of the singular plot stories, the role of Hero is fulfilled by a character. With the exception of one story, the Hero's journey has a clear narrative structure including an orientation, one or more complicating actions, and a critical event followed by a resolution. Embedded story plots showed more variation than the singular plot stories, as the role of Hero in embedded stories can be fulfilled by the character, the brand, or both. In each of the Pickwick stories, for example, the role of Hero is fulfilled by the main character. By contrast, the stories by Innocent depict the brand as Hero. In the Innocent story about sustainable bananas, the brand represents itself as being on a journey toward building a fair company to be proud of. Uncertified banana farms fulfill the role of potential opponents, whereas certified banana farms function as Helpers for these farms protect the environment. In overcoming obstacles and establishing fruitful collaborations with certified banana farms, the brand is rewarded with the treasure of pride. Finally, in the two stories by WNF, a person working for the brand is depicted as the Hero. In these stories, both the character and the brand thus fulfill the role of Hero.

In the majority of the stories, the brand appeared to be represented as the Helper or Supernatural Aid that supports the Hero in facing difficult obstacles and completing the journey. For example, in one Coca-Cola story the goal of the main characters is to connect with the pool boy. Bottles of Coca-Cola help the characters in achieving this goal as they provide them with an excuse to approach the pool boy to offer him a dink.

Notably, only a small number of stories displayed the Trickster archetype and this archetype was only found in singular plot stories. In a different story by Coca-Cola, the Trickster role is fulfilled by a group of female characters who tricked the Hero – a gardener on a journey of mowing an enormous lawn – into being distracted from his task and opening a shaken can of Coca-Cola, thereby wetting himself. In this story the brand fulfills the role of Helper in two ways. First, the can helps the gardener to express his Heroism by providing him with an excuse to take off his shirt and show his physical strength, thus impressing the group of women. Second, the can helps the women to connect with the gardener. Note that the Tricksters are, thus, Heroines as well, in the sense that they are on a journey toward being noticed by the gardener.

In the two singular plot stories by Heineken, the Trickster role is fulfilled by the brand. In both stories the brand deceives the Hero by setting up a game scenario of which not all crucial aspects are shared with the Hero, either in competition with Opponents

for a Treasure (a Champions League Ticket) or facing challenges together (solving a puzzle). Notably, by playing the Trickster, the brand enables itself to take on the role of Helper/Supernatural Aid later on in the stories: after being tricked into a difficult quest, the Hero is invited to accept the help of the brand in completing the quest.

In sum, the results of our set reveal both similarities and differences between the various brand stories. All of its stories – both singular plot and embedded story plots – are structured around a Hero's journey and feature a Helper or Supernatural Aid, a role typically fulfilled by the brand. A noteworthy difference that we found between the two types of stories is the limited use of evaluations in the singular plot stories and the frequent use of evaluations in the embedded story plots. These results could point toward an essential difference: in embedded stories, the *impact* of the Hero's journey may be as important as the journey itself, as is made explicit in a combination of visual, auditive, and textual modes in the narration. This would imply that embedded story plots are structurally more complex, allowing the narrative elements and archetypes to be expressed at multiple levels.

Narrative Enactment

Structural complexity in embedded brand story plots can be argued to evoke processes of enactment in consumers that differ from the enactment evoked by singular plot stories which are mainly visual by nature. For instance, in the Nike singular plot story "Choose Go," few words are used to comment on many events, showing numerous characters involved in the attempt to make the world turn again. Although the story clearly features a central Hero – i.e., the girl who, inspired by her mouse's wheel, initiates the running attempt – many other characters, anonymous and celebrities, are presented and available for identification. Most of the story's actors do not say more than "Let's go," but they *show* that by going (in Nike sport gears), that the inconceivable is possible. Thus, they facilitate cathartic feeling of relief and amusement in viewers that can be enacted again when encountering the brand, hopefully to engage, as enthusiastically as did the Hero(es), in a movement of "going" that is facilitated by the brand's running shoes, running garments, et cetera. The lack of evaluations maximizes the story's potential to evoke catharsis: because the story plot is not interrupted by evaluative comments that are not part of the kernel story, consumers can become and stay immersed in the story world, co-experiencing the complicating actions, critical events and resolution as they unfold.

By contrast, Nike's embedded story plot of Serena Williams "Until We All Win" merely implies Ms. Williams' life story by showing numerous images of sportive episodes well known to the general public, while her voice *tells* how she overcame resistance and prejudice, to finally conclude that she has "proven time and time again, there is no right way to be a woman." This message is heard while the visual shows Ms. Williams making a deep bow in acceptance of congratulations – suggesting surrender to her public and herself. Nike's role here is (at least) twofold: to memorize it supported the actor in focus all through her career (thus, also in phases where she was challenged by resistance

and prejudice); and by providing the actor a platform to present herself with her message. In viewing the images, consumers can acknowledge that they, too, may be "oversized" (and who *is* exactly the right size?) or "too mean if they don't smile" (and who *does* smile all day, every day?); that they, too, may be "too black for tennis whites" (or too black, or brown, or white *for whatever outfit*) or "too motivated for motherhood" (or too occupied, or unfit *in whatever other sense*): in other words, that they, too, were thought (or thought themselves) to be a woman the wrong way. However, enacting victorious Serena, who was all that, they may prove for themselves and others that there is no one right way to be a woman; that there are in fact many right ways to be a woman, including one's own, indeed: "until we all win." This short but complex brand story shows a Hero's life journey by imagery as well as tells the Hero's moral message, causing phronetic effects of being brave and wise enough to surrender to one's being, and thus of satisfaction and self-esteem. By facilitating such effects, Nike connects consumers to vital values on a deeper level than its sports garments: the Nike symbol is associated with diversity and self-confidence.

Moral Value Alignment

In the brand stories, character traits are expressed by the Hero's acts and intentions that reflect moral values with which consumers are invited to align their own values. For example, in The Big Knit, the brand's presumed goal is to support altruistic and social responsibility values, classified as 'caring' and 'reliable' in terms of Allison and Goethals' (2011) basic traits. Likewise, the Heineken Worlds Apart brand story promotes mutual understanding between characters, and in doing so represents empathy as the psychological and relational trait that is being mutually evoked to bond the other' participants, and other people in general. By comparison, in the stories Pool Boy (Coca Cola) and Nike's Chris Mosier, the brands implicitly promote the value of tolerance, regarding sexual orientation and transgender condition, respectively: again, the psychological and relational trait evoked here is empathy (classified as the trait *caring*).

All of the eight basic traits were found present in the analyzed set. The traits *strong, caring, charismatic,* and *inspiring* were found in both singular plots and embedded plot stories, while the trait *smart* was primary only in singular plot stories. For instance, the Nike Choose Go brand story depicts a Heroine who is both *smart* and *charismatic*: she thinks of a solution to get the world turning again, and succeeds in getting other people to run with her to achieve this. Likewise, the young men in the Heineken Champions League brand story need to be *smart* and *strong* in their competition for the match ticket. By contrast, the traits *selfless, resilient* and *reliable* were found only in embedded plots. For example, The Pickwick brand story of Sanne's Tea Topic represents a courageous confrontation and reconciliation between characters; it combines the values empathy (trait: *caring*) with courage (trait: *selfless*). Likewise, the Innocent brand story of sustainable bananas combines the values of endurance and social responsibility (Fagin-Jones, 2017), categorized in terms of Allison and Goethals' (2011) traits as *resilient* and *reliable*, respectively; also, the athletes promoted by Nike's brand stories represent *resilience* in their enduring efforts to win, such as

Serena Williams' Until We All Win: "... but I have proven, time and again..." The occurrence of the values *selfless, resilient,* and *reliable* predominantly in the embedded plot stories is, to our view, not coincidental: in these values, the interests and needs of others are included. Such social value levels presuppose a higher degree of moral reflection on the self and others (Maslow, 1943). Examples are the value of social responsibility for sustainability and the courage to overcome fears for the self in the interest of others. In terms of story structure, the evaluative layer of an embedded plot allows for the explicit expression of such self/other oriented reflections.

Scripted Narrative

An interesting finding is that some of the embedded story plots identified in this study represent a subgenre that suggests a journalistic style. These films typically include interview fragments that are interwoven with the story proper. Examples are the brand stories by Innocent, WNF, Dove, and Pickwick. These films continuously alternate between the Hero's story events, shown as kernel story plot, and the interviews with the Hero which are conceptualized as evaluations that allow the film maker to "script" the Hero's story plot. These alternations resemble the frequent shifts between news story and reconstructions found in journalistic reportages and newspaper narratives (Van Krieken et al., 2016). Temporarily moving out of the story proper into an explanatory mode serves in all these genres the same dual function: to lend the story authenticity and credibility and to engage the reader. This engaging function is fulfilled by the quotations of the characters giving expression to their evaluations and thoughts. For instance, in the Dove story of Jessica, images of the Heroine that show her leading a self-confident life are intertwined with interview fragments in which the Heroine tells directly to the camera – talking to an invisible, "journalistic" film maker – about the challenges she had to overcome in order to achieve the confidence of being beautiful on her own terms. Through the authentic Heroine, credible by her quotes and filmed in her own context, Dove facilitates a phronetic effect of mutual respect and satisfaction about beauty in various manifestations. A difference with news stories is that these "telling" interview scenes are in time positioned *before* rather than *after* the "shown" story scenes which are, in essence, planned and scripted but nevertheless trustworthy and authentic by means of legitimizing evaluations by the Heroine.
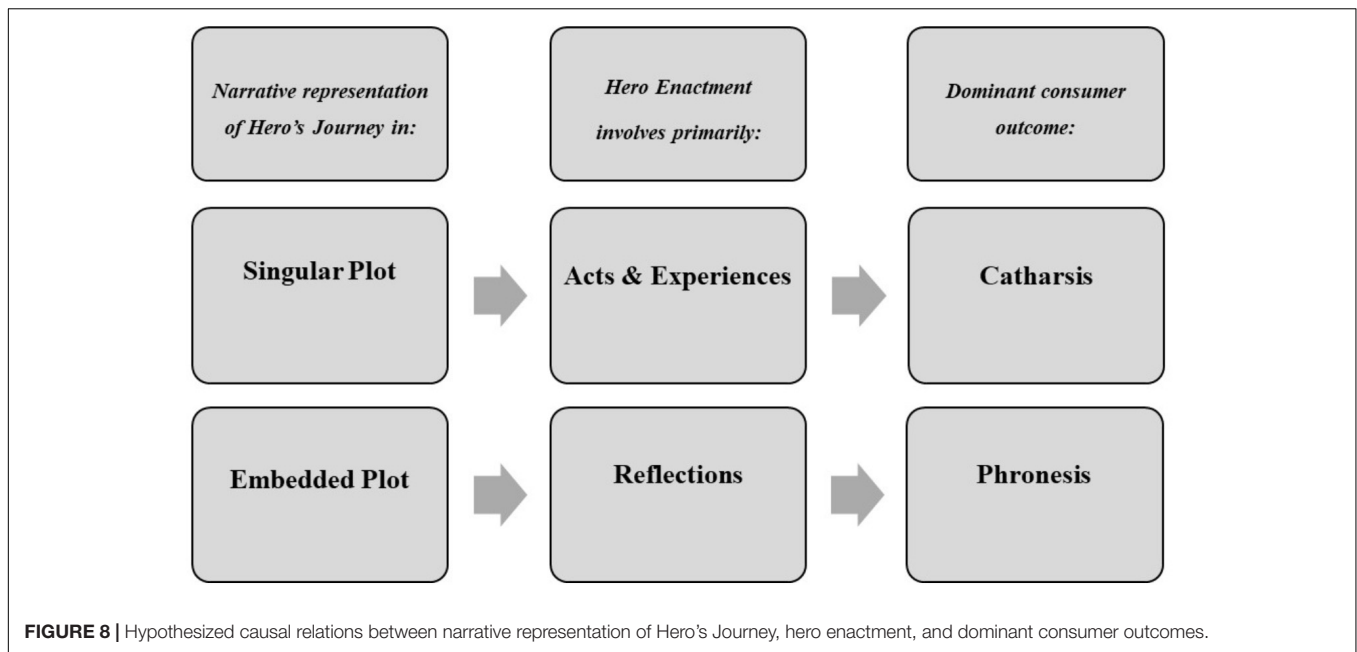
CONCLUSION AND DISCUSSION

This exploratory study explains that in essence, brand stories are not about promoting products or services to customers but about establishing strong relations with consumers. Narrative archetypes have been argued to facilitate such bonding processes because they resonate with the audience and have the potential to establish mappings between the identity of the brand and the identity of the consumer (e.g., Ochoa and Lorimer, 2017). Our study provides support for the contention that consumers are indeed attracted to stories structured around archetypes (e.g., Herskovitz and Crystal, 2010), in particular the archetypal

structure of The Hero's Journey (Campbell, 1949). Moreover, the results of our analysis clarify how brands employ narrative archetypes and elements to foster the relation with consumers, both at the self-centered level of the consumer and the social level (cf. Schmitt, 2012), by enabling them to enact the roles played by the story characters. Brand stories were found to enable consumers to enact the journey of heroes toward pleasure or spiritual and moral enlightenment. Enacting these journeys and being vicariously part of the story world and its events may in turn influence the consumer's life in terms of catharsis or phronesis, respectively. Whereas catharsis refers to deeply emotional experiences (Woodside, 2010), we have introduced the concept of phronesis to capture experiences of moral sense making that advance one's prudence and practical wisdom.

Cathartic and phronetic outcomes of archetype enactment can be expected to strengthen the consumer-brand-relationship in distinct ways. Cathartic effects may be found for singular plot brand stories that show a narrative series of events, causing effects such as immersion into the story world and affective identification with characters, thus dominantly manifesting at the emotional level of the relationship between brand and consumer. Phronetic effects may be found for more complex brand stories that not only show, but also tell experiences, thus allowing consumers to simulate the Hero's acts and experiences as well as the Hero's inner reflections leading up to and resulting from these experiences. Thus, phronetic effects are likely to manifest at the emotional as well as rational level of the relationship between brand and consumer. Brand stories eliciting both catharsis and phronesis can be expected to have the strongest impact on the consumer-brand-relationship because they acknowledge that consumers, as individuals, are emotional as well as rational beings and such stories appeal to both sides simultaneously (see Grundey, 2008). Future research could test these expectations by assessing the causal relations between narrative structure, hero enactment and cathartic and phronetic outcomes as depicted in **Figure 8**.

Studies in this direction could combine online and offline measures to assess the nature of consumers' hero enactment. For example, the use of fMRI techniques can provide insight into consumers' enactment of the hero's actions, galvanic skin response and heart rate measures can tap into the enactment of the hero's emotional experiences, and implicit association tests can measure the enactment of the hero's moral considerations (see Van Krieken et al., 2017).

Such studies could furthermore develop scales to measure cathartic and phronetic outcomes of the enactment processes. It is important to note, in this respect, that phronesis should be considered both distinct from and complementary to the concept of moral elevation. Moral elevation is strongly emotional in nature, a culmination of feelings of admiration and awe (Allison and Goethals, 2016, 2017). It results from the observation of heroic deeds – hence an outwards reflection – and may provide the observers with the inspiration and energy to adapt their behavior to the hero's behavior in terms of moral considerations (Nakamura and Graham, 2017). By contrast, phronesis refers to an inwards reflection on one's moral stance that results not from observing but from simulating heroic deeds. Alternatively, moral

FIGURE 8 | Hypothesized causal relations between narrative representation of Hero's Journey, hero enactment, and dominant consumer outcomes.

elevation could also be conceptualized as a complex process that in its ultimate form might result in phronesis.

Our present analysis indicates that some brand stories are intended, and in fact narratologically designed, to elicit phronesis rather than moral elevation. This can be explained by genre-specific goals: ultimately, consumers should be persuaded into buying the brand's products or services after viewing the brand story. Stories about Heroes that are to be adored from a large distance are less suitable to achieve this goal compared to stories about enactable Heroes that, to specific target groups, may function as role models (Bandura, 2003); in other words, Heroes that the consumers can "be like," "feel like," and even "become" by thinking of, buying, or using the brand. The present study points toward two levels at which the brand enables the consumer to become a Hero. At the story level, the brand invites the consumer to enact heroic archetypes, supported by the supernatural aids that are provided by the brand. This enactment can be seen as a form of practice in preparing the consumer for journeys to be completed in real life (cf. Mar and Oatley, 2008; Boyd, 2009). At a meta-story level, the brand spends resources on the production of the story as a prerequisite for the consumer's experience which at the same time may intensify this experience: consumers rely on the brand as the provider of catharsis and phronesis. Notably, the brand stories examined in the present study typically do not depict the brand as a Hero but as a supernatural aid that helps heroes achieve their goals. For consumers, enacting the journey of a Hero thus involves enacting an interaction with the brand; moreover, The Hero's Journey cannot be completed without this interaction.

Some of the analyzed stories intervene at the social level, as they appeal to consumer's imagination, or willingness to act in their own social context. For instance, the Pickwick stories invite consumers to customize their own tea bag label, while The Big Knit by Innocent expresses gratitude to customers who buy smoothies with an additional asset (a knitted hat) for additional costs, thus creating communities around the brand. Such transmedia enactment presumably establishes a stronger connection between the brand and consumers than forms of single medium enactment, as they invest more cognitive and actual resources in the interaction with the brand (Woodside, 2010; Granitz and Forman, 2015) and are inspired by the brand story to make particular choices that are not directly connected to the brand itself, but merely evoked by it through a combination of moral exemplars and invitations to act (compare Innocent's The Big Knit). Note that Allison and Goethals (2016) found that of the Hero's character traits and moral values, *inspiring* was rated highest by participants. Likely, such socially intervening brand stories allow consumers to build their identity by means of relations with brands at the most complex level, not only by buying, using and representing it, but also by ideologically internalizing it, which is reflected in the combination of indexical, iconic and ideological aspects of the consumer-brand relationship (Schembri et al., 2010).

This study's contribution entails an interdisciplinary analytical model suitable for the systematic investigation of brand stories that combines narrative structure with archetypal characterization of brand story plots. As such, this study complements previous research on the archetypal structure of brand stories, as well as stories in general, which up until now has been dominated by case studies (e.g., Papadatos, 2006; Ochoa and Lorimer, 2017; Laub et al., 2018; for an exception see Delgado-Ballester and Fernández-Sabiote, 2016). Admittedly, an exploratory study as the current is limited in its generalizability of findings. Future studies conducting large-scaled analyses of brand stories should provide further tests of the framework's viability and to arrive at a thorough understanding of how archetypal and narrative structures may evoke different forms of Hero enactment.

This limitation notwithstanding, the initial application of our framework to a varied set of complex narrative brand videos was helpful to clarify how brands and characters depict different archetypical roles to enact by consumers, that alternation between archetypical roles during the narrative is not uncommon, and that one role at different moments can be fulfilled by different actors. In addition, it clarified how brands have various narrative instruments available to target specific consumer groups with various effects. Brands may picture themselves as active narrative Helpers or Tricksters within story plots that invite consumers to enact Hero's funny or enthralling adventures, causing cathartic effects of relief and joy in consumers, while other brands, or even the same brands, may alternatively play implicit, facilitating roles in multilayered narratives that invite consumers to enact Heroes' liberating and satisfying emotions, causing phronetic effects that represent deeply shared moral values. Either way, the stories are intended to cause enactment that enforces brand-consumer connections, ultimately generating brand value.

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Both authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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REFERENCES

Allison, S. T. (2016). The initiation of heroism science. *Heroism Sci. Interdiscip. J.* 1, 1–9.

Allison, S. T., and Goethals, G. R. (2011). *Heroes: What They do and Why We Need Them.* Oxford: Oxford University Press.

Allison, S. T., and Goethals, G. R. (2016). Hero worship: the elevation of the human spirit. *J. Theory Soc. Behav.* 46, 187–210. doi: 10.1111/jtsb.12094

Allison, S. T., and Goethals, G. R. (2017). "The hero's transformation," in *Handbook of Heroism and Heroic Leadership* , eds S. T. Allison, G. R. Goethals, and R. M. Kramer (London: Routledge), 379–400.

Allison, S. T., and Smith, G. (2015). *Real Heroes and Villains: Two Experts Critique the Movies.* Richmond, VA: Agile Writers Press.

Almén, B. (2003). Narrative archetypes: a critique, theory, and method of narrative analysis. *J. Music Theory* 47, 1–39. doi: 10.1215/00222909-47-1-1

Aristotle (ed.). (2011). *Nicomachean Ethics,* trans. R. C. Bartlett and S. D. Collins. Chicago, IL: Chicago University Press.

Bandura, A. (2003). "Social cognitive theory for personal and social change by enabling media," in *Entertainment-education and social change* , eds A. Singhal, M. Cody, E. Rogers, and M. Sabido (London: Routledge), 97–118.

Bell, A. (1995). News time. *Time Soc.* 4, 205–328. doi: 10.1177/ 0961463X95004003003

Boyd, B. (2009). *On the Origin of Stories: Evolution, Cognition, and Fiction.* Cambridge, MA: Harvard University Press.

Bruner, J. S. (1986). *Actual Minds, Possible Worlds.* Cambridge, MA: Harvard University Press.

Bruner, J. S. (1991). The narrative construction of reality. *Crit. Inq.* 18, 1–21. doi: 10.1086/448619

Bruner, J. S. (2004). "The narrative creation of self," in *The Handbook of Narrative and Psychotherapy: Practice, Theory, and Research,* eds L. E. Angus and J. McLeod (Thousand Oaks, CA: SAGE), 3–14.

Buchanan-Oliver, M., and Seo, Y. (2012). Play as co-created narrative in computer game consumption: the hero's journey in Warcraft III. *J. Consum. Behav.* 11, 423–432. doi: 10.1002/cb.392

Campbell, J. (1949). *The Hero with a Thousand Faces.* Novato, CA: New World Library.

De Jong, I. (2014). *Narratology and Classics: A Practical Guide.* Oxford: Oxford University Press. doi: 10.1093/acprof:osobl/9780199688692.001. 0001

Delgado-Ballester, E., and Fernández-Sabiote, E. (2016). Once upon a brand: storytelling practices by Spanish brands. *Spanish J. Mark.* 20, 115–131. doi: 10.1016/j.sjme.2016.06.001

Efthimiou, O. (2016). "The hero organism: Advancing the embodiment of heroism thesis in the 21st century," in *Handbook of Heroism and Heroic Leadership,* eds S. T. Allison, G. R. Goethals, and R. M. Kramer (London: Routledge), 140–162.

Fagin-Jones, S. (2017). "Holocaust heroes: Heroic altruism of non-Jewish moral exemplars in Nazi Europe," in *Handbook of Heroism and Heroic Leadership,* eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 203–228.

Gioglio, J., and Walter, E. (2018). *The Laws of Brand Storytelling: Win - and Keep - Your Costumers' Hearts and Minds.* New York, NY: McGraw-Hill Education.

Goldenberg, N. R. (1976). A feminist critique of Jung. *Signs: J. Women Cult. Soc.* 2, 443–449. doi: 10.1086/493369

Granitz, N., and Forman, H. (2015). Building self-brand connections: exploring brand stories through a transmedia perspective. *J. Brand Manag.* 22, 38–59. doi: 10.1057/bm.2015.1

Grundey, D. (2008). Experiential marketing vs. traditional marketing: creating rational and emotional liaisons with consumers. *Rom. Econ. J.* 29, 133–151.

Herskovitz, S., and Crystal, M. (2010). The essential brand persona: storytelling and branding. *J. Bus. Strategy* 31, 21–28. doi: 10.1108/027566610110 36673

Jung, C. G. (1916). *The Archetypes and the Collective Unconscious.* Princeton, NJ: Princeton University Press.

Kuenzel, S., and Vaux Halliday, S. (2008). Investigating antecedents and consequences of brand identification. *J. Prod. Brand Manag.* 17, 293–304. doi: 10.1108/10610420810896059

Labov, W. (2010). "Narratives of personal experience," in *Cambridge Encyclopedia of the Language Sciences,* ed. P. Hogan (Cambridge: Cambridge University Press), 546–548.

Labov, W., and Waletzky, J. (1967). "Narrative analysis: oral versions of personal experience," in *Essays on the Verbal and Visual arts,* ed. J. Helm (Seattle, DC: University of Washington Press), 12–44.

Laub, F., Ferdinand, H., Irene, K., and Pätzmann, J. (2018). How archetypal brands leverage consumers' perception: a qualitative investigation of brand loyalty and storytelling. *Markenbrand* 6, 46–54.

Laurence, D. (2018). Do adds that tell a story always perform better? The role of character identification and character type in storytelling ads. *Int. J. Res. Mark.* 35, 289–304. doi: 10.1016/j.ijresmar.2017.12.009

Mar, R. A., and Oatley, K. (2008). The function of fiction is the abstraction and simulation of social experience. *Perspect. Psychol. Sci.* 3, 173–192. doi: 10.1111/ j.1745-6924.2008.00073.x

Martin, B. (2010). *Storytelling about Your Brand Online & Offline.* Cupertino,CA: Happy About.

Maslow, A. H. (1943). A theory of human motivation. *Psychol. Rev.* 50, 370–396. doi: 10.1037/h0054346

Nakamura, J., and Graham, L. (2017). "The impact of heroism on heroes and observers: stories of elevation and personal change," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (London: Routledge), 417–437.

Nelson, T. N. (2018). Your customers are on a Hero's Journey—And here's how you can help them. *Lead. Lead.* 2018, 36–41. doi: 10.1002/ltl.20341

Nicholson, S. (2011). The problem of woman as hero in the work of Joseph Cambell. *Fem. Theol.* 19, 182–193. doi: 10.1177/0966735010384331

Niles, J. D. (2010). *Homo Narrans: The Poetics and Anthropology of Oral Literature.* Philadelphia: University of Pennsylvania Press.

Oatley, K. (2011). *Such Stuff as Dreams: The Psychology of Fiction.* Oxford: Wiley-Blackwell. doi: 10.1002/9781119970910

Ochoa, G. G., and Lorimer, S. (2017). "The role of narrative in the creation of brand identity," in *Reconstructing Identity*, eds N. Monk, M. Lindgren, S. McDonald, and S. Pasfield-Neofitou (Berlin: Springer), 243–263.

Papadatos, C. (2006). The art of storytelling: how loyalty marketers can build emotional connections to their brands. *J. Consum. Mark.* 23, 382–384. doi: 10.1108/07363760610712902

Propp, V. (1928). *The Morphology of the Folk Tale.* Saint Petersburg: Academia.

Sanders, J. (2017). *We Hebben een Verhaal Nodig [We need a story]. Inaugural Lecture.* Nijmegen: Radboud University.

Sanders, J., Sanders, T., and Sweetser, E. (2012). Responsible subjects and discourse causality: how mental spaces and perspective help identifying subjectivity in Dutch backward causal connectives. *J. Pragmat.* 44, 191–213. doi: 10.1016/j.pragma.2011.09.013

Sanders, J., and Van Krieken, K. (forthcoming). Traveling through narrative time: how tense and temporal deixis guide the representation of time and viewpoint in news narratives. *Cogn. Linguist.*

Schembri, S., Merrilees, B., and Kristiansen, S. (2010). Brand consumption and narrative of the self. *Psychol. Mark.* 27, 623–637. doi: 10.1002/mar.20348

Schmitt, B. (2012). The consumer psychology of brands. *J. Consum. Psychol.* 22, 7–17. doi: 10.1016/j.jcps.2011.09.005

Smith, K., and Wintrob, M. (2013). Brand storytelling: a framework for activation. *Des. Manage. Rev.* 24, 36–41. doi: 10.1111/drev.10227

Stokburger-Sauer, N., Ratneshwar, S., and Sen, S. (2012). Drivers of consumer–brand identification. *Int. J. Res. Mark.* 29, 406–418. doi: 10.1016/j.ijresmar.2012.06.001

Sweetser, E. (2017). Metaphor and metonymy in advertising: building viewpoint in multimodal multi-space blends. *J. Pragmat.* 122, 65–76. doi: 10.1016/j.pragma.2017.10.012

Tuškej, U., Golob, U., and Podnar, K. (2013). The role of consumer–brand identification in building brand relationships. *J. Bus. Res.* 66, 53–59. doi: 10.1016/j.jbusres.2011.07.022

Van Gennep, A. (1909). *Les Rites de Passage.* Paris: Émile Nourry.

Van Krieken, K., Hoeken, H., and Sanders, J. (2017). Evoking and measuring identification with narrative characters: a linguistic cues framework. *Front. Psychol.* 8:1190. doi: 10.3389/fpsyg.2017.01190

Van Krieken, K., and Sanders, J. (2016). Diachronic changes in forms and functions of reported discourse in news narratives. *J. Pragmat.* 91, 45–59. doi: 10.1016/j.pragma.2015.11.002

Van Krieken, K., Sanders, J., and Hoeken, H. (2016). "Blended viewpoints, mediated witnesses: a cognitive linguistic approach to news narratives," in *Viewpoint and the Fabric of Meaning: Form and Use of Viewpoint Tools Across Languages and Modalities*, eds B. Dancygier, W. Lu, and A. Verhagen (Berlin: Mouton de Gruyter), 145–168.

Woodside, A. G. (2010). Brand-consumer storytelling theory and research: introduction to a psychology & marketing special issue. *Psychol. Mark.* 27, 531–540. doi: 10.1002/mar.20342

Woodside, A. G., Sood, S., and Miller, K. E. (2008). When consumers and brands talk: storytelling theory and research in psychology and marketing. *Psychol. Mark.* 25, 97–145. doi: 10.1002/mar.20203

APPENDIX

TABLE A1 | Appendix Analytical Coding Scheme.

Variable	Categories	
(1) Story type	● Singular plot story ● Embedded plot story	
(2) Narrative structure	● Orientation ● Complicating action ● Critical event ● Resolution ● Coda ● Evaluation ● None	
(3) Narrative archetypes	(3a) ● Hero ● Trickster ● Helper/Supernatural Aid ● None	(3b) ● Character ● Brand
(4) Heroic traits and moral values	● Smart ● Strong ● Caring ● Selfless ● Charismatic ● Resilient ● Reliable ● Inspiring	
(5) Brand representation	● Product ● Logo ● Slogan ● None	

On the Existential Road From Regret to Heroism: Searching for Meaning in Life

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We investigated whether regret predicted the motivation to act heroically. In a series of studies, we examined the relationship between regret, search for meaning in life, and heroism motivation. First, Study 1 (a and b) investigated the association between regret and search for meaning in life, considering regret as a whole, action regret, and inaction regret. As expected, regret correlated positively with search for meaning in life. In two additional studies (Study 2 and 3), we examined whether regret predicted heroism motivation and whether this effect was mediated through search for meaning in life. Study 2 confirmed this hypothesis for individual differences in regret, using a correlational design. Study 3 confirmed the hypothesis for temporary experiences of regret, using an experimental design. In addition, in Study 3 we found that heroism motivation was stronger for people with high self-enhancement needs than for those with lower self-enhancement needs. We discuss the relationship between regret and heroism in light of these results and explore their implications.

Keywords: regret, heroism, heroes, meaning, self-enhancement, self-regulation, existentialism

INTRODUCTION

Can regrets make us better people? Can they bring out the best in us by guiding us to heroic actions? How could that be possible given that regret is a negative experience (e.g., Gilovich and Medvec, 1995; Roese, 1997; Coricelli and Rustichini, 2010)? In the present research, inspired by those questions, we empirically examined whether behavioral intentions linked to heroism can be a function of regret. We argue that regret is associated with psychological processes that facilitate heroism motivation. Specifically, we focus on the role of search for meaning in life and consider the role of self-enhancement.

Regret, Life, and Meaning

Humans have the need and the ability to make sense of their actions and behavior (e.g., Frankl, 1946; Postman and Weingartner, 1969; Bruner, 1990; Baumeister and Vohs, 2002; Heine et al., 2006; Van Tilburg and Igou, 2011b). Such interpretations are not always pleasant; in fact, they can be very unpleasant. People can, for example, feel embarrassed, ashamed, or guilty. Here we zero-in on one potential response: regret.

Regret is a negative experience concerning the cause and a desire to reverse the current situation (Gilovich and Medvec, 1995; Roese, 1997). It is an emotion oriented toward the past, signaling an unfavorable evaluation of a past choice (e.g., Zeelenberg et al., 1998b). Essentially, regret experiences involve thoughts about counterfactuals, that is, "what might have been" instead of "what is" (e.g., Kahneman and Miller, 1986; Connolly and Zeelenberg, 2002); these are thoughts of one's previous action or inaction and how things would have been different, had one behaved differently (e.g., Roese, 1994, 1997; Gilovich et al., 1998; Roese and Summerville, 2005; Epstude and Roese, 2008; Epstude and Jonas, 2015; Roese and Epstude, 2017; for an overview see Mandel et al., 2007).

Regret is an experience that is crucial in the lives of humans (e.g., Stewart and Vandewater, 1999; Wrosch and Heckhausen, 2002; Timmer et al., 2005), which is reflected in the various areas where regret has been documented (for an overview see Roese and Summerville, 2005) such as health and well-being (e.g., Lecci et al., 1994; Stewart and Vandewater, 1999; Jokisaari, 2003; Connolly and Reb, 2005b; Epstude and Jonas, 2015), personality (e.g., Schwartz et al., 2002), and romance (e.g., Roese and Summerville, 2005; Timmer et al., 2005). Regrets can be very intense (e.g., Beike et al., 2009), with some people being more vulnerable to experiencing this emotion than others (e.g., Schwartz et al., 2002). Regrets can have a variety of consequences, such as self-blame (e.g., Connolly and Zeelenberg, 2002), change of expectations (e.g., Connolly and Reb, 2005a), rumination about lost opportunities (e.g., Stewart and Vandewater, 1999; Beike et al., 2009), as well as adjustments and behavior changes (e.g., Lecci et al., 1994; Roese, 1994; Roese and Summerville, 2005; Saffrey et al., 2008). When people regret something, they are likely to consider the opportunities that they did not take and the choices with better outcomes that they could have made. However, the consequences following regret need not always be negative.

Research shows there are some improvement benefits of regret that are rooted in the counterfactual thoughts associated with this experience (e.g., Markman et al., 2008; Coricelli and Rustichini, 2010), at least when people perceive some level of personal responsibility for their actions or inactions (e.g., Zeelenberg et al., 1998a). Regret involves an inconsistency between subjectively relevant goals regarding a particular situation or life in general and one's action or inaction. Through this inconsistency, regret helps people to learn from the past. Consistent with this notion, a study by Roese and Summerville (2005) highlights that humans recognize regret as a positive influence on future behavior. Regret signals that something has gone wrong and that something needs to change. Regret can trigger a behavioral response to improve circumstances and one's life. Indeed, regret can lead to instrumental corrective actions (e.g., Connolly and Reb, 2005a) and promote psychological adjustment (e.g., Lecci et al., 1994; Zeelenberg and Pieters, 2007; Saffrey et al., 2008), and changes in life (e.g., Lecci et al., 1994; Stewart and Vandewater, 1999; Zeelenberg, 1999; Beike et al., 2009).

The literature thus indicates that regret can lead to change. It plays a role in shaping learning processes from past experiences to the present and the future. The emotion itself is the negative

sting that seems to motivate learning and change via inferences and expectations (e.g., Saffrey et al., 2008). The sting is an affective expression of the perceived inconsistency between one's actions or inactions and one's subjectively relevant goals, thus an inconsistency in people's sense of meaning (e.g., Heine et al., 2006). Understanding and resolving such inconsistencies shapes these meaning frameworks and contributes to a general sense of meaning. The motivated process to learn from and resolve the inconsistencies associated with regret is essentially a search for meaning (e.g., Steger et al., 2006).

Search for Meaning

Recently, research on meaning making processes and their motivational components (e.g., Baumeister and Vohs, 2002; Heine et al., 2006; Van Tilburg and Igou, 2018) found that people search for meaning in the face of threats to their meaning systems (Heine et al., 2006; Steger et al., 2006). These threats can be of an affective nature, such as boredom (e.g., Van Tilburg and Igou, 2012, 2017a) or disillusionment (e.g., Maher et al., 2018). The cognitive process of meaning search follows the general need to arrive at greater insights into one's goal and the functioning of the world (e.g., Steger et al., 2006; Van Tilburg et al., 2013). The search process is thus a motivated cognitive process directed at sources of meaning with the goal to gain more meaning. Consistently, search for meaning increases social identification with others (e.g., Van Tilburg and Igou, 2012), nostalgia (Van Tilburg et al., 2013), reliance on political ideologies (e.g., Van Tilburg and Igou, 2016; Maher et al., 2018), and inspiration by heroes (e.g., Coughlan et al., 2017); each process auguring a greater sense of meaning. In short, we pose that regret is an affective experience that is associated with particular challenges to one's general sense of meaning, triggering a search for meaning.

Prospects of Meaning: Heroes and Heroism

Heroes and heroism have been essential parts of human civilization as, for example, reflected in the heroic figures in ancient mythologies (for an overview see Campbell, 2004). In recent years, research has given considerable attention to the natures of heroes and heroism, highlighting the impact of heroes at the levels of groups and individuals (e.g., Sullivan and Venter, 2005, 2010; Allison and Goethals, 2011, 2013; Kinsella et al., 2015b, 2017c; Allison et al., 2017). For example, different types of heroes have been distinguished (e.g., Allison and Goethals, 2013), prototypical characteristics of heroes have been identified (e.g., Kinsella et al., 2015b, 2017a), and important social and psychological functions served by heroes – such as enhancement, protection, and moral guidance (e.g., Kinsella et al., 2015a) – have been reported.

Heroes and heroism are positively laden concepts infused with superordinate values and admirable behaviors. Representations of heroes differ from those of role models and leaders (Kinsella et al., 2015b, 2017b). Heroes and heroism stand out with regard to the moral goals that are pursued and how they are pursued, namely with personal sacrifices and risks. Heroes and heroic acts are generally appreciated, inspiring, and comforting for groups

and individuals, especially in unsatisfactory and threatening times (e.g., Allison and Goethals, 2011). Beliefs about heroes and heroism are widely shared and central in cultures and individuals' lives (e.g., Kinsella et al., 2015b; Bronk and Brian, 2016).

In line with this notion, heroes and heroism are sources of meaning and inspiration (e.g., Früchtl, 2009; Bronk and Brian, 2016; Green et al., 2017; Kinsella et al., 2017a), and search for meaning can thus be linked to perceptions of heroes and heroism and associated inspiration. We pose that this process is especially relevant when the "need" for heroes or heroism is relatively pronounced. For example, Coughlan et al. (2017) illustrate this for boredom. Specifically, boredom reflects meaninglessness of one's activities or even life in general (e.g., Van Tilburg and Igou, 2011a, 2012, 2016, 2017a,b). Coughlan et al. argued and found that people who are prone to boredom hold more positive perceptions of cultural heroes (e.g., Dr. Marin Luther King Jr.), namely how special and inspiring the person was, how much they admired the person, and much the person was of personal significance and purpose. Importantly, the association between boredom proneness and these hero perceptions was mediated by search for meaning in life. That is, boredom – an experience that motivates a search for meaning (Van Tilburg and Igou, 2011a, 2012) – predicted greater appreciation of heroes to the extent that boredom involved a meaning search. The proposition that the perception of heroes and heroism can serve as a response to threatening experiences is not limited to boredom; we propose that regret is associated with a challenge to people's meaning system: people feel regret because their past actions or inactions are inconsistent with their goals. Regret motivates a cognitive process that helps making sense of the situation and oneself. Given that heroes and heroism are sources of meaning, we thus reasoned that experiences of regret would transfer into inspiration and show the readiness to act heroically via a search for meaning in life.

Study Overview

Study 1 examined the proposed link between regret and search for meaning. Specifically, Study 1a examined the association between individual differences in regret and search for meaning in life; Study 1b examined individual differences in the general form of regret, action regret, and inaction regret, and search for meaning in life. Study 2 adopted a correlational design to test at an individual difference level the effects of regret on the motivation to be heroic via search for meaning in life. Study 3 adopted an experimental design to test the effects of regret on heroism motivation via meaning search. In addition, we examined the effects of individual differences in self-enhancement needs on the relationship between regret and heroism motivation.

STUDY 1 (A-B): REGRET AND MEANING SEARCH

We pose that regret is at least partly associated with existential processes, in that it leads people to search for meaning in life. Study 1 was designed to test if regret predicted search for meaning

in life. We examined whether this process occurred for two forms of regret often discussed in the literature, namely action and inaction regret (e.g., Gilovich et al., 1998). We predicted that regret would be associated with an increase in search for meaning in life. Given that our approach makes no assumptions about the differences between actions and inactions, we expected the proposed effect of regret on meaning search for both forms of regret.

Materials and Methods
Participants and Design

Study 1a investigated the association between individual differences in regret and search for meaning using a correlational design. We recruited 53 participants via the online portal Mechanical Turk (MTurk[1]; in the United States and in India). One participant was excluded because of missing data, resulting in a total of 52 participants (32 male, 20 female; M_{age} = 35.9 years; 43 US American, 9 Indian). Study 1b had a correlational design measuring general regret, action regret, inaction regret and meaning search. We recruited 156 participants residing in the United States on MTurk. Two participants were excluded because they were extreme outliers in time spent on the questionnaire, leaving a total of 154 participants (90 female, 64 male; M_{age} = 34.9).

Materials and Procedure

We programmed the studies using the online computer survey program Questback; data were collected using the MTurk recruitment platform. After signing consent forms, participants reported demographic information.

In Study 1a, we next administered the five-item regret scale (e.g., *When I think about how I'm doing in life, I often assess opportunities I have passed up*; α = 0.77; Schwartz et al., 2002), ranging from 1 (*completely disagree*) to 7 (*completely agree*), and the meaning in life questionnaire (MLQ; Steger et al., 2006), with the two five-item subscales measuring search for meaning in life (e.g., *I am seeking a purpose or mission in my life*; α = 0.96) and presence of meaning in life (α = 0.96), using scales from 1 (*absolutely untrue*) to 7 (*absolutely true*). To control for a general form of affect, we included the four-item subjective happiness scale (Lyubomirsky and Lepper, 1999; α = 0.75; using seven-point scales, see **Supplementary Materials** details), and for exploratory reasons we included the 20-item desirability of control scale (Burger and Cooper, 1979; α = 0.75) ranging from 1 (*statement does not apply to me*) to 7 (*statement always applied to me*)[2]. The scales were presented in this order: desirability of control scale, regret scale, MLQ, global subjective happiness scale.

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[1]www.mturk.com

[2]Search for and presence of presence of meaning in life usually have a small negative correlations, reflecting that these variables represent largely different psychological processes of people's meaning system (e.g., Steger et al., 2006). Given that it was conceptually unclear whether presence of meaning impacts on heroism motivation and how it related to regret (see section Limitations and Future Research), we had no clear predictions for meaning presence and heroism motivation, and thus treated meaning presence as an exploratory variable. Two of the authors discussed the potential role of the desirability of control and decided to include the measure for exploratory reasons.

In Study 1b, we administered four-item measures of action and inaction regret (α = 0.93 for each scale): *How prone are you to feeling regret about an action (inaction)?; How often do you experience regret about an action (inaction)?; Generally speaking, how often do you feel regret about an action (inaction)?* (1 = *not at all/never*, 7 = *very much/all the time*); *Specifically, how often do you feel regret?* (1 = *once or twice a year*, 7 = *at least once a day*). We then administered the regret scale (α = 0.82; Schwartz et al., 2002) and subsequently the search for and presence of meaning in life scales (both α = 0.94) of the MLQ (Steger et al., 2006)[3].

Afterward, participants in both studies were debriefed and rewarded with €0.50 for their participation.

Results and Discussion

In Study 1a, regret correlated with search for meaning in life ($r = 0.50$, $p < 0.001$). Regret did not correlate significantly with presence of meaning in life ($r = -0.14$, $p = 0.31$). Search for and presence of meaning in life did not correlate significantly with each other ($r = -0.20$, $p = 0.15$). Happiness correlated with regret negatively ($r = -0.46$, $p < 0.001$) and with presence of meaning in life positively ($r = 0.67$, $p < 0.001$). When we conducted a partial correlation with regret and search for meaning in life while controlling for happiness, we still observed the predicted correlation ($r = 0.48$, $p < 0.001$). This result confirmed our prediction that higher (vs. lower) levels of regret were associated with higher (vs. lower) levels of search for meaning in life. No other correlations were significant[4,5].

Replicating results of Study 1a, in Study 1b we found that regret scale scores correlated with search for meaning in life scores ($r = 0.40$, $p < 0.001$). We also found positive associations between search for meaning in life and action regret ($r = 0.23$, $p = 0.004$) and inaction regret ($r = 0.20$, $p = 0.014$), in particular. In addition, presence of meaning in life correlated negatively with search for meaning in life ($r = -0.26$, $p = 0.001$). Meaning presence also correlated negatively with all regret measures, the regret scale ($r = -0.31$, $p < 0.001$), action regret ($r = -0.23$, $p = 0.005$), and inaction regret ($r = -0.17$, $p = 0.03$), indicating a weak negative association between meaning presence and different forms of regret[6].

In sum, the results of Study 1 (a and b) demonstrate that regret is associated with search for meaning in life. Specifically, higher levels of regret were associated with higher levels of meaning search. Addressing the distinction in the literature between action and inaction regret, our results show that both

of these forms of regret are associated with search for meaning in life. These results support the hypothesis that regret has existential qualities by being associated with search for meaning in life. Although not central to our examination, we note rather inconsistent effects across Studies 1a and 1b for the association between regret and presence of meaning in life. Presumably, this speaks to the nature of regret as a complex human experience that indicates reduced purpose in one's behavior but at the same time communicates causalities and responsibilities for actions or inaction thus providing some level of epistemic meaning.

The following studies examined the relationship between regret and heroism motivation, and the predicted mediating role of search for meaning in life.

STUDY 2: INDIVIDUAL DIFFERENCES IN REGRET AND HEROISM MOTIVATION

Study 2 tested whether individual differences in regret are associated with the motivation to act heroically, and whether this association would be mediated by search for meaning in life. Essentially, we propose that people prone to regret experiences search for meaning in life, and that this search in turn predicts the motivation to engage in heroic activities, a source of meaning (e.g., Kinsella et al., 2017b; Coughlan et al., 2017). We included a measurement for people's mood to control for people's affective state as a variable that could theoretically account for the proposed regret effects on meaning search and heroism motivation.

Materials and Methods
Participants and Design

We recruited 122 participants residing in the United States on MTurk. Due to non-completion and missing data of some participants, 11 participants were excluded from the data set, resulting in a total of 111 participants (62 female, 49 male, 3 unspecified; M_{age} = 38.14; 106 US Americans, 1 Canadian, 1 British, 1 Irish, 1 Montenegrin, 1 unspecified). For this correlational study, we rewarded participants with $0.40.

Procedure and Materials

After providing informed consent, participants reported demographic information (ethnicity, gender, age). Next, they worked on two items measuring participants' mood ($r = 0.94$, $p < 0.001$), *How is your mood?* measured on a scale from 1 (*very bad*) to 7 (*very good*), and *How do you feel?* measured on a scale from 1 (*very sad*) to 7 (*very happy*). Participants then filled out the regret scale (α = 0.82; Schwartz et al., 2002; Study 1) and then the search for meaning in life scale (Steger et al., 2006; Study 1) as well as two items with using the identical scale that relate to search for meaningful activities, *I am always looking to do things that are meaningful* and *I am seeking to do things that have meaning for me and others*. We reasoned that adding items on activities would be adequate in the context of heroic activities. The resultant seven-item scale was highly reliable (α = 0.95).

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[3]For exploratory reasons, we added a three-item measure of nostalgia (e.g., *I am feeling quite nostalgic*; scale from 1 [*not at all*] to 6 [*very much*]; α = 0.98) at the end of the questionnaire.

[4]To address potential concerns about the relatively low participant number in Study 1a, we conducted another study on MTurk with 100 participants (living in the United States; 55 female, 24 male; M_{age} = 38.3). It consisted of a battery of scales, including the regret scale (Schwartz et al., 2002) and search for meaning in life scale (Steger et al., 2006). The positive association of regret and meaning search was replicated ($r = 0.40$, $p < 0.001$).

[5]Desirability of control had no significant association with any variable (all p's > 0.23).

[6]Nostalgia correlated with presence of meaning in life ($r = 0.18$, $p < 0.05$), consistent with the literature (e.g., Van Tilburg et al., 2013).

Next, participants completed a four-item measure of heroism motivation (α = 0.90). Specifically, they were instructed to think about their life, who they want to be, what they want to be known for. They then indicated their agreement to the statements, *I want to behave heroically towards others if it is necessary and I have the opportunity to do so; It is important to me to be seen as someone who can act heroically; I strive to be a hero for other people, if the situation requires someone to step up; It is significant to my life to be seen as someone who has the qualities of a hero*, on scales from 1 (*not at all*) to 5 (*very much*). Afterward, participants were thanked, debriefed, and rewarded.

Results and Discussion

Regret correlated with search for meaning in life ($r = 0.35$, $p < 0.001$) and with heroism motivation ($r = 0.21$, $p = 0.025$). Meaning search correlated with heroism motivation ($r = 0.31$, $p = 0.001$). Mood correlated negatively with regret ($r = -0.28$, $p = 0.003$) and was not significantly correlated with search for meaning ($r = -0.06$, $p = 0.520$).

We proceeded to examine the indirect association between regret and heroism motivation via search for meaning. To estimate this, we used PROCESS (Version 3; Hayes, 2018), Model 4 (10,000 bootstraps), where regret was entered as the predictor, meaning search as the mediator, and heroism motivation as the criterion. Regret had a total effect on heroism motivation, $B = 0.18$, $SE = 0.08$, $t(109) = 2.27$, $p = 0.025$, 95% CI [0.022, 0.328], but there was no significant direct effect, $B = 0.10$, $SE = 0.08$, $t(109) = 1.20$, $p = 0.23$, 95% CI [−0.063, 0.254]. Most importantly, we observed the predicted indirect effect of regret on heroism motivation though meaning search even when controlling for mood by adding the measure as a covariate, $B = 0.08$, $SE = 0.04$, 95% CI [0.009, 0.163] (**Figure 1**). When we added mood as a covariate to the analysis, regret had a total effect on heroism motivation of $B = 0.27$, $SE = 0.07$, $t(108) = 3.59$, $p < 0.001$, 95% CI [0.119, 0.413] and a direct effect on heroism motivation of $B = 0.19$, $SE = 0.08$, $t(108) = 2.47$, $p = 0.01$, 95% CI [0.038, 0.342]. The covariate, mood, had a direct effect on heroism motivation, $B = 0.33$, $SE = 0.07$, $t(107) = 4.46$, $p < 0.001$, 95% CI [0.182, 0.472]. Most importantly, we observed the predicted indirect effect of regret on heroism motivation though meaning search even when controlling for mood by adding the measure as a covariate, $B = 0.8$, $SE = 0.04$, 95% CI [0.009, 0.164].

FIGURE 1 | Mediation model of regret, meaning search, and heroism motivation (Study 2). *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$; indirect effect of regret on heroism motivation through meaning search: $B = 0.08$, $SE = 0.04$, 95% CI [0.007, 0.174].
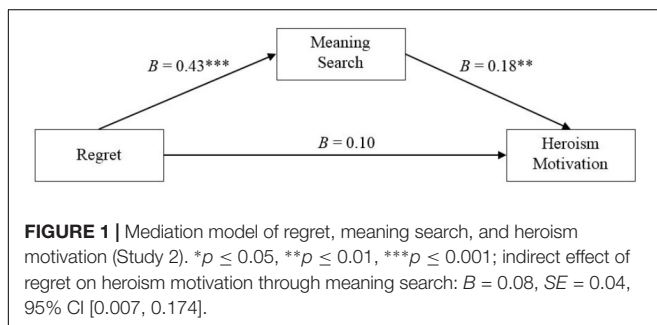
Individual differences in the motivation to act heroically were associated with individual differences in regret. In part, this relationship was plausibly due to people's search for meaning in life, as predicted. People's mood was related to regret and to heroism motivation, however, these associations were unrelated to the focal test in question. In the following study, we examined the relationship between the temporary experience of regret on heroism motivation and the predicted mediating role of search for meaning in life.

STUDY 3: TEMPORARY REGRET EXPERIENCES AND HEROISM MOTIVATION

The goal of Study 3 was to examine the causal relationship between regret and people's motivation to act heroically. Given that regret promotes a search for meaning in life and that heroism is a source of meaning, we argue that regret increases the motivation to engage in heroic acts. We examined this hypothesis experimentally by manipulating regret and measuring heroism motivation.

In addition, we examined whether the effect could be explained by self-enhancement needs. Needs for self-enhancement and motivated actions serving them are central in humans (for an overview see Alicke and Sedikides, 2010). More specifically, our hypothesis rests on the finding that heroes serve particular social and psychological functions listed by Kinsella et al. (2015a), who argue that heroes have a protective function, give moral guidance, and serve an enhancement function. We interpret enhancement in the context of heroism motivation as the strategy to enhance the self via heroic actions. This argument is consistent with the literature on pro-social behavior, which reports that at least some pro-social acts serve self-enhancement needs (e.g., Batson, 1987). Self-enhancement has several components (e.g., Hepper et al., 2010), and we focused in particular on people's strategies to construe situations favorably and to affirm the self, especially when encountering challenges to the self. These strategies match the challenge of regret experiences and are functional for the engagement with the social environment via rather extreme pro-social activities such as heroism (e.g., Franco et al., 2011). We thus added an individual difference measure of self-enhancement to examine whether heroism motivation increased when experiencing regret in particular for participants with a high need for self-enhancement compared to those with a low need for self-enhancement.

Materials and Methods
Participants and Design

We recruited 255 participants through MTurk. Due to non-completion and missing data, 25 participants were excluded from the data set, resulting in a total of 230 (*female* = 127, *male* = 100, *other* = 3; M_{age} = 39.7). We experimentally manipulated regret and then measured heroism motivation, meaning search, and self-enhancement; accordingly, participants were randomly assigned to either the regret condition or the control condition. They were rewarded $0.41 for their participation.

Procedure and Materials

After providing informed consent, participants reported their demographics. Then they worked on the regret induction task and the manipulation check items. We induced regret using an autobiographical recall procedure (e.g., Lerner and Keltner, 2001; Martinez and Zeelenberg, 2015). This procedure is based on the notion that remembering particular episodes activates the affective experiences that are associated with these memories. Specifically, in the experimental condition, in a box appearing on the screen, participants described a situation when they experienced 'the biggest regret in their life' in at least three sentences so that others would be able to understand the experience. We then asked them to report the physical reaction to the situation and how it felt in a second box that appeared on the screen. In the control condition, participants described an "everyday life experience when nothing special happened, a day with mundane activities and events" in the first box and the physical reactions and how they felt in the second box. All participants then completed manipulation check items ($r = 0.93$, $p < 0.001$), *By thinking of the situation that I just described, feelings of regret arise in me* and *How much regret do you feel right now?* Responding on scales from 1 (*not at all*) to 7 (*very much*). Then, we presented two filler items unrelated to the research questions in order to reduce the likelihood of demand characteristics in response to the focal questions. We asked for the liking of the color and shape of a car (Citroën C4 Cactus) using scales from 1 (*not at all*) to 7 (*very much*).

Afterward, participants responded to the seven items measuring acute search for meaning in life based on the measure used in Study 2 (e.g., *Right now, I feel like looking for something that would make my life meaningful*; *At this moment, I feel like seeking a purpose or mission in my life*). The resultant scale was highly reliable (α = 0.94). Following these items, participants worked on a self-enhancement measure suitable for this study. We used the brief self-enhancement and self-protection scale (Hepper et al., 2010), adapting items from the two subscales that measure *favorable construal* and *self-affirming reflections* (α = 0.93). Participants indicated their agreement on a scale from 1 (*low*) to 6 (*high*) to items such as, "*Looking back, I believe that I have been changing, growing, and improving as a person*," "*I am aware of my values and what matters to me*." We did not include items of the other two subscales, positivity embracement and defensiveness, as we deemed them rather secondary in the context of heroism (see **Supplementary Materials** for the measure).

Next, participants completed the heroism motivation measure (α = 0.93; see Study 2). Afterward, they were thanked, debriefed, and rewarded.

Results and Discussion

Participants in the regret condition felt more regret than participants in the control condition ($M = 5.67$, $SD = 1.37$ vs. $M = 1.89$, $SD = 1.44$), $t(228) = 20.40$, $p < 0.001$, $d = 1.80$, indicating that the manipulation was successful.

Participants with higher levels of regret indicated a stronger motivation to search for meaning in life than participants in the control condition ($M = 4.61$, $SD = 1.65$ vs. $M = 4.13$, $SD = 1.69$), $t(228) = 2.16$, $p = 0.03$, $d = 0.29$. Participants in the regret condition indicated a higher level of heroism motivation than participants in the control condition, however, this difference was only marginally significant ($M = 3.50$, $SD = 1.07$ vs. $M = 3.23$, $SD = 1.09$), $t(228) = 1.88$, $p = 0.06$, $d = 0.25$. Search for meaning in life was positively correlated with heroism motivation ($r = 0.35$, $p < 0.001$). Individual difference in self-enhancement were unaffected by regret ($t > 1$), uncorrelated with search for meaning ($r = -0.03$, $p = 0.69$) but correlated positively with heroism motivation ($r = 0.25$, $p < 0.001$).

In the next step, we examined the indirect effect of regret on heroism via search for meaning and the moderating role of self-enhancement. For this, we used PROCESS (Version 3; Hayes, 2018), Model 5 (10,000 bootstraps), which tested the mediational effect of regret on heroism motivation via search for meaning in life and the moderating effect of self-enhancement on heroism motivation in conjunction with regret (**Figure 2**). We found that regret affected heroism motivation via search for meaning in life, $B = 0.10$, $SE = 0.05$, 95% Cl [0.008, 0.212]. In addition, independently of the mediation effect by meaning search, regret affected heroism motivation more strongly for participants with high self-enhancement needs, $B = 0.49$, $SE = 0.20$, $t(225) = 2.44$, $p = 0.02$, 95% Cl [0.095, 0.885], than for participants with medium and low self-enhancement needs, $B = 0.22$, $SE = 0.13$, $t(225) = 1.70$, $p = 0.09$, 95% Cl [−0.036, 0.485] and $B = -0.11$, $SE = 0.19$, $t = -0.56$, $p = 0.58$, 95% [−0.484, 0.270], indicated by a significant interaction of regret and self-enhancement, $B = 0.33$, $SE = 0.16$, $t(225) = 2.04$, $p = 0.043$, 95% CL [0.011, 0.652].

In sum, these results demonstrate that regret affects heroism motivation, but that this effect has two important characteristics. Crucial for the overarching hypothesis of the current work, these heroism effects are partly explained by people's search for meaning in life. The second characteristic is that regret can also affect heroism motivation directly, for people who have high

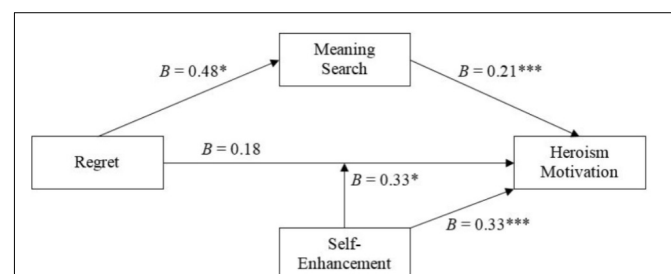**FIGURE 2 |** Integrated mediation and moderation model of regret, meaning search, self-enhancement, and heroism motivation (Study 3). *$p \leq 0.05$, **$p \leq 0.01$, ***$p \leq 0.001$; indirect effect of regret on heroism motivation through meaning search: $B = 0.10$, $SE = 0.05$, 95% CI [0.008, 0.212]; condition effect of regret and self-enhancement on heroism motivation: $B = 0.33$, $SE = 0.16$, 95% CI [0.011, 0.652].

needs for self-enhancement, specifically favorable construals of situations and self-affirming reflections.

GENERAL DISCUSSION

We tested if regret increases the motivation to engage in heroic activities. We argue that, in part, regret is an existential experience in that it motivates people to search for meaning in life. We pose that it is, in part, this existential process that is responsible for people's heroism motivation in response to regret.

In Study 1a and 1b, stronger regret was associated with elevated search for meaning in life. This association held for action regret as well as for inaction regret after controlling for general happiness. Study 2 went beyond Study 1 by examining the association between regret, search for meaning in life, and heroism motivation. As predicted, individual differences in regret predicted individual differences in heroism motivation. Importantly, this effect was mediated by search for meaning in life. This mediational effect remained reliable after controlling for participants' mood state. Study 3 went beyond Study 2 by examining temporary experiences of regret on search for meaning in life and heroism motivation, and by also considering self-enhancement needs and their effect on heroism motivation. As predicted, temporary regret affected heroism motivation through search for meaning in life. We also found that participants with high self-enhancement needs were more motivated to act heroically than those with low self-enhancement needs and that this was particularly the case when participants experienced regret. Importantly, the existential road from regret to heroism motivation was independent of participants self-enhancement needs.

Heroism

In recent years, researchers from different academic areas have examined the characteristic of heroes, the functions of heroes, and conditions of heroism (for an overview see Allison et al., 2017). Our research examined the motivation to act heroically as a function of an important experience in life: regret. The results demonstrate that the negative experience of regret can foster heroism motivation, thus increasing the likelihood for people to display heroic actions. In that sense, a negative experience increases the chances of pro-social outcomes. Our research supports the hypothesis that regret experiences leave people with a need to find meaning in their lives and that behaving heroically provides an opportunity to re-establish meaning. This is consistent with the notion that heroism is a source of meaning, potentially playing a role when people regulate their sense of meaning (e.g., Coughlan et al., 2017; Green et al., 2017; Kinsella et al., 2017b). Our research also shows that people who have high self-enhancement needs, in our case those with a strong inclination to construe situations favorably and to affirm the self, are relatively motivated to act heroically when experiencing regret (Study 3). We also found that individual differences in mood predicted heroism

motivation, such that people with higher positive mood were more motivated in this regard (Study 2). Taken together, our research makes an important contribution to the literature on transformations of life in form of hero journeys that people may undertake (e.g., Allison and Goethals, 2011) and the ongoing pursuit of understanding how the person and the situation contribute to heroism (e.g., Bronk and Brian, 2016).

Regret and Existentialism

Regret experiences are important and functional for actions (e.g., Roese and Epstude, 2017; Zeelenberg and Pieters, 2007) and life in general (Stewart and Vandewater, 1999; Timmer et al., 2005). Importantly, regret facilitates learning processes where perceived mistakes or wrongdoings of the past can be avoided and behavior can be improved (e.g., Zeelenberg, 1999; Zeelenberg and Pieters, 2007; Coricelli and Rustichini, 2010). Our studies add to this notion the existential component of searching for meaning in life, a motivation that is directed to establish a higher sense of meaning. We believe that is it crucial to consider this psychological variable, as it has been shown to be central in regulating meaning (e.g., Bruner, 1990; Steger et al., 2006). The robust relationship we found for individual differences in regret and meaning search as well as for temporary experiences of regret and meaning search enables a more precise process-oriented perspective on the potential consequences of regret, when search for meaning in life is likely to be involved.

Limitations and Future Research

We acknowledge that our studies have a number of limitations. The link to heroism that we examined is constrained by an explicit, self-reported motivation to engage in heroic activities and to be seen as heroic by others. Although it would have been ideal to test the effects with a range of heroism measures, we found the effects of regret on heroism motivation via search for meaning in life seem to be robust across two studies (Study 2 and 3). Future research needs to include other measures of motivations to act heroically and heroism, such as the inspiration by heroes (e.g., Coughlan et al., 2017) and actual heroic behavior. The heroism motivation that we measured could serve as a crucial process variable when examining heroic action or the effects of inspiration by heroes.

With regard to actual behavior, we are cautious as to whether search for meaning in life would have a strong effect in a complex social environment. It might be that other variables such as self-enhancement may need to be present in order to evoke the effect of regret on actual heroism. Study 3 might give an idea on how multiple variables could be involved and related. We note that the experimental induction in Study 3 is limited by potentially raising particular issues of past experiences in the experimental and/or the control conditions. Relatedly, in this study, we did not control for additional affective experiences that might have been activated by the induction procedure.

Our studies focused on *search for meaning* in life as the crucial mediating variable that explains at least in part

the relationship between regret and heroism motivation. In this respect, regret qualifies as an affective experience that initiates an existential process. The regret experience itself is based on perceived inconsistencies within one's meaning frameworks, second-guessing one's action or inaction by considering alternative courses of action that may have been more adequate. It would thus be conceivable that dwelling on regrets is associated with a reduced sense of meaning in life. Although not central to our examination, our results do not suggest that regret experiences profoundly reduce a sense of meaning in life. It might be more complicated. Possibly, lack of meaning is more strongly associated with the cognitive foundation of regret than with the experience itself. Or, two different qualities of meaning may need to be considered. Teleological meaning refers to the purpose of meaning in life, while epistemic meaning refers to the general understanding of situations, the self, others, and the world in general (e.g., Heine et al., 2006; Van Tilburg and Igou, 2011b, 2013). It is possible that regret experiences materialize because of an increased understanding that one's actions or inactions diverted from one's goals and objectives and that alternative actions or inactions were available. In that sense, epistemic meaning might be provided, at least to some degree. However, regret experiences raise the issue of falling short compared to one's important goals in life. This discrepancy might well reduce a perceived *purpose* in life. Future research should examine how regret affects epistemic vs. teleological meaning and whether the meaning search processes that we highlight are responses to threats of one or both of these meaning frameworks.

Although our research focuses on search for meaning in life as a mediating variable between regret experiences and heroism motivation, we do not rule out consequences of regret experiences that might be largely unrelated to meaning search (e.g., feeling depressed or anxious). Our research is embedded in the literature and builds in part on our previous research on existential experiences and heroes (e.g., Coughlan et al., 2017; Kinsella et al., 2017a). Additionally, accompanying psychological processes are quite possible and worthy of investigation. We propose that future research examines the causes of regret, the temporal distance of regret to heroism motivation and action, a range of mediators aside from meaning search (e.g., self-presentation, social desirability), various indicators of heroism (motivation and action), and consequences of regret-based heroism (e.g., self-esteem, perceptions of personal growth, well-being). Individual differences in a range of qualities (e.g., morality, self-enhancement, self-improvement, social desirability) seem also important, potentially functioning as moderators between regret and heroism, as the results of Study 3 suggest. In this regard, it should be noted that regret intensity seems to be associated with self-esteem contingency (i.e., instability, fragility), especially if the events involved seem controllable (Wilkinson et al., 2015). It might thus be worth examining whether, and under which conditions, self-esteem contingency can motivate people to engage in heroic acts when they experience regrets. Finally, contexts may or may not give rise to heroism. More importantly, some contexts may give rise to

heroism based on particular psychological processes (e.g., search for meaning, self-enhancement, social desirability) while other contexts give rise to heroism based on different psychological processes. Future research needs to address these links in general and also with regard to the specific link between regret and heroism.

All of our studies were conducted on MTurk. Certainly, the validity of online studies is often limited due to the lack of experimental control and other technical constraints (e.g., Zhou and Fishbach, 2016). Despite these limitations, the results were consistent across a series of studies using different designs, thus supporting the notion that our studies were adequate for testing our hypotheses. However, future research should examine the link between regret and heroism using a range of procedures, such as different investigative methods (e.g., computer lab study, paper and pencil questionnaire), different recruitment procedures of participants (e.g., participant pool, volunteers), accompanied by samples from different populations of participants (cultures, socioeconomic status).

CONCLUSIONS AND IMPLICATIONS

This research provides important insights into both the existential nature of regret and its impact on heroism. To our knowledge, these studies provide first evidence that regret predicts search for meaning in life and that it encourages heroic behavior. Importantly, this research shows how the negative experience of regret increases motivations to engage in extreme forms of pro-social behavior, namely heroism. These results further support the notion that human beings are driven by existential motives and that heroism – a source of meaning – can result from existential motivations. This research provides the basis for further examination of different forms of heroism and heroic behavior as a function of regret experiences.

DATA AVAILABILITY

The datasets collected and analyzed for this study can be found in the Open Science Framework repository. https://osf.io/c8zar.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of "EHS Guidelines for ethics research by Education and Health Science Research Ethics Committee (EHSREC)" and the Psychiatry, Nursing, and Midwifery Research Ethics Committee Minimal Risk Route (PNM-REC Minimal Risk Route) with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the "Education and Health Science Research Ethics Committee" and the "Psychiatry, Nursing, and Midwifery Research Ethics Committee Minimal Risk Route."

AUTHOR CONTRIBUTIONS

EI developed the rationale for this research, was involved in the design of all studies and the analyses of their results, conducted Studies 2 and 3, and wrote the manuscript. WvT contributed to the rationale of the research, conducted Study 1b, and revised the manuscript. EK contributed to the rationale of the research and revised the manuscript. LB conducted Study 1a as part of her final year project (bachelor thesis) and revised the manuscript.

REFERENCES

Alicke, M. D., and Sedikides, C. (2010). *Handbook of Self-Enhancement and Self-Protection*. New York, NY: Guilford Press.

Allison, S. T., and Goethals, G. R. (2011). *Heroes: What They Do and Why We Need Them*. New York, NY: Oxford University Press.

Allison, S. T., and Goethals, G. R. (2013). *Heroic Leadership: An Influence Taxonomy of 100 Exceptional Individuals*. London: Routledge. doi: 10.4324/9780203100882

Allison, S. T., Goethals, G. R., and Kramer, R. M. (eds) (2017). *Handbook of Heroism and Heroic Leadership*. Oxford: Routledge, 19–35.

Batson, C. D. (1987). "Prosocial motivation: is it ever truly altruistic?," in *Advances in Experimental Social Psychology*, Vol. 20, ed. L. Berkowitz (San Diego, CA: Academic Press), 65–122. doi: 10.1016/S0065-2601(08)60412-8

Baumeister, R. F., and Vohs, K. D. (2002). "The pursuit of meaningfulness in life," in *Handbook of Positive Psychology*, eds C. R. Snyder and S. Lopez (New York, NY: Oxford University Press), 608–618.

Beike, D., Markman, K. D., and Karadogan, F. (2009). What we regret most are lost opportunities: a theory of regret intensity. *Pers. Soc. Psychol. Bull.* 35, 385–397. doi: 10.1177/0146167208328329

Bronk, K. C., and Brian, R. (2016). "The intersection of purpose and heroism," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 495–506.

Bruner, J. S. (1990). *Acts of Meaning*. Cambridge, MA: Harvard University Press.

Burger, J. M., and Cooper, H. M. (1979). The desirability of control. *Motiv. Emot.* 3, 381–393. doi: 10.1007/BF00994052

Campbell, J. (2004). *The Hero with a Thousand Faces*. Princeton, NJ: Princeton University Press.

Connolly, T., and Reb, J. (2005a). Regret and the control of temporary preferences. *Behav. Brain Sci.* 28, 653–654. doi: 10.1017/S0140525X05250112

Connolly, T., and Reb, J. (2005b). Regret in cancer-related decisions. *Health Psychol.* 24, 529–534. doi: 10.1037/0278-6133.24.4.S29

Connolly, T., and Zeelenberg, M. (2002). Regret in decision making. *Curr. Dir. Psychol. Sci.* 11, 212–216. doi: 10.1111/1467-8721.00203

Coricelli, G., and Rustichini, A. (2010). Counterfactual thinking and emotions: regret and envy learning. *Philos. Trans. R. Soc. B Biol. Sci.* 365, 241–247. doi: 10.1098/rstb.2009.0159

Coughlan, G., Igou, E. R., Van Tilburg, W. A. P., Kinsella, E. L., and Ritchie, T. D. (2017). From boredom to perceptions of heroes: a meaning-regulation approach to heroism. *J. Humanist. Psychol.* doi: 10.1177/0022167817705281 [Epub ahead of print].

Epstude, K., and Jonas, K. J. (2015). Regret and counterfactual thinking in the face of inevitability: the case of HIV-positive men. *Soc. Psychol. Pers. Sci.* 6, 157–163. doi: 10.1177/1948550614546048

Epstude, K., and Roese, N. J. (2008). The functional theory of counterfactual thinking. *Pers. Soc. Psychol. Rev.* 12, 168–192. doi: 10.1177/1088868308316091

Franco, Z., Blau, K., and Zimbardo, P. (2011). Heroism: a conceptual analysis and differentiation between heroic action and altruism. *Rev. Gen. Psychol.* 5, 99–113. doi: 10.1037/a0022672

Frankl, V. E. (1946). *Man's Search for Meaning: An Introduction to Logotherapy*. Boston, MA: Beacon Press.

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SUPPLEMENTARY MATERIAL

Subjective Happiness Scale (Lyubomirsky and Lepper, 1999); Self-Enhancement Needs Scale adapted from Hepper et al. (2010). https://osf.io/c8zar

Früchtl, J. (2009). *The Impertinent Self: A Heroic History of Modernity*. Stanford, CA: Stanford University Press.

Gilovich, T., and Medvec, V. H. (1995). The experience of regret: what, when, and why. *Psychol. Rev.* 102, 379–395. doi: 10.1037/0033-295X.102.2.379

Gilovich, T., Medvec, V. H., and Kahneman, D. (1998). Varieties of regret: a debate and partial resolution. *Psychol. Rev.* 105, 602–605. doi: 10.1037/0033-295X.105.3.602

Green, J., Van Tongeren, D., Cairo, A., and Hagiwara, N. (2017). "Heroism and the pursuit of meaning," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 507–524.

Hayes, A. F. (2018). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach*, 2nd Edn. New York, NY: Guilford Press.

Heine, S. J., Proulx, T., and Vohs, K. D. (2006). The meaning maintenance model: on the coherence of social motivations. *Pers. Soc. Psychol. Rev.* 10, 88–110. doi: 10.1207/s15327957pspr1002_1

Hepper, E. G., Gramzow, R. H., and Sedikides, C. (2010). Individual differences in self-enhancement and self-protection strategies: an integrative analysis. *J. Pers.* 78, 781–814. doi: 10.1111/j.1467-6494.2010.00633.x

Jokisaari, M. (2003). Regret appraisals, age, and subjective well-being. *J. Res. Pers.* 37, 487–503. doi: 10.1016/S0092-6566(03)00033-3

Kahneman, D., and Miller, D. T. (1986). Norm theory: comparing reality to its alternatives. *Psychol. Rev.* 93, 136–153. doi: 10.1037/0033-295X.93.2.136

Kinsella, E. L., Igou, E. R., and Ritchie, T. D. (2017a). Heroism and the pursuit of a meaningful life. *J. Humanist. Psychol.* doi: 10.1177/0022167817701002

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015a). Lay perspectives on the social and psychological functions of heroes. *Front. Psychol.* 6:130. doi: 10.3389/fpsyg.2015.00130

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2015b). Zeroing in on heroes: a prototype analysis of hero features. *J. Pers. Soc. Psychol.* 108, 114–127. doi: 10.1037/a0038463

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2017b). "Attributes and applications of heroes: a brief history of lay and academic perspectives," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 19–35.

Kinsella, E. L., Ritchie, T. D., and Igou, E. R. (2017c). On the bravery and courage of heroes: considering gender. *Heroism Sci.* 2, 1–14. doi: 10.26736/hs.2017.01.04

Lecci, L., Okun, M. A., and Karoly, P. (1994). Life regrets and current goals as predictors of psychological adjustment. *J. Pers. Soc. Psychol.* 66, 731–741. doi: 10.1037/0022-3514.66.4.731

Lerner, J. S., and Keltner, D. (2001). Fear, anger, and risk. *J. Pers. Soc. Psychol.* 81, 146–159. doi: 10.1037/0022-3514.81.1.146

Lyubomirsky, S., and Lepper, H. S. (1999). A measure of subjective happiness: preliminary reliability and construct validation. *Soc. Indic. Res.* 46, 137–155. doi: 10.1023/A:1006824100041

Maher, P. J., Igou, E. R., and Van Tilburg, W. A. P. (2018). Brexit, trump, and the polarizing effect of disillusionment. *Soc. Psychol. Pers. Sci.* 9, 205–213. doi: 10.1177/1948550618750737

Mandel, D. R., Hilton, D. J., and Catellani, P. (eds) (2007). *The Psychology of Counterfactual Thinking*. New York, NY: Routledge. doi: 10.4324/9780203963784

Markman, K. D., McMullen, M. N., and Elizaga, R. A. (2008). Counterfactual thinking, persistence, and performance: a test of the reflection and evaluation model. *J. Exp. Soc. Psychol.* 44, 421–428. doi: 10.1016/j.jesp.2007.01.001

Martinez, L. F., and Zeelenberg, M. (2015). Trust me (or not): regret and disappointment in experimental economic games. *Decision* 2, 118–126. doi: 10.1037/dec0000025

Postman, N., and Weingartner, C. (1969). *Meaning Making. Teaching as a Subversive Activity*. New York, NY: Delacorte Press.

Roese, N. J. (1994). The functional basis of counterfactual thinking. *J. Pers. Soc. Psychol.* 66, 805–818. doi: 10.1037/0022-3514.66.5.805

Roese, N. J. (1997). Counterfactual thinking. *Psychol. Bull.* 121, 133–148. doi: 10.1037/0033-2909.121.1.133

Roese, N. J., and Epstude, K. (2017). "The functional theory of counterfactual thinking: new evidence, new challenges, new insights," in *Advances in Experimental Social Psychology*, Vol. 56, ed. J. M. Olson (Cambridge, MA: Academic Press), 1–79. doi: 10.1016/bs.aesp.2017.02.001

Roese, N. J., and Summerville, A. (2005). What we regret most... and why. *Pers. Soc. Psychol. Bull.* 31, 1273–1285. doi: 10.1177/0146167205274693

Saffrey, C., Summerville, A., and Roese, N. J. (2008). Praise for regret: people value regret above other negative emotions. *Motiv. Emot.* 32, 46–54. doi: 10.1007/s11031-008-9082-4

Schwartz, B., Ward, A., Monterosso, J., Lyubomirsky, S., White, K., and Lehman, D. R. (2002). Maximizing versus satisficing: happiness is a matter of choice. *J. Pers. Soc. Psychol.* 83, 1178–1197. doi: 10.1037/0022-3514.83.5.1178

Steger, M. F., Frazier, P., Oishi, S., and Kaler, M. (2006). The meaning in life questionnaire: assessing the presence of and search for meaning in life. *J. Couns. Psychol.* 53, 80–93. doi: 10.1037/0022-0167.53.1.80

Stewart, A. J., and Vandewater, E. A. (1999). "If I had it to do it over again . . .": midlife review, midcourse corrections, and women's well-being in midlife. *J. Pers. Soc. Psychol.* 76, 270–283. doi: 10.1037/0022-3514.76.2.270

Sullivan, M. P., and Venter, A. (2005). The hero within: inclusion of heroes into the self. *Self Identity* 4, 101–111. doi: 10.1080/13576500444000191

Sullivan, M. P., and Venter, A. (2010). Defining heroes through deductive and inductive investigations. *J. Soc. Psychol.* 150, 471–484. doi: 10.1080/00224540903366602

Timmer, E., Westerhof, G. J., and Dittmann-Kohli, F. (2005). "When looking back on my past life I regret..": retrospective regret in the second half of life. *Death Stud.* 29, 625–644. doi: 10.1080/07481180591004660

Van Tilburg, W. A. P., and Igou, E. R. (2011a). On boredom and social identity: a pragmatic meaning-regulation approach. *Pers. Soc. Psychol. Bull.* 37, 1679–1691. doi: 10.1177/0146167211418530

Van Tilburg, W. A. P., and Igou, E. R. (2011b). On the meaningfulness of existence: when life salience boosts adherence to worldviews. *Eur. J. Soc. Psychol.* 41, 740–750. doi: 10.1002/ejsp.819

Van Tilburg, W. A. P., and Igou, E. R. (2012). On boredom: lack of challenge and meaning as distinct boredom experiences. *Motiv. Emot.* 36, 181–194. doi: 10.1007/s11031-011-9234-9

Van Tilburg, W. A. P., and Igou, E. R. (2013). On the meaningfulness of behavior: an expectancy x value approach. *Motiv. Emot.* 37, 373–388. doi: 10.1007/s11031-012-9316-3

Van Tilburg, W. A. P., and Igou, E. R. (2016). Going to political extremes in response to boredom. *Eur. J. Soc. Psychol.* 46, 687–699. doi: 10.1002/ejsp.2205

Van Tilburg, W. A. P., and Igou, E. R. (2017a). Boredom begs to differ: differentiation from other negative emotions. *Emotion* 17, 309–322. doi: 10.1037/emo0000233

Van Tilburg, W. A. P., and Igou, E. R. (2017b). Can boredom help? Increased prosocial intentions in response to boredom. *Self Identity* 16, 82–96. doi: 10.1080/15298868.2016.1218925

Van Tilburg, W. A. P., and Igou, E. R. (2018). Dreaming of a brighter future: anticipating happiness instils meaning in life. *J. Happiness Stud.* doi: 10.1007/s10902-018-9960-8

Van Tilburg, W. A. P., Igou, E. R., and Sedikides, C. (2013). In search of meaningfulness: nostalgia as an antidote to boredom. *Emotion* 13, 450–461. doi: 10.1037/a0030442

Wilkinson, M. R., Ball, L. J., and Alford, D. (2015). Counterfactual reasoning for regretted situations involving controllable versus uncontrollable events: the modulating role of contingent self-esteem. *Adv. Cogn. Psychol.* 11, 22–30. doi: 10.5709/acp-0168-4

Wrosch, C., and Heckhausen, J. (2002). Perceived control of life regret: good for young and bad for old adults. *Psychol. Aging* 17, 340–350. doi: 10.1037/0882-7974.17.2.340

Zeelenberg, M. (1999). Anticipated regret, expected feedback, and behavioral decision making. *J. Behav. Decis. Mak.* 12, 93–106. doi: 10.1002/(SICI)1099-0771(199906)12:2<93::AID-BDM311>3.0.CO;2-S

Zeelenberg, M., and Pieters, R. (2007). A theory of regret regulation 1.0. *J. Consum. Psychol.* 1, 3–18. doi: 10.1207/s15327663jcp1701_3

Zeelenberg, M., Van Dijk, W. W., and Manstead, A. S. R. (1998a). Reconsidering the relation between regret and responsibility. *Organ. Behav. Hum. Decis. Process.* 74, 254–272. doi: 10.1006/obhd.1998.2780

Zeelenberg, M., Van Dijk, W. W., Manstead, A. S. R., and Van der Pligt, J. (1998b). The experience of regret and disappointment. *Cogn. Emot.* 12, 221–230. doi: 10.1080/026999398379727

Zhou, H., and Fishbach, A. (2016). The pitfall of experimenting on the web: how unattended selective attention leads to surprising (yet false) research conclusions. *J. Pers. Soc. Psychol.* 111, 493–504. doi: 10.1037/pspa0000056

Evidence for Cross-Cultural Support for the Underdog: Is the Affiliation Driven by Fairness and Competence Assessments?

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Jesus told his disciples, "Truly I tell you, it is hard for someone who is rich to enter the kingdom of heaven. Again I tell you, it is easier for a camel to go through the eye of a needle than for someone who is rich to enter the kingdom of God." (Matthew 19:23–24). Ditto for heroes. The current study suggests that "humble beginnings" is also a prerequisite for one to become an adulated entity. Participants from China, Israel, and Japan read of two sports teams with disparate expectations and/or financial resources about to face each other. Support was extended to the lesser one. When the two domains of comparison were contrasted, participants wished the lower resources/high expectations team to win the game. This finding was interpreted as an impetus to maintain basic fairness based on competency assessments, both fundamental and universal psychological needs, at the root of the choice to support underdogs. In conclusion, we explore how support underdog relates generally to the concept of heroism.

Keywords: underdog support, fairness, competence, attributions, sport

INTRODUCTION

Edward Sagarin, the famed (and controversial) American sociologist opens his 1970 treatise "Who roots for the underdog?" with this sweeping statement "Everyone in America is for the underdog. How do we know? It is simple enough: Americans tell us that they root for the underdog." (p. 425). In analyzing the writing of others, Sagarin determines "It is not a human trait but a specifically American trait, this sympathy for the underdog. In fact, sympathy goes with underdog like ham goes with eggs. . .." (p. 428). He associates underdog support with fighting the oppressor and arrives at the conclusion that underdog support is a uniquely American trait because of its democratic governing system. If this is indeed the case, one wonders if Sagarin is being somewhat US-centric by overlooking the fact that this same governing system is practiced in many other countries.

But even more fundamental questions arise from Sagarin's writings. Are underdogs indeed supported by all, or at least the majority, of Americans? Sagarin only reviews the writings of other thinkers and does not trouble himself to test empirically the opinions of other Americans who are not members of the intellectual elite. If such an underdog effect does exist in the United States, is it exclusive to this country, as he proclaimed? Furthermore, is it based on the political system

practiced in each country as he inferred, or is it actually a universal idea (ideal?) – a notion he vehemently rejects.

Current Research Into Underdog Support

The defining feature of underdogs is the opposition they are facing. They struggle against entities, which are similar to themselves but significantly mightier. They often face another sport team or athlete (Vandello et al., 2007), a rival politician or business company (Goldschmied and Vandello, 2009; Paharia et al., 2010; Goldschmied et al., 2017), a neighboring country in a geopolitical struggle (Vandello et al., 2007), an opposing litigant (Songer and Sheehan, 1992) or another in their profession (Kim et al., 2008). As such, a numerical quantification of the disadvantage can be assessed, for example the likelihood to prevail in an upcoming competition (e.g., batting odds, expert predictions), resource availability [e.g., salaries, market share, donations to the cause (Bradley et al., 2018)], or past success (e.g., how did they fare against one another, how did they both fare against similar others?). We also contend that there are "code" terms or heuristics, as "mom and pop" operation, "humble beginnings" (Paharia et al., 2010) or "the little guy" (McGinnis and Gentry, 2009) which convey succinctly this significant disadvantage relative to the competition without requiring additional elaboration.

During the last decade or so empirical research has sustained Sagarin's initial assertion that support and sympathy for underdogs is indeed a well-documented phenomenon in American culture (Vandello et al., 2007; Kim et al., 2008; Goldschmied and Vandello, 2009; Paharia et al., 2010; Goldschmied and Vandello, 2012). For example, Vandello et al. (2007) showed that when asked to make hypothetical predictions about a future Olympic competition, participants in the United States preferred countries with a less stellar past record of winning medals in the games over favorites with a superior record. Likewise, when United States participants read the same essay about the Israeli-Palestinian conflict, accompanied by a map that manipulated the relative size of the two sides (i.e., Palestinian territories framed as small compared to Israel vs. Israel being framed as small compared to its Arab neighbors in the Middle East), the responders defined the smaller entity on the map as the underdog, shifted support to it, and saw its position as more justified. Kim et al. used a more abstract manipulation, showing participants animated clips of round shapes rolling on either a flat surface or climbing uphill. In this study, participants liked the most a struggling ball (i.e., slowing down as if facing much adversity) when it was bumped "intentionally" by a mighty ball (which continued to roll at the same speed as if experiencing no difficulty) in comparison to a non-struggling ball or a struggling ball without a mighty adversary.

Once underdog support in the United States was demonstrated consistently, further research attempted to delineate the motivations behind the effect. Ideas such as the upward mobility bias (Davidai and Gilovich, 2015) demonstrate the considerable focus placed on the underdog's motivation to rise up while the intentions of the favorite to suppress this effort are often overlooked. Alternatively,

Goldschmied and Vandello (2012) argued for a memory bias rooted in the availability heuristic, such that when having to make a decision whether to support an underdog entity or not, past instances of underdog struggles are recalled. As underdog stories are prominently featured in those rare occasions when they overcome, people tend to overestimate the likelihood of future underdogs to do the same and this bias may contribute to the observed underdog support as winning is much cherished.

Another prominent explanation for underdog support revolves around fairness considerations. The rationale is that when significant differences in strength between direct competitors are highlighted, observers intuitively assume that the disparities are predicated on an unfair distribution of resources and that the underdog's lesser endowment is not because of its own doing and shortcomings but due to the world being an unjust place. This attributional process moves them to extend their support to the "little guy" in the attempt to morally and psychologically rectify an unjust world. In support of this idea, Vandello et al. (2007) used a sport scenario in which the expectations of two unknown teams to win a future competition were manipulated independently from the amount of money the teams had at their disposal to spend on quality players (i.e., financial resources). As hypothesized, whenever a clear disadvantage was present (based on expectations, financial resources, or both), the lesser team was recognized as the underdog and was supported. However, support for the underdog was driven more by considerations of relative financial resources than by expectations of winning. Participants were less likely to see a team with relatively ample resources as an underdog even if the team had low expectations for success, compared to a team with lesser financial resources. With the loss of the underdog label, support was removed and extended to the stronger team. This shift in support tendencies seems due to a perceived lack of competence (i.e., despite an abundance of resources the team is not projected to do well). Stated differently, relative resources moderated the effect of expectations on liking and support, which was interpreted as evidence for fairness concerns based on attributional analysis at the root of underdog support tendencies.

Underdog Support in the International Arena

The focus of the current investigation was an attempt to replicate Vandello et al. (2007) in exploring whether sympathy for lesser/underdog entities extends also to cultures outside the United States and whether this support is predicated similarly on fairness and competence assessments. We selected samples from three culturally diverse countries (Israel, Japan, and China), with the intention to serve three main goals. First, none of these countries has Anglo-Saxon origins, and thus may not share the same underlying values held by people in the United States who participated in the original study. Research studying political opinion polls shows underdog support in English-speaking countries such as the United Kingdom (Teer and Spence, 1974; Marsh, 1984), the United States (Fleitas, 1971; Ceci and Kain, 1982), and Australia (Goot, 2010), but data are not available

beyond. Paharia et al. (2010), in the only past cross-cultural underdog support study, argued that cultural identity was indeed a moderator, as American college students preferred an underdog chocolate brand over a well-established competitor brand more so than their peers in Singapore. The researchers grounded their findings in the higher levels of individualism in the United States (Triandis, 1989; Markus and Kitayama, 1991), supposedly leading to higher appreciation for those who try hard and attempt to disrupt the regular order of business. They also contended the United States had a generally high regard for cultural idols who triumph over hardship or poverty as symbolized in the "American dream" narrative.

Second, past writers (Klapp and Heroes, 1962; Sagarin, 1970) were convinced that underdog support was uniquely American based on democratic values and education. Although this idea is somewhat anachronistic and contradictory in nature (as other countries also practice this governing system), we attempted to put this hypothesis to the test. In the current study two countries, Israel and Japan, share similar vibrant democratic political systems as the United States, while China is authoritarian, with single-party rule.

Third, all three sampled countries demonstrate substantial differences along the masculinity-femininity continuum based on Hofstede's Cultural Dimensions taxonomy (Hofstede, 1980, 1991, 2001). Hofstede argued that when conducting cross-cultural comparison studies, researchers should consider five central dimensions: power distance, individualism vs. collectivism, short vs. long-term orientation, uncertainty avoidance, and masculinity vs. femininity. The last factor comprises the extent to which open conflict is tolerated and even encouraged in society. On the feminine side of the continuum, compromise and accommodation are valued. On the masculine end, a premium is placed on a show of force and assertiveness. Hofstede linked masculine orientation with support for the winner, while feminine orientation was associated with support for the underdog. Each country in the current investigation represents a unique standing along this continuum: Japan represents the most masculine oriented culture (in the 90 range based on the 100-point Hofstede scale), China scores similar to the world average (in the 50 range), while Israel tilts toward the feminine end (in the 40 range).

In the current investigation we then set out to determine how distinct cultures address how the "underdog" construct pertains to "resources" and "expectations" for "victory" and ascertain if there are cross-cultural differences in relating to the "underdog" construct accordingly. More specifically, we attempted to determine if there are cross-cultural differences in support for the lesser.

MATERIALS AND METHODS

Participants

One hundred ten students from the Open University of Tel-Aviv in Israel (93 females, 17 males; mean age = 26.99, SD = 5.7), 107 students in China from Tianjin University of Sport (55 females, 52 males; mean age = 19.17, SD = 1.15) and 118 students from the Seirei Christopher University in Japan (82 women, 35 men, 1 unidentified; mean age = 19.73, SD = 1.93) completed the questionnaire.

Procedure

Participants completed a one-page questionnaire in their classrooms. The first section presented participants with a brief sports scenario, including a request to imagine two teams about to play an important match (in an unspecified sport). We chose the context of sport because previous research has shown that the underdog label was strongly associated with this domain (Goldschmied, 2007; McGinnis and Gentry, 2009). We manipulated each team's expectations and resources to produce four versions of the scenario. In the first version (expectations only), Team A was described by an unspecified source as having a 70% chance of victory versus 30% for Team B; in the second version (resources only), Team A was described as having a payroll of $100 million versus $35 million for Team B; in the third version (congruent expectations and resources), Team A was described as having both a 70% chance of victory and a $100 million payroll versus a 30% chance of victory and a $35 million payroll for Team B; and in the fourth version (incongruent expectations and resources) Team A had the greater chance of victory (70%) but a lower payroll ($35 million), compared to Team B (30% chance, $100 million payroll). Thus, the design was a 3 (country) × 4 (scenario) × 2 (team), with country and scenario being between-subjects factors and team a within-subjects factor.

As a manipulation check, participants were first asked to estimate which team was going to win the match (forced-choice). Next, they were asked how much they would like each team to win the game, on a 9-point scale ranging from 0 = "not at all" to 9 = "very much." Finally, the participants were asked which of the two teams they would root for (forced-choice).

The research was approved by the internal review board of the University of South Florida.

RESULTS

Who Will Win (Manipulation Check)

In the incongruent scenario, the less resources/high expectations team was defined as the favorite. Across all samples, about 85% believed that the stronger team would win the game. A chi-square test to assess the relation between scenario and prediction made was not statistically significant, χ^2 (3, 332) = 4.43, p = 0.219. A chi-square test of the relation between country of origin and prediction made was significant, χ^2 (2, 332) = 8.92, p = 0.012. Specifically, 76% of participants from China predicted that the top dog would prevail, as did 86% of Israelis and 91% of Japanese (all predictions at or above the baseline of 70% prediction used in the scenarios).

Underdog Support

A three-way mixed model analysis of variance was conducted first to explore the effects of status (underdog vs. favorite) as a repeated-measure variable and the type of scenario and the

country of the participants (between-subjects factors) on the support extended to the teams at play. In the incongruent scenario, the less resources/high expectations team was defined as the underdog entity based on the results of Vandello et al. (2007). **Table 1** presents the mean ratings of desire for each team to win the game across the four conditions for each country. There was a main effect of status such that underdog entities were supported significantly more ($M = 6.12$) than favorites ($M = 4.96$), $F(1,323) = 43.11$, $p < 0.000$, partial eta squared = 0.118. In addition, there was a main effect of country, $F(2,323) = 5.61$, $p = 0.004$; partial eta squared = 0.034. *Post hoc* comparisons using Tukey HSD test indicated that participants from China ($M = 5.75$) and from Japan ($M = 5.59$) extended overall more support (to both sides) than participants from Israel ($M = 5.28$). There was also a main effect of scenario, $F(3,323) = 2.99$, $p = 0.031$; partial eta squared = 0.027. The resources-only condition generated more support ($M = 5.81$) than the expectations-only condition ($M = 5.36$), while the matching ($M = 5.53$) and non-matching ($M = 5.46$) scenarios were no different from all other conditions.

In order to test the main hypothesis regarding whether underdog support is a cross-cultural phenomenon, a difference score was computed based on the support extended to the entity at a disadvantage minus the support for the team with an advantage across the four conditions (again, in the incongruent scenario the financial disadvantage was used as the anchor to determine which team was considered the underdog). This difference score was considered a reliable measure, as participants tended to extend support to one or the other of the teams but not to both at the same time, as evident by a negative correlation between supporting the underdog and supporting the favorite ($r = -0.43$, $p < 0.01$) [the interaction terms could not have been tested without computing a difference score, as averaging support

would have washed out the differences extended to underdogs vs. top-dogs].

A two-way between-groups analysis of variance was conducted to explore the effect of country and type of scenario on the support extended to underdogs (a difference score). There was no effect of country on underdog support, $F(2,323) = 0.036$, $p = 0.96$. There was also no effect of scenario on underdog support, $F(3,323) = 0.215$, $p = 0.87$. Also, the interaction effect did not reach statistical significance [$F(6,323) = 1.974$, $p = 0.07$].

We also explored underdog support using a forced-choice format in which participants were asked to designate which team they would root for if they were present at the actual game. A chi-square test of the relation between scenario and team rooted for was not significant, $\chi^2 (3,332) = 6.567$, $p = 0.09$. Finally, underdog support was robust, as 52% of participants from Israel reported that they would root for the underdog, as well as 57% of Chinese and 72% of Japanese participants [vs. 68% in the American sample, Vandello et al. (2007)].

DISCUSSION

The current undertaking was a cross-cultural exploration in which Chinese, Japanese, and Israeli students were asked about their support for two competing sport teams with varying chances of success, financial resources, or both (with congruent and incongruent scenarios). Participants consistently extended their support to the lesser competitor, as did their American counterparts in the original study (Vandello et al., 2007). The results are telling in showing that fairness seems to drive support tendencies in a across-cultural manner (in 8 out of the 9 comparisons embodying a clear disadvantage, the lesser side was significantly supported and in none was the top-dog supported).

TABLE 1 | Desire for each team to win the game as a function of expectations for success and resources, by country.

| | Degree of liking to win (1–9) | | | | | |
| | Israel | | China | | Japan | |
	Team A	Team B	Team A	Team B	Team A	Team B
Expectations only:						
Team A: 70% chance of victory, Team B: 30% chance of victory	5.06 (2.01)	5.77 (2.13)	4.34 (2.38)	6.31 (1.97)	4.65 (1.66)	5.90 (2.17)
Resources only:						
Team A: high payroll, Team B: low payroll	4.32 (1.4)	6.76 (1.92)	5.96 (2.01)	6.00 (2.08)	5.13 (1.11)	6.70 (1.66)
Expectations and resources congruent:						
Team A: 70% chance of victory + high payroll, Team B: 30% chance of victory + low payroll	4.81 (2.06)	5.46 (2.06)	5.15 (2.26)	6.81 (2.15)	5.11 (1.55)	5.86 (1.84)
Expectations and resources incongruent:						
Team A: 70% chance of victory + low payroll, Team B: 30% chance of victory + high payroll	5.46 (2.4)	4.63 (1.95)	6.35 (2.1)	4.96 (1.78)	6.10 (1.29)	5.28 (0.99)

Support was not conditioned upon benevolence or morality, as none of these elevated ethical qualities was stated or could be inferred from the minimal descriptions of the teams.

When the characteristics of the underdog team did not match (i.e., incongruent expectations and resources condition) participants in all three countries supported the entity with less financial resources (and higher expectations to win), again, similar to American participants (Vandello et al., 2007). The results are most informative in the incongruent condition as aptitude can be deduced. Competence thus seems to be a vital reason behind cross-cultural underdog support. Upon realizing that the team's lower chances to prevail exist despite abundance of resources, loyalties shift and the low-expectations team is no longer supported. This finding based on the incongruent condition also sheds light on the expectations-only condition when underdog support was extended to the lesser team. It seems that without being fully informed, participants assume that the team's diminished chances are based not on its own making but due to the "harsh" hand the team was dealt. Similarly, Paharia et al. (2010) reported that one essential dimension of the underdog label was "external disadvantage" rather than disadvantage altogether.

While we propose here a fairly systematic attributional process to determine competence at the root of the fairness assessment, caution must be practiced as our participants were not inquired directly about their thought process in making the decision whom to support. Past research (Dijksterhuis and Nordgren, 2006; Dijksterhuis et al., 2006) has found that not always do people engage in a deliberate-conscious decision-making process when deciding between options.

Indeed no cultural influences were detected in the three countries sampled at the macro level of analysis utilizing a difference score between the levels of support extended to each team. However, difference scores are often criticized as statistically conservative (Edwards, 1995; Jehn and Chatman, 2000) and thus it is worthwhile to study the data at a more granular level. For example, in the resources only manipulation, there seems to be no difference in the China data in rooting for either team. This country has gone through an unprecedented financial transformation in the recent times from a Communist society with government planning to one that is more market and consumer oriented and thus the psychological meaning of money in relating to others (Vohs et al., 2006) may still be in flux though this possible explanation is admittedly a *post hoc* one. Also, the effect of the expectations only manipulations seems less strong for Israel than in the other two countries. These manipulations and others should be considered in future cross-cultural underdog research as we operationalized "significant disadvantage" in merely two ways in the present investigation. Other untested variables denoting numerical disadvantage may, in turn, interact with culture to affect support for the underdog.

One question which emerges in light of this strong tendency to support the lesser is at what level of disparity this underdog support tendency emerges. As we did not manipulate the level of discrepancy in the current study we cannot determine when does the contrast between the competitors become perceptible enough to elicit underdog support (i.e., would a team with 45% chance to win as opposed to 30% in the present investigation engender the same support level?). Also of importance is whether the underdog support threshold is culturally dependent and whether once established it follows a linear trend or the disparity may become so great to bare that observers abandon the lesser eventually. Lastly, the methodology we utilized prevented us from teasing apart underdog support tendencies from schadenfreude or the desire to see the mighty fall (Feather, 1998; Feather and Sherman, 2002).

Because we find that support for the underdog is a cross-cultural phenomenon, we need to re-evaluate past research claims to the contrary. First, while Hofstede (1980, 1991, 2001) drew a clear association between cultures high on the femininity domain and underdog support, many questions arise with regard to both the reliability of his findings and the validity of his conclusions (McSweeney, 2002). Moreover, in achievement-related events, perceptions of fairness and attributions demonstrate somewhat similar patterns across cultures when the self is not implicated (Betancourt and Weiner, 1982; Berman et al., 1985). In addition, Hofstede's definition of the underdog construct tends to be incomplete with regard to the hero worship he associates with cultures. For example, he contends that "In masculine cultures children learn to admire the strong: popular fiction heroes made in the United States include Batman and Rambo." (Hofstede, 2001; p. 300). He neglects to mention that while Rambo is certainly a masculine figure, he is also an underdog, a lone wolf, fighting not only a mighty enemy but also his superiors. On the flip side, Hofstede argues that "In feminine cultures children learn sympathy for the underdog and the antihero. "Rasmus Klump" (called Petzi in translation), small and friendly, is a Danish comic hero...". He neglects to mention that antiheros pervade American culture as well–such as Charlie Brown, Shrek and Garfield–and anecdotal evidence for underdog support in folklore, anime, horse racing, and film is apparent in all the cultures studied (Tsabari and Tzor, 1996; Associated Press [AP], 2004; Yu-Gi-Oh! Heart of the Underdog [Anime], 2004; Wong and Ding, 2008; Caplan, 2017).

The Underdog as a Hero

Heroes, we know, should have some basic qualities to earn their coveted label. First and foremost, they need to be benevolent and engage in moral deeds (or at least engage in the call for others to do so) as well as be caring and compassionate (Eden et al., 2015).

Another important hero characteristic is the adversity they face. Heroes must be opposed by forces which are significantly mightier than themselves and are likely to retaliate against them when they pursue their noble causes (otherwise, they are more befitting the label of "do-gooders" rather than heroes). So paradoxically, heroes are defined by their opposition and the antagonism they encounter (Allison, 2017). The hostility or hardship they face, in turn, requires them to be competent in their pursuit. In the absence of competence, they are destined to fail as they face an uphill battle. The combination of all these dimensions brings about another important facet of heros: the inspiration and adulation they arise in us (Allison and Goethals, 2016).

Allison and Goethals (2011) asked participants to generate traits describing heroes. Based on factor and cluster-analytic statistical procedures, they identified eight general categories of hero traits. These traits are in-line with the heroes' themes described above and consist of "selfless" and "caring" (i.e., benevolent), "smart," "strong," "charismatic," "reliable" (i.e., competent), "resilient" (i.e., facing strong opposition), and "inspiring," which was identified by a different group of participants as the most important dimension of being a hero (Allison and Goethals, 2011).

Underdogs are a subset class of heroes. They possess most of the positive characteristics associated with being a hero, but not necessarily all. They are certainly inspiring as we strongly root for them (Allison and Goethals, 2008; Kim et al., 2008). They are also perceived as competent based on the findings of the current study as well as Vandello et al. (2007). However, they are not necessarily more virtuous than their adversary is (or at least it does not seem that virtue is required for them to gain support from others).

The defining feature of underdogs likewise, as we noted earlier, is the opposition they are facing. They struggle against entities, which are fundamentally akin to themselves but significantly mightier and thus a numerical quantification of the disadvantage can be roughly generated if not outright computed. While heroes may face their kind under daunting circumstances, they also often struggle with powerful systems attempting to suppress them (e.g., authoritarian rule, racial bias, gender perceptions) or forces of nature (e.g., terminal disease, major disability, a perfect storm).

This emphasis on great disadvantage is in full manifestation when partisans attempt to marshal world public opinion in support of their cause. For example, Dr. Alan Dershowitz, the noted legal scholar and a great supporter of the state of Israel fights hard against the notion that the Palestinians are the underdog in this protracted and bloody conflict. In his book "The case for Israel" (Dershowitz, 2003), he writes, "Viewed from a global perspective, Israel is clearly the underdog. The Palestinians have the widespread support of a billion Muslims. Add to that the United Nations, the European community, the third world, the Vatican, many influential academics, the international left, the far right and many Protestant churches. The Palestinians have far more support than the Tibetans, the Kurds, the Armenians, the Chechens and many real underdogs. Moreover the nations that are oppressing these other underdog groups-China, Turkey and Russia, are far more powerful than tiny Israel, with the population of approximately 5.37 million Jews and 1.26 million Arabs. Yet these other "underdogs" receive little support from those who champion the Palestinians" (pp. 213–4). Naturally, Dr. Dershowitz picks and chooses selectively his domains of comparisons in order to garner support for the Jewish state as one can easily point to its vast superiority in terms of military might, financial resources and its geographical size (Vandello et al., 2007) and population.

In sum, we find that in a direct, two-sided, zero-sum competition when the disparity between the contestants is noticeably large, participants gravitate cross-culturally toward the lesser entity, hoping for it to prevail. At the root of this tendency, as Jesus identified early on, is the big gap in resource allocation, which is not intuitively attributed to recklessness by the underdog, but possibly to a fundamentally unjust world and thus the rejection of the privileged. In-line, fairness and competence are seen as important inferences propelling support for those who take on the mighty.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of "name of guidelines, name of committee" with written informed consent from all subjects. All subjects gave written informed consent in accordance with the Declaration of Helsinki. The protocol was approved by the "name of committee."

AUTHOR CONTRIBUTIONS

NG and YG conceived the study and drafted the manuscript. NG designed the study, supervised the data collection, and carried out the statistical analyses. KK edited the manuscript.

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REFERENCES

Allison, S. T. (2017). *Heroes of Richmond: Four Centuries of Courage, Dignity, and Virtue*. Richmond: Palsgrove.

Allison, S. T., and Goethals, G. R. (2008). "Deifying the dead and downtrodden: Sympathetic figures as inspirational leaders," in *Leadership at the Crossroads: Leadership and Psychology*, Vol. 1, eds J. B. Ciulla, D. R. Forsyth, M. A. Genovese, G. R. Goethals, L. C. Han, and C. L. Hoyt (Westport, CT: Praege), 181–195.

Allison, S. T., and Goethals, G. R. (2011). *Heroes: What they do and Why we Need Them*. New York: Oxford University Press.

Allison, S. T., and Goethals, G. R. (2016). Hero worship: the elevation of the human spirit. *J. Theory Soc. Behav.* 46, 187–210. doi: 10.1111/jtsb.12094

Associated Press [AP] (2004). *Glorious Spring' Has Lost 106 Straight. ESPN*. Available at: http://espn.go.com/horse/news/2004/0323/1766649.html

Berman, J. J., Murphy-Berman, V., and Singh, P. (1985). Cross-cultural similarities and differences in perceptions of fairness. *J. Cross Cult. Psychol.* 16, 55–67. doi: 10.1177/0022002185016001005

Betancourt, H., and Weiner, B. (1982). Attributions for achievement-related events, expectancy, and sentiments. *J. Cross Cult. Psychol.* 13, 362–374. doi: 10.1177/0022002182013003007

Bradley, A., Lawrence, C., and Ferguson, E. (2018). "When the relatively poor prosper: the underdog effect on charitable donations," in *Nonprofit and Voluntary Sector Quarterly*, eds A. Bies, C. Guo, and S. Phillips (Thousand Oaks, CA: SAGE Publishing).

Caplan, J. (2017). The nebbish in popular culture or, how the underdog can win. *J. Mod. Jew. Stud.* 16, 138–152. doi: 10.1080/14725886.2016.1204772

Ceci, S. J., and Kain, E. L. (1982). Jumping on the bandwagon with the underdog: the impact of attitude polls on polling behavior. *Public Opin. Q.* 46, 228–242. doi: 10.1086/268715

Davidai, S., and Gilovich, T. (2015). What goes up apparently needn't come down: asymmetric predictions of ascent and descent in rankings. *J. Behav. Decis. Mak.* 28, 491–503. doi: 10.1002/bdm.1865

Dershowitz, A. M. (2003). *The Case for Israel*. Hoboken, NJ: John Wiley & Sons.

Dijksterhuis, A., Bos, M. W., Nordgren, L. F., and Van Baaren, R. B. (2006). On making the right choice: the deliberation-without-attention effect. *Science* 311, 1005–1007. doi: 10.1126/science.1121629

Dijksterhuis, A., and Nordgren, L. F. (2006). A theory of unconscious thought. *Perspect. Psychol. Sci.* 1, 95–109. doi: 10.1111/j.1745-6916.2006.00007.x

Eden, A., Oliver, M. B., Tamborini, R., Limperos, A., and Woolley, J. (2015). Perceptions of moral violations and personality traits among heroes and villains. *Mass Commun. Soc.* 18, 186–208. doi: 10.1080/15205436.2014.923462

Edwards, J. R. (1995). Alternatives to difference scores as dependent variables in the study of congruence in organizational research. *Organ. Behav. Hum. Decis. Process.* 64, 307–324. doi: 10.1006/obhd.1995.1108

Feather, N. T. (1998). Attitudes towards high achievers, self-esteem, and value priorities for Australian, American, and Canadian students. *J. Cross Cult. Psychol.* 29, 749–759. doi: 10.1177/0022022198296005

Feather, N. T., and Sherman, R. (2002). Envy, resentment, schadenfreude, and sympathy: reactions to deserved and undeserved achievement and subsequent failure. *Pers. Soc. Psychol. Bull.* 28, 953–961. doi: 10.1177/0146167202028 00708

Fleitas, D. W. (1971). Bandwagon and underdog effects in minimal-information elections. *Am. Polit. Sci. Rev.* 65, 434–438. doi: 10.2307/1954459

Goldschmied, N. (2007). *The Appeal of the Underdog: Definition of the Construct and Implications for the Self*. Ph.D. thesis, University of South Florida, Florida. Available at: https://scholarcommons.usf.edu/etd/2188

Goldschmied, N., McDaniel, C., and Ramirez, V. (2017). Preference for the underdog when sampling commercial products: assessment of the effect and limiting conditions. *J. Mark. Behav.* 3, 51–61. doi: 10.1561/107.00000041

Goldschmied, N. P., and Vandello, J. A. (2009). The advantage of disadvantage: underdogs in the political arena. *Basic Appl. Soc. Psychol.* 31, 24–31. doi: 10. 1080/01973530802659810

Goldschmied, N. P., and Vandello, J. A. (2012). The future is bright: the underdog label, availability, and optimism. *Basic Appl. Soc. Psychol.* 34, 34–43. doi: 10. 1080/01973533.2011.637726

Goot, M. (2010). Underdogs, bandwagons or incumbency? Party support at the beginning and the end of Australian election campaigns, 1983–2007. *Aust. Cult. Hist.* 28, 69–80. doi: 10.1080/07288430903484126

Hofstede, G. (1980). *Culture's Consequences: International Differences in Work-Related Values*. Beverly Hills, CA: Sage.

Hofstede, G. (1991). *Cultures and Organizations: Software of the Mind*. London: McGraw-Hill.

Hofstede, G. (2001). *Culture's Consequences: Comparing Values, Behaviors, Institutions, and Organizations Across Nations*. Thousand Oaks, CA: Sage.

Jehn, K. A., and Chatman, J. A. (2000). The influence of proportional and perceptual conflict composition on team performance. *Int. J. Confl. Manag.* 11, 56–73. doi: 10.1108/eb022835

Kim, J., Allison, S. T., Eylon, D., Goethals, G., Markus, M., McGuire, H., et al. (2008). Rooting for (and then abandoning) the underdog. *J. Appl. Soc. Psychol.* 38, 2550–2573. doi: 10.1111/j.1559-1816.2008.00403.x

Klapp, O. E., and Heroes, V. (1962). *Heroes, Villains, and Fools: The Changing American Character*. Englewood cliffs NJ: Prentice-Hall.

Markus, H. R., and Kitayama, S. (1991). Culture and the self: implications for cognition, emotion, and motivation. *Psychol. Rev.* 98, 224–253. doi: 10.1037/ 0033-295X.98.2.224

Marsh, C. (1984). "Do polls affect what people think?" in *Surveying Subjective Phenomena*, Vol. 2, ed. C. F. Turner and E. Martin (New York, NY: Russell Sage Foundation), 565–591.

McGinnis, L. P., and Gentry, J. W. (2009). Underdog consumption: an exploration into meanings and motives. *J. Bus. Res.* 62, 191–199. doi: 10.1016/j.jbusres.2008. 01.026

McSweeney, B. (2002). Hofstede's model of national cultural differences and their consequences: a triumph of faith – a failure of analysis. *Hum. Relat.* 55, 89–118. doi: 10.1177/0018726702551004

Paharia, N., Keinan, A., Avery, J., and Schor, J. B. (2010). The underdog effect: the marketing of disadvantage and determination through brand biography. *J. Consum. Res.* 37, 775–790. doi: 10.1086/656219

Sagarin, E. (1970). Who roots for the underdog? *J. Pop. Cult.* 4, 425–431. doi: 10.1111/j.0022-3840.1970.0402_425.x

Songer, D. R., and Sheehan, R. S. (1992). Who wins on appeal? Upperdogs and underdogs in the United States courts of appeals. *Am. J. Polit. Sci.* 36, 235–258. doi: 10.2307/2111431

Teer, F., and Spence, J. D. (1974). *Political Opinion Polls*. London: Hutchinson University Library.

Triandis, H. C. (1989). The self and social behavior in differing cultural contexts. *Psychol. Rev.* 96, 506–520. doi: 10.1037/0033-295X.96.3.506

Tsabari, D., and Tzor, R. (1996). *Underdogs: A War Movie [Motion Picture]*. Yokne'am Illit: New Foundation for Cinema & TV.

Vandello, J. A., Goldschmied, N. P., and Richards, D. A. R. (2007). The appeal of theunderdog. *Pers. Soc. Psychol. Bull.* 33, 1603–1617. doi: 10.1177/ 0146167207307488

Vohs, K. D., Mead, N. L., and Goode, M. R. (2006). The psychological consequences of money. *Science* 314, 1154–1156. doi: 10.1126/science.1132491

Wong, J., and Ding, S. (2008). *The. (Underdog)Knight [Motion Picture]*. Bejing: Greater China Media & Entertainment.

Yu-Gi-Oh! Heart of the Underdog [Anime] (2004). Available at: http://yugioh.wikia.com/wiki/Heart_of_the_Underdog

Ich kann nicht anders: Social Heroism as Nonselfsacrificial Practical Necessity

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Most self-reports of heroic action in both reactive and social (proactive) cases describe the experience as involving a kind of necessity. This seems intuitively sound, but it makes it unclear why heroism is accorded strong approbation. To resolve this, I show that the necessity involved in heroism is a nonselfsacrificial practical necessity. (1) Approaching the intentional structure of human action from the perspective of embodiment, focusing especially on the predispositionality of pre-reflective skill, I develop a phenomenological interpretation of Bernard Williams' notion of "practical necessity" as an endogenous existential necessity. (2) I then offer a view of reactive heroism as instantiating this kind of necessity by literally embodying certain socially affirmed values in a way that is not self-sacrificial. This evinces a deep social bond, and it is this bond, rather than the action itself, that is the ground of approbation. (3) I then discuss how this construal of reactive heroism can be extended to cases of social heroism by way of a necessity that is internal to the agent's individual character. Similarly to reactive cases, a social hero literally embodies a certain ethical commitment such that her actions are likewise instances of nonselfsacrificial practical necessity. (4) I then discuss how the commitment perceived in cases of social heroism pertains to the actualization of "surplus validity," such that whereas the reactive hero is praised for embodying shared value, the social hero is praised for embodying a commitment to actualizing the concrete potential of such value more fully The approbation accorded to social heroism is therefore tied inextricably to a normative judgment concerning such immanent progressive transformation.

Keywords: heroism, practical necessity, phenomenology of the body, embodied action, pre-reflective intentionality, self-sacrifice, habitus

Hier stehe ich, ich kann nicht anders! Gott helfe mir, Amen!
Here I stand, I cannot do otherwise! May God help me, Amen!

These famous words are conventionally attributed to Martin Luther speaking in his own defense on 18 April 1521 at the Diet of Worms against accusations of heresy. While as a matter of historical fact it is unlikely that he uttered anything in this exact form[1], it is widely held that this attribution nonetheless reflects quite accurately the spirit of his oratory that day. Refusing steadfastly to recant his published views that were highly critical of the papacy and other institutions and doctrines of the Catholic Church, views that had already led to his excommunication by Pope Leo X, Luther bravely stuck by his convictions and knowingly risked severe personal consequences. As the Edict

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[1]These words themselves were not in the original verbatim transcript, but were added to the record later—see, for example, (Bainton (1950), p. 185); (Atkinson (1981), p. 161f); (Brecht (1985), pp. 460, 537 note 24); (Wilson (2007), pp. 153, 170).

of Worms, issued shortly thereafter by Emperor Charles V, expressed the expected official outcome, Luther was to be apprehended, captured, and punished as "a notorious, obstinate heretic," all forms of sympathy or support for whom were also harshly proscribed in no uncertain terms.

As it turned out, however, the Edict's measures against Luther went largely unenforced, and he managed to live and to develop his reformational views for another quarter-century. Be that as it may, the dramatic words attributed to him on that day in Worms—"Here I stand, I cannot do otherwise!"—are often taken as emblematic of the uncompromising fortitude characteristic of what is nowadays termed "social heroism," *viz.*, cases of *proactive* heroic action that typically unfold over a long period of time and with a great deal of reflection, and which aim at preserving or instituting social values (Franco et al., 2011, p. 100f)[2]—as opposed to *reactive* or "split-second" cases that involve actions occurring at a particular moment and seemingly without any reflection at all[3]. Unlike typical reactive cases, social heroism generally excludes immediate threats, physical and otherwise, to the agent's well-being, although it does usually involve significant on-going hardships and long-term risks, up to and possibly including the risk of death[4]. Such differences notwithstanding, however, in the same way as reactive heroes often report after the fact that they plunged into their actions more or less spontaneously, without any of the sort of self-conscious deliberation that would constitute their heroic actions as truly *optional*—saying, for example, "I just did what *had* to be done," the self-descriptions offered by social heroes of their conduct often likewise involve something effectively equivalent to Luther's dictum of necessity (as I shall call it), i.e., the "I cannot do otherwise!"—saying, for example, "I *could not* stand by and do nothing"[5].

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[2]This in no way implies that Luther himself is necessarily to be regarded or celebrated as a hero. While some Protestant Christians might so regard him (presumably overlooking, among other things, his virulent anti-Semitism), most devout Catholics probably do not (although they might regard Thomas More, say, or Jeanne d'Arc in analogous ways), and many more people might not care at all one way or the other about any of these religious figures. All of this can thus be taken as illustrating the social relativity of attributions of heroism, and of the specific sort of approbation that goes with such attributions. Nevertheless, it is possible to study the phenomena of heroism scientifically, and the present analysis is intended as a conceptual clarification that can help to undergird such study.

[3]Although I shall use the more conventional expression "social heroism," the key contrast with reactive cases is better captured with the term "proactive," which would imply as a corollary the difference in durational character. In any case, none of this should be taken as implying that reactive or 'split-second' heroism is not also *social* in some important sense (in a similar way that social heroism, like anything proactive, is at the same time also *reactive* in a certain sense).

[4]Although Luther himself may have been prepared to die for his actions, there is no essential connection between the sentiment he is taken to have expressed and the idea or ideal of martyrdom (cf. Kendrick, 2010, pp. 24–49), where Luther's words are taken as emblematic of a martyrial conception of heroism). In general, according to the view that I shall develop below, while heroism excludes any overriding concern with biological self-preservation, it is inconsistent with any genuine martyrial aspirations.

[5]Philip Zimbardo may have expressed himself hyperbolically in claiming that "[e]very single person who's identified as a hero always says, 'How could I not do it?'" (Sommers, 2009, p. 59), but it is a seemingly constant feature of various kinds of closely studied cases, many examples of which can be found in Berkowitz (1987), Oliner and Oliner (1988), Colby and Damon (1994), Monroe (1996), and Paldiel (2000), among others. However, even if, with regard to human action in

Characterizing both reactive and social heroism as involving some kind of necessity may be entirely appropriate, at least at a rhetorical level. Yet upon scrutiny it is somewhat puzzling. For while we may be intuitively inclined to accord considerable praise and esteem to a hero so described, it is not altogether clear *why* we would do so, if we take it as being indeed literally the case that she was unable to do otherwise and thus arguably not morally responsible for the specific action or course of actions in question. To be sure, we might still hold a positive view—as we would, for example, in a reactive case of someone whose uncontrollable flatulence happened to incapacitate an active shooter. But our response would surely differ, in both nature and degree, from a case in which someone—like James Shaw, to take a recent example—who achieved the same result through direct physical intervention that evinced "selfless disregard for his own safety"[6]. Or similarly, while we might hold a positive view of someone who felt internally compelled to engage wholeheartedly in a selfless course of risky prosocial action, even if we believed that her felt compulsion to do so stemmed ultimately from an exogenous process of political indoctrination, this would again surely differ in both nature and degree from a case in which someone conducted herself in the same way, yet of whom we believed the felt compulsion to do so was in fact a genuinely internal or endogenous factor. At the same time, however, it also seems intuitively compelling that the strong approbation accorded in cases of either reactive or social heroism is directly tied to the real possibility that the agent in question *could have* acted otherwise—more specifically, to the real possibility that the individual could simply have *not* engaged in the action or actions in question and instead remained, like most others, a bystander. Assuming *arguendo* the absence of this possibility in cases of heroic action, it becomes unexpectedly unclear just why we would hold these individuals in any higher regard than those who perform equivalent actions but from a physical or otherwise exogenous kind of necessity.

As with our intuitions concerning most everything that concerns us, those with regard to heroism are generally fairly reliable (e.g., when and where to accord heroic approbation), but they are also potentially subject to serious confusions (e.g., concerning the nature and grounds of such approbation). In particular, most intuitions concerning heroism are informed by a widely (if implicitly) held but, I think, ultimately incorrect set of assumptions to the effect that heroic action is a *moral* phenomenon—specifically, that it is morally supererogatory (i.e., goes above and beyond the call of moral duty)—and that as such it is to be praised on account of the self-sacrifice it implies on the part of the individual agent. For *moral* praise—the kind of praise one is owed when one does one's duty, or, more relevantly here, when one engages in supererogatory action—is

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general, first-personal reports have some degree of epistemic privilege, they are not authoritative and cannot on their own play any explanatory role with regard to the intentional structure of an agent's actions. In this paper, I will take putative heroes' self-reports of a sort of necessity simply as an invitation to explore whether something like that could possibly be true, not as evidence that it *is* true.

[6]See Nashville municipal resolution RS2018-1182 https://www.nashville. gov/Metro-Clerk/Legislative/Resolutions/Details/abe66859-36d1-4908-80fa-aae1d66950a2/2015-2019/RS2018-1182.aspx

premised implicitly on the notion that such action involves the self-conscious subordination of personal inclination in favor of an impartial or altruistic moral imperative. It implies, in other words, that moral action is freely chosen over equally possible but more self-regarding options, that in this sense moral action—and supererogatory action especially—is essentially self-sacrificial, and that it is considered praiseworthy precisely for this reason. Here, I submit, is the source of the puzzle regarding heroism that is self-reported by the individual agents themselves as involving a kind of internal compulsion. For taking them at their word, if they really could not do otherwise, then there is no sense in speaking of them as having made a choice on that occasion, let alone a self-sacrificial choice (cf. Archer, 2015, p. 119)[7]. If that is so, then there would seem to be no grounds for moral praise— and lacking any alternative conception of approbation, there would thus seem to be no grounds for any praise at all (although we certainly may hold a positive view). Their action would be seen as a natural event that simply happened fortuitously, like a bolt of lightning (or flatulence) that fells an active shooter.

Now, for the sake of the present argument I shall assume that heroism in general—at least pending certain conceptual clarifications—does in fact instantiate a certain form of necessity, and in particular that Luther's dictum of necessity does indeed apply to social heroism. But I want to show that this is not at all inconsistent with the relatively high degree of positive approbation that is normally accorded to it. To show the possibility of maintaining both of these intuitions in the face of the puzzling situation sketched out above, I propose to rethink the sense of necessity that heroism involves, especially cases of social heroism, in order to clarify the underlying nature of heroic action and on this basis to suggest a new understanding of the normative grounds of heroic approbation in general.

The analysis will be developed across four main steps:

1. Approaching the intentional structure of human action from the perspective of embodiment, focusing especially on the predispositionality of pre-reflective skill, I first develop a phenomenological interpretation of Bernard Williams' notion of "practical necessity" as an endogenous existential necessity or incapacity to do otherwise, and consider this in connection with ethical action in particular.

2. I then offer a view of reactive heroism as instantiating this kind of necessity by *literally* embodying certain socially affirmed universal values in a way that is not self-sacrificial and therefore not, properly speaking, moral, nor *a fortiori* supererogatory. In terms of approbation, then, it follows that when we praise a reactive hero, we are not so much praising what she *does* as what she *is*, to wit, her predispositional corporeal being as it is summoned and activated, so to speak, by the particular situation. In spontaneously crystallizing an important shared social value in a situation in which most others fail to act, her heroic action evinces a deep bond with her social world, and it is this bond, I suggest, rather than the action itself that brings it to light (although that is not unimportant), that awes us and elicits approbation. We praise the reactive hero, in other words, because in realizing *herself*, she gives powerful expression to who *we* are[8].

3. I then discuss how this corporeal construal of reactive heroism as positively self-realizing rather than self-sacrificial can be extended to cases of social heroism. Here I show that the necessity to which Luther's dictum alludes can be understood as a constraint internal to the embodied, pre-reflective intentional structure of the proactivity in question, such that the idea of doing fundamentally otherwise would thus imply self-abnegation on the part of the agent far more clearly than in reactive cases. For while much tactical deliberation may occur with regard to specific actions, the social hero's reflection on her overall goal is not a matter of considering alternative possibilities, but of self-discovery with regard to the necessity that is internal to and hence deeply expressive of her individual identity or character. Similarly to reactive cases, then, a social hero literally embodies a certain ethical commitment such that her actions are likewise carried by normatively valenced vectors of pre-reflective intentionality and are equally instances of nonselfsacrificial practical necessity[9].

4. Turning to the question of approbation, I discuss how, unlike reactive cases, which evince the spontaneous affirmation of an established social value, the commitment perceived in cases of social heroism has more to do with the actualization of what I shall call, borrowing a term from Axel Honneth, "surplus validity," that is, the fact that the meaning and scope of a given society's existing ethical norms can be altered and expanded. Thus, whereas the reactive hero is praised for embodying shared value, (rather than for her action *per se* or the manner of its performance), the social

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[7]I have discussed the nonselfsacrificial nature of heroism more fully in Smyth (2018) in the context of drawing out the contrast within the category of (what I'll call) "extraordinary prosocial action" between heroic and supererogatory action, in which the latter is, while the former is not, a matter of self-sacrifice. The key point is that supererogatory (or "saintly") action is strictly speaking *moral* action in that it issues ultimately from processes of reflective moral deliberation, with the implication that the agent *could* do otherwise, while "heroic" action is *not* moral in this sense, in that it issues predominantly from embodied habituality, and as such involves the sort of predispositional necessity discussed here. This is a crucial distinction, but one that is typically glossed over. This distinction is central to my overall approach, but in the present paper I do not discuss "saintly" action directly. In what follows, then, it should be borne in mind that I am considering heroism to be a *sub-category* of extraordinary prosocial action, and that as such I am *not* claiming that all such actions are heroic in the sense that I shall ascribe to this term (i.e., the other sub-category of supererogatory action remains). As I note below, this may entail upsetting some existing intuitions, but the hope is that on the whole the resulting view will be able to avoid many of the ambiguities and equivocations that still affect contemporary thinking about heroism.

[8]Critical attention must always be paid to the casual way in which first-person plural pronouns are used in philosophy and the human sciences. Here, "we" merely denotes some particular community as a reflection of the fact that attributions of heroism are not universal—it is well known that what is lauded as heroism by one community may be vilified by another—and that they hinge upon a multitude of cultural, historical, and political variables. But as noted above, the phenomena of heroism can still be the object of scientific study.

[9]The expression "pre-reflective intentionality" denotes those aspects of one's intentional relatedness to the world that fall below the level of explicit self-conscious awareness. It includes the kind of intentionality that is involved in, for example, basic activities like movement or grasping, forms of habitual skill, the ways in which one responds to and orients oneself in a situation, one's lived sense of space and time, and the ways in which one tacitly carries elements of the past while projecting horizons of anticipation.

hero is analogously praised for embodying a commitment to actualizing or instituting the concrete potential of such value more fully. The approbation accorded to her is therefore tied inextricably to one's normative judgment concerning this immanent progressive transformation. If we praise a social hero, then, it is because in and through realizing herself, she gives concrete expression, not so much to *who we are*, as with reactive heroism, but to *who we are aspiring to be*[10].

EMBODIED ACTION AND PRACTICAL NECESSITY

As I have discussed in more detail elsewhere (Smyth, 2010, 2014), the reasoning here draws its initial inspiration from Maurice Merleau-Ponty's phenomenology of embodiment (Merleau-Ponty, 1945). In particular, it draws on the claim that while mind–body dualism (Cartesian or otherwise) is certainly false, concretely understood our embodied existence does involve a certain temporal duality that we may express using the spatial metaphor of levels: there is a "habitual" level (linked to the past), and an "actual" level (tied to the present). Each of these levels is orthogonal to the distinction that can be drawn analytically between mind and body. Generally speaking, the actual level pertains to personal existence or "ipseity" in the sense of occurrent bodily and reflective intentional states, in relation to which the habitual level forms the impersonal or pre-personal background. The latter is the anonymous accretion of internalized—or, to use a suggestive phenomenological metaphor, *sedimented*—experiences that develops dynamically across time and which, in establishing certain pre-reflectively intentional habitualities, transforms the psychosomatically integral organism in enduring and intrinsic ways, and provides the enabling and constraining conditions for personal existence at the actual level.

We might initially think of this in terms of the sedimentation of perceptual and motor experiences, and take the development through repeated practice of specific skills that emphasize such experiences and their coordination—for example, learning to ride a bicycle or to swim, to play racquetball or the clarinet—as paradigmatic of the sort of habitualities involved. But setting habitual compulsive disorders aside, we must bear in mind that even with the most routine of habits, the contexts in which they are repeatedly enacted are never exactly the same—indeed, it is characteristic of highly developed skills, or skillful "expertise," to be sensitive to situational differences and thus correspondingly flexible or improvisational (Dreyfus and Dreyfus, 1980; Dreyfus, 2004). Even the actualization of perceptual and motor habitualities, then, is never a

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[10]It is worth noting here that although the reconceptualization of heroism that I develop below may upset some of our existing intuitions, its goal is to uphold the most important ones by gaining a firmer handle on the relevant phenomena, so as to be able to solve the puzzle concerning the strong approbation that heroism typically elicits. It is also worth emphasizing that this rethinking of heroism unfolds in a conceptual space that temporarily places in abeyance any empirical research concerning heroism that has been conducted on different conceptual bases. Such research can speak neither for nor against what I'm doing, because at least for the time being the meaning of heroism is precisely in question.

matter of sheer automaticity, but rather of increasingly strong predispositions that are always subject to and coordinated with other situational factors.

These predispositions are thus not as simple or straightforward as they may at first seem. To begin, they are situationally transposable—a racquetball player is not an absolute beginner in her first squash match, a clarinetist shifts to the oboe more easily than a cellist. And this transposability could be much less plain to see—running a daycare for special needs children might equip one with skills well-suited to chairing an academic department. One can thus do something for the very first time yet still be habitually predisposed to it. In other words, what I am calling habitual predispositions can, in terms of their underlying intentionality, be quite general with regard to the situations in which they operate—they need not manifest as an overtly regular pattern of behavior, nor arise from such a pattern. And they can also operate negatively and unselfconsciously, as when, for example, someone phobicly avoids crowded or constrained spaces due to a repressed traumatic experience. In all these cases, what we are pointing to in the habitual level of embodied existence are pre-reflective intentionalities that are situationally-responsive, and which operate predispositionally as the anonymous background conditions that give personal existence its idiosyncratic profile.

But the operation of these habitualities is not to be observed solely in terms of idiosyncrasies. For it can be seen no less clearly in terms of the mannerisms, postural schemata, modes of comportment, and speech patterns, for example—what Marcel Mauss (1936) called "body techniques"—that more broadly form culturally common corporeal "styles" or "idioms" (Goffman, 1971; Elias, 2000[1939]). Even when considered (as I am doing here) in prediscursive embodied terms, perceptual and motor idiosyncrasies develop in specific social, cultural, and historical contexts. The habitual level of embodied existence thus internalizes—or *incorporates*—and hence comes quite literally to incarnate certain aspects of the individual's intersubjective and social milieux. This does not mean that everyone is alike—within a given socio-cultural context there are typically differences, for example, pertaining—sometimes quite problematically—to perceived phenotypical characteristics. In a dynamically aggregated or intercorporeal sense, then, habitual embodiment is thus the primary and central locus of what Pierre Bourdieu (in particular) termed "*habitus*," pithily glossing this as the "durably installed generative principle of regulated improvisation" (Bourdieu, 1977, p. 78), under the dispositional auspices of which individual perception and behavior unfold.

This model of embodied existence as involving an actual level that in general does not coincide with a socially embedded habitual level suggests conceiving selfhood as a function of the ongoing tension between the two levels—a tension which can but certainly need not be experienced negatively, and it suggests conceiving self-realization as the process of negotiating this tension and striving to bring about an optimal or at least minimally disharmonious integration of the two dimensions. Logically, this can be pursued in two broad ways, either of which could represent a path to authenticity (if we wish to speak that way): one can reflectively cast one's intentions forward with the

aim of modifying the habitus—that is, of pushing the envelope of "regulated improvisation"—by engaging in actions directly toward which one does not currently have strong predispositions; or else one can refrain from any such reflective projection and fall back on the pre-reflective intentionalities residing already in the habitus. One can, so to speak, resolve to break out of a perceived rut, or else go with the flow. In either case, the options are wide. But looked at in this "existential" way that excludes any purely biological reality, it is worth noting that optimal self-realization need not place any overriding priority on biological self-preservation—one can try to break out of a rut by trekking solo across the Sahara, for example, or taking up alligator wrestling, while one could go with the flow by jumping on the fentanyl bandwagon, or by heeding a patriotic recruitment campaign and enlisting for armed conflict. Needless to say, existential ruts and flows are highly situationally contingent.

Actions pertaining to the ethical life of society exemplify self-realization along these lines with particular clarity. For in general, at any given moment, there is usually a discrepancy between our actual personal inclinations and the morally praiseworthy actions that are normatively expected of us—indeed, as noted earlier, such actions are morally praiseworthy primarily because of the altruism that they demand. But it is situationally contingent as to which dimension (if either) of our embodied being is the more other-regarding. For example, one might live in a social context in which it is considered normal and acceptable to walk past a hungry homeless person with indifference—in such a case, falling back on the habitus, going with the flow, would seem to be the ethically deficient path, and that a morally superior response would require an overridingly deliberate, reflective effort to offer alms, food, or other assistance. Conversely, one might live in a society in which such a manner of response was itself a predispositional feature of the habitus, that is, of one's habitual embodiment, such that even if on some particular occasion one happened to be very hungry oneself or otherwise self-concerned, the habitual disposition might still hold sway[11]. In short, inasmuch as we do actually fulfill our ethical expectations, in some cases the intentional structure of our action stems from a process of reflective moral deliberation, while in other cases any such reflection is eschewed and we act simply on the basis of habitual pre-reflective intentionalities. Sometimes we choose to do good, sometimes we just do it.

The former scenario may be more familiar when thinking about ethical issues, and it may garner more scholarly attention. Yet it is arguably more exceptional than typical. To be sure, situations that prompt reflective moral deliberation do arise, but on the whole it seems that more of what goes on in human coexistence corresponds to the latter scenario, in which one falls back upon what we might call one's "pre-reflective ethical know-how" (DeSouza, 2013), the specific kind of "skillful coping"

or "ethical expertise" that guides us through our "everyday ongoing ethical coping" (Dreyfus and Dreyfus, 1991, 2004) in ways that are strongly analogous to how other forms of acquired skillful expertise, like bicycle riding or clarinet playing, likewise guide us through everyday coping in their relevant contexts. Comprising "the interrelated, and possibly conflicting, values, virtues, goods, rights, behaviors, attitudes, etc. which make up the ethical fabric" of one's social context (DeSouza, 2013, p. 284), such pre-reflective familiarity with the contours of that context's normative landscape or *ethical habitus* involves a tacit perceptual sensitivity to the axiological import (e.g., the recognition of the intrinsic value of humanity) that gives rise to situations of ethical significance in the first place. As a kind of "ethical second nature" that we come to embody (literally) through socialization and interpersonal experience, it guides most of our quotidian interactions with others, while also providing the motivational and evaluative background for any more explicitly formulated moral intentions.

What is especially important to note here is that as with the skills involved in bicycle riding or clarinet playing, "expert ethical comportment" is profoundly spontaneous in that as a kind of pre-reflective know-how, it involves no explicit deliberation. Consider the following phenomenological observations made several decades ago by Maurice Mandelbaum concerning actions that are spontaneous yet have a situationally-sensitive ethical import:

> I sense the embarrassment of a person, and turn the conversation aside; I see a child in danger and catch hold of its hand; I hear a crash and become alert to help. Actions such as these (of which our daily lives are in no small measure composed) do not, at the time, seem to spring from the self: in such cases I am reacting directly and spontaneously to what confronts me. [...] In such cases it is appropriate to speak of 'reactions' and 'responses', for in them no sense of initiative or feeling of responsibility is present (1955, p. 48).

As Mandelbaum went on to observe in a striking fashion, from the perspective of such actions themselves, "we can only say that we acted as we did because the situation *extorted* that action from us" (Mandelbaum, 1955, p. 49, italics added). From the first-person perspective of the agent, in other words, there is no experience of choice but rather of a situational necessity that elicits a certain response from oneself[12].

This view of necessity offers a compelling phenomenological interpretation of what Bernard Williams had in mind with the notion of "moral incapacity"—"the kind of incapacity that is in question when we say of someone, usually in commendation of him, that he could not act or was not capable of acting in certain ways" (Williams, 1993, p. 59)—and how this leads to

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[11]For the purposes of this conceptual analysis, these sort of homespun thought experiments can be sufficient. To carry the discussion further, however, would of course require corroboration from credible empirical research. But it is crucial to bear in mind that all empirical research is conducted within certain conceptual and theoretical frameworks, and that if one wishes, as I do, to offer an alternative framework, then special care must be taken when trying to assimilate the results of existing research.

[12]Cf. Merleau-Ponty: "The body is but one element in the system of the subject and his world, and the task elicits from him the necessary movements through a sort of attraction at a distance, just as the phenomenal forces at work in my visual field elicit from me, without any calculation, the motor reactions that will establish the optimum equilibrium between them, or as the customs of our social setting or the arrangement of our listeners immediately elicits from us the appropriate words, attitudes, and tone" (1945, p. 123f). Various echoes of this general perspective can also be found in Varela (1999), Wright (2007), Rietveld (2013), among others.

a "practical necessity" (Williams, 1981), in cases where one is thusly incapable of performing any action *but one*, typically in the form of being incapable of *not* performing *that one*, however the modal situation may appear to third-person observers. For his part, Williams viewed this situation in terms of character, noting, for example, that such incapacities and necessities can be constitutive of one's character, and that "to be an expression of character is perhaps the most substantial way in which an action can be one's own" (1981, p. 130). As Kyle Fruh expressed it more recently, "[t]he issuances of practical necessity are to be seen not as constraints imposed on an agent, but as expressions of the core characteristics of the agent" (2017, p. 32). My own aim here is to show that character in this regard is best understood phenomenologically in the pre-reflective terms of habitual embodied action. Agentive incapacities, no less than capacities, are grounded here, and it is in this way, specifically in terms of corporeal sedimentation of the ethical habitus, that we can make best sense of how ethical principles can be "internalized and appropriated as part of one's identity" (Schlenker et al., 2009, p. 319), such that the individual is spontaneously able to enact them appropriately, and to do so in an endogenously necessary way that is fully self-realizing—as Colby and Damon said of the moral exemplars they studied, "[n]one saw their moral choices as an exercise in self-sacrifice" (Colby and Damon, 1994, p. 300, italics removed)[13]. It is in terms of the two-level phenomenological model of embodiment, in other words, that we can best make sense of how an ethical imperative could manifest as a nonselfsacrificial practical necessity.

The key point here is that the strength of this necessity correlates—somewhat counterintuitively—with the degree of "ethical expertise," that is, with the degree to which one's ethical actions are unreflectively spontaneous—as with bicycles and clarinets, *higher* degrees of ethical virtuosity go hand in hand with *lower* degrees of reflective deliberation. In such situations, "[o]ne feels that one's comportment was caused by the perceived conditions [...] We do not experience our intentions as causing our bodily movements; rather, in skillful coping we experience the situation as drawing the movements out of us" (Dreyfus, 2002, p. 379f). Now, to describe ethical action as being in any way caused from without is potentially misleading. For the idea is just that the actions in question are matters of pre-reflective intentionality which, rooted deeply in our corporeality, is something (not unlike muscular tonus, say) that we do not normally experience in subjective terms. So while we may say that the situation elicits or draws the action out of an agent, it is nonetheless *her* response to it. The point is that there is such a close and intimate attunement to the situation, such a profoundly immersive oneness between it and the agent's habitual embodiment, that like a steeply banked turn at the velodrome or a complex musical phrase in the orchestra pit, there is really only one possible action to take—and there is no sense at all that the necessity of this action is external to the agent or that it in any way threatens or compromises her agency. In a very concrete sense,

then, in such situations agents make a virtue out of necessity—and in ethical situations, this sense is doubly literal, with virtue and necessity going hand in hand.

REACTIVE HEROISM AS EMBODIED PHENOMENON

Having laid all that out, I will now turn to reactive heroism and relate it to this framework. In doing so, I shall take as a possible example the case of Tom Lee (1885–1952), an unskilled African-American laborer who, although unable to swim, used his small boat to pull 32 people from the Mississippi river when the sternwheeler *M.E. Norman* overturned near Memphis on May 8, 1925. Although his actions received extraordinary commendation from the public and from government officials, Lee himself expressed the sentiment of personal disavowal that is characteristic of heroic action in analogous cases: "I guess I didn't do any more than anyone else would have done in my place" (Finger, 2014)[14].

I submit that cases of reactive heroism like this are matters of embodied habitual action. On the face of it, it may seem highly implausible to claim that an action like that of Tom Lee on that day in 1925 is "habitual," since he had never done anything quite like it prior to that occasion, and never did anything quite like it again. There is absolutely nothing routine about the actions in question. But a key point from the phenomenological discussion above (section Embodied Action and Practical Necessity) is that the nature of habitual action does not lie essentially in manifest patterns, but rather in the prior corporeal internalization of certain perceptual and motor skills as pre-reflective intentionalities which then, in the form of predispositional schemata, enable individuals to act in a spontaneously "expert" way in an indefinite number of different situations[15]. So it is immaterial that most heroic actions, including Lee's, appear to be unique one-off occurrences. With regard to Lee, the idea would be that he had internalized certain universal features of the ethical habitus of his society, such as the impartial recognition of the intrinsic value of humanity; that these features had "sedimented" in the habitual dimension of his embodied existence such as to equip him with the pre-reflective ethical know-how that predisposed him to do what he did on that day, and to do so under the kind of practical necessity that accompanies spontaneous "expert" behavior in general[16]. Indeed, in cases like this, where someone acts in an

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[13]To reiterate an earlier point, there is nothing authoritative about such self-reports, mediated or otherwise. But they can play an instructively illuminating role, and it is in that sense alone that they are being invoked here.

[14]In taking Lee as a possible example of my view of reactive heroism, what I wish to do is simply take the manifest bio-historical facts of the case—people were caught in the river, Lee was in the vicinity, and he responded in a seemingly spontaneous and selfless way—and see if an interpretation of it in terms of embodied habitual action can plausibly fit those facts. The example itself is not being called upon to do any theoretical work, and I am not taking his statement—which at any rate is vague and uninformative with regard to the intentional structure of his actions—as in any way authoritative.

[15]This may be seen as a phenomenological specification of the idea of "special training" as discussed by Kohen et al. (2017, p. 10f).

[16]To reiterate, this is a possible interpretation of the Lee case, *any* account of which would be equally interpretive, inasmuch as the relevant details concerning Lee's intentional state at the time are empirically inaccessible, as they typically are even in contemporary cases. Competing interpretations would have to be adjudicated

ethically extraordinary *yet clearly spontaneous* way, how else could we make sense of it? If we do not interpret the action as the practically necessary actualization of habitual predispositions, then we would have no choice but to dismiss it as a fortuitous fluke to which no particularly strong approbation would be due.

To be sure, talk of "ethical expertise" can seem odd, and it is potentially misleading if it suggests a high level of cognitive engagement. As discussed above, though, the point is exactly the opposite—in the sense in which it is being used here, "expertise" describes a degree of skill development at which, even while remaining situationally responsive, the need for explicit reflective deliberation is precisely obviated. As Colby and Damon said of the moral exemplars they studied, "we saw no 'eking out' of moral acts through intricate, tortuous cognitive processing. Instead, we saw an unhesitating will to act, a disavowal of fear and doubt, and a simplicity of moral response" (Colby and Damon, 1994, p. 70)[17]. And this may apply well to cases like that of Tom Lee. More generally, reactive heroism is characterized by the eschewal of moral reflection in favor, so to speak, of "going with the flow"—understood here as falling back into a state of unselfconscious immersion in one's habitual predispositions, something that may well be a necessary condition of the "optimal psychological functioning" often referred to precisely as "flow" (cf. Csikszentmihalyi, 1990, p. 218; Annas, 2008). In this context of expert ethical spontaneity, the reactive hero does not *choose* to do the right thing, but *just does it* as a matter of the practical necessity established by her own characteristic predispositions in the particular circumstances of the situation[18]. So while it may appear that reactive heroism involves prosocial self-sacrifice on the part of the agent, I submit that a more coherent and compelling understanding would view the action in question as subjectively incarnating and identifying with universal features of the ethical habitus, and as being a nonselfsacrificial matter of authentic self-realization for this reason[19].

It is therefore the fact that the reactive hero is *someone who does not need to deliberate*—that in her very being ipseity and habituality momentarily coincide—that grounds the approbation that we accord. It is not the action *per se*, since after all this is done on the basis of a practical necessity—it is rather the fact of its being endogenously necessary that truly awes us. Likewise, there

is nothing intrinsically estimable about going with the flow and acting on the basis of habitual predispositions—no doubt some of the white Americans that Lee saved were especially prone to engage in objectionably racist behavior (by *our* lights) whenever they fell back on *their* habitual predispositions. What is so highly commendable about reactive heroism is the fact that the hero is someone who is ontologically predisposed to do good, a fact that is brought to light by the unusual nature of the heroic action, but which is not identical with it nor reducible to it. What awes us about the reactive hero, then, is the recognition that on account of having internalized features of the shared habitus, she gives extraordinary expression to an ordinariness we share, and which is partly constitutive of our sociality—our approbation celebrates an existential or even *intercorporeal* continuity with the hero that is structurally absent from cases of moral supererogation[20].

SOCIAL HEROISM AND PRACTICAL NECESSITY

I shall now turn to consider whether the above account of reactive heroism as a phenomenon of embodied action that instantiates nonselfsacrificial practical necessity can be extended to cases of social heroism[21]. A key difference here is that reactive heroism, owing to how its spontaneity precludes reflection, does not admit of a contrasting scenario in which the intentional structure of an outwardly equivalent action would involve reflective deliberation rather than habitual predisposition. With social heroism, however, there is such a contrast with scenarios of moral supererogation in which outwardly equivalent actions are performed electively in preference to at least one less altruistic alternative—i.e., cases in which there is no necessity (practical or otherwise) involved, hence "I *could* do otherwise!"—and which as such *are* self-sacrificial[22]. There is nothing wrong with this, of course, and it generally merits high moral praise. But it differs fundamentally from social heroism, even if on the face of it the actions in question are indistinguishable, inasmuch as the social hero, like her reactive counterpart, literally embodies the relevant social value, whereas the supererogatory action is reflectively mediated.

Here I shall take as a possible example the case of Virginia Foster Durr (1903–1999), who, despite being born into a life of Southern white privilege, devoted most of her adult life to the struggle for equal civil rights in the United States, in particular with regard to effecting desegregation and outlawing the poll tax in the South (see Colby and Damon, 1994, pp. 92–133; Durr, 2003). Concerning her activism, Durr expressed views that are fairly typical of social heroism. With regard to abolishing the

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on the basis of their relative plausibility, for example, and their coherence with other commitments.

[17]See note 13 above.

[18]While some connections may be drawn with discussions of automaticity (cf. Snow, 2010; Lapsley and Narvaez, 2014; Rees and Webber, 2014), I would caution against applying that notion to cases of heroism, lest we confound existing intuitions concerning approbation. The main salience of disclosing phenomenologically the habitual level is to locate a meaningful ground intermediate to reflective deliberation and automaticity on which to base an understanding that captures both the ethical content of heroic action and its spontaneity, and that can therefore do justice to our intuitions concerning both of these features of heroism, even if it upsets others.

[19]There are some clear similarities between this view and the main tenets of virtue ethics, which is similarly concerned with dispositional character rather than reflectively intentional actions as such. But I would caution that such affinities could easily be overstated, at least inasmuch as virtue ethics typically retains a morally other-regarding focus that still valorizes self-sacrifice in a vestigial way, whereas heroism implies a more expressly positive account of agential self-realization (cf. Franco et al., 2016).

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[20]Strictly speaking, if supererogation implies reflection, then there cannot be cases of spontaneous supererogation. In part this reflects confused intuitions concerning reactive heroism, but there may be cases falling between reactive and social heroism—see next note.

[21]Clearly this distinction is somewhat simplistic in that there may be cases falling between the spontaneity of reactive heroism and the protractedness of social heroism, and which might not exhibit practical necessity. But for present purposes I shall leave this possibility aside.

[22]This is what in a previous work (Smyth, 2018) I refer to as "saints"—see note 7 above.

poll tax, for example, "I thought the right to vote was something that everybody ought to have," and she considered this to be an established norm that was just not yet fully instituted. "Although I seemed radical to other people, and was considered radical, I never thought of myself as being radical because I was simply doing what was common everywhere else." With regard to racial desegregation, she claimed that "there were no choices to make." There were, of course, choices to make, but these did not bear upon the basic project, which was shot through with a kind of necessity: "as far as the decisions I made concerning my part [...] in the racial struggle in the South, it wasn't a decision, it was something that grew over a period of years and one thing led to another." In short: "I did what I felt I had to do" (Colby and Damon, 1994: 133, pp. 121, 71, 120, 124). My aim here is to sketch out how Luther's dictum of necessity could apply to cases like this[23].

As discussed above (section Embodied Action and Practical Necessity), the idea of practical necessity drawn from Williams helps to make initial sense of the necessity that people like Durr report in their experience, by articulating how it may be conceived in terms of ethical constraints and incapacities rooted internally within the agent's character. For this is how the experience of necessity can be rendered consistent with their no less robust experience of free agency. But what we also saw is that character in this sense is best and most concretely understood in phenomenological terms, that is, in terms of the pre-reflective intentionalities that make up the habitual predispositionality of our embodied existence. For this affords the most compelling model of how values, principles, and any other elements of the ethical habitus can be internalized so as to become stable and irreducible features of an individual's character—how, in other words, the "integration of agency and communion" that is characteristic of moral exemplars is actually achieved (cf. Frimer et al., 2011). In cases of reactive heroism this allows us to understand how dramatic instances of seemingly self-sacrificial ethical behavior can occur in a completely spontaneous way. In cases of social heroism, conversely, it will allow us to understand the perseverance, the recurrently reaffirmed motivation, and the longitudinal continuity that characterize the agent's endeavors over time. In both sorts of cases, though, the basic point is that it is literally true and not merely a suggestive piece of rhetoric to say that heroism is the embodiment of ethical commitment.

This is perhaps best approached by way of the well-known problem of the "judgment–action gap" (Straughan, 1986), viz., the fact that at a cognitive level the vast majority of people tend to affirm various ethical judgments that they consistently fail to act on. This is something that is shown with particular (if simplified) clarity whenever a bystander applauds a social hero—she approves, so why did she remain a bystander? This problem has motivated much recent work that tries to steer away from an exclusive focus on cognitive factors toward more

"personological" views that emphasize the role of character in bridging this gap. My own point is that we just need to push this line of reasoning farther: if the spirit is willing, so to speak, but the flesh is weak, then it stands to reason that we should direct our attention to our flesh, to our corporeality, and to how it serves as the site of mediation between judgment and action.

In the same way as a reactive hero, in perceiving a situation in a certain way, manifests an embodied incapacity to be a disengaged bystander, that is, acts under an endogenous form of nonselfsacrificial practical necessity, so too the social hero, in perceiving a state of affairs in a certain way, can be understood as manifesting a similar incapacity with an analogous necessity. It differs, though, in that in this case the necessity is not that of a spontaneous and unreflective "expert" response, but of an increasingly recognized visceral refusal to do otherwise. It is in this sense that social heroism may be said to involve personal growth and a process of reflective self-discovery. While after the fact the reactive hero may certainly learn something about herself and grow personally as a result, this dynamic is internal to the protracted experience of the social hero, where it can even involve developmental change at the habitual level—this is certainly true in the case of someone like Durr. It is thus central to the reaffirmation of the social hero's motivation that she must make as events unfold. To be clear, though, within the intentional structure of her proactive project, this reflection is not a matter of deliberating among logically possible alternatives, but rather of discovering that, for her, there really is no acceptable alternative. Much more clearly than in reactive cases, then, doing fundamentally otherwise here would be existentially self-abnegating on the part of the agent. Although the social hero still goes with the flow in the sense that her actions are ultimately carried by normatively valenced vectors of pre-reflective intentionality in essentially the same way as in reactive cases, this typically occurs with a much higher level of self-awareness and personal investment.

The reason why the judgment–action gap applies to most of us is that while we may approve and endorse the actions of a social hero through our considered ethical judgments, it typically appears to us that in order to act on those judgments, what would be required of *us* would be an act of supererogation—hence a self-sacrificial act—and we consequently experience a debilitating hesitation and unwillingness. This is why most of us fail to act (and why we misperceive heroes as engaging in supererogatory action), at least on those judgments that exceed the moral baseline (i.e., the minimum threshold that is expected of us in a given social context, which most of us have internalized more or less successfully). Now, some *do* manage to rise above the tension and bridge the gap by engaging in supererogatory action. But in the conceptual scheme that I am trying to work out here, I want to identify such cases as categorically distinct from heroism (see Smyth, 2018). For it makes a world of difference whether the intentional roots of an ethical action are reflective or pre-reflective—whether it is enacted negatively through a reflective decision to engage in personal self-sacrifice for moral reasons, or positively as a matter of self-realization that coincides with an internalized universality. The reason why most of us might approve of a social hero's actions yet be unable to follow suit is

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[23]As with Tom Lee above, I am not claiming that the case of Durr, and her self-reports in particular, provides any direct evidence for my claims. Rather, I just want to hang my interpretation on the bio-historical facts of the case as a way to illustrate its plausibility—neither example is being called upon to do any theoretical or conceptual work.

simply because they have something we lack—which, for the sake of that simplicity, I will just call a "heroic body." It is important to bear in mind that this refers to the way in which bodily existence incorporates psychosocial aspects of moral culture so as to thereby become the locus of a hybrid kind of "*biopsychosocial* resilience," rather than just a natural matter of biology[24]. There is much that might be said about this (see especially Efthimiou, 2017). But for present purposes the point I wish to make is just that as with reactive cases, what is impressive and commendable about social heroism is that it makes a virtue out of an endogenous necessity, and that the locus of this necessity is habitual corporeality. Social heroism emerges from an existential "*must*" at the habitual level of embodiment, rather than a moral "*ought*" at the actual level, and so it is precisely on account of having a heroic body—a body that "stands" a certain way (as in "Here I stand")—that Luther's dictum applies to cases of social heroism.

But this does not yet fully clarify the question concerning approbation, to which I now turn.

SOCIAL HEROISM AND SOCIAL PROGRESS

Heroism in general is a matter of actualizing "sedimented" ethical universality under an endogenous practical necessity, hence in a nonselfsacrificial way. But there is a further distinction between reactive and social cases that should be noted here. Whereas reactive cases enact norms that are already recognized and affirmed in an effectively universal way within a given social context (e.g., innocent lives should be saved), but do so spontaneously in situations (e.g., dangerous ones) in which the judgment–action gap is especially acute, cases of social heroism typically have to do with establishing or instituting new ethical norms (e.g., civil rights should be equal for all). I have argued that, in both sorts of cases, the relevant heroic actions are ultimately carried by vectors of embodied pre-reflective intentionality, i.e., going with the flow, rather than reflective decisions. Yet social heroism can, and often does, cut against the grain of society—it can (and often does) encounter disapproval or opposition in ways that reactive heroism seldom does. This may seem puzzling— how can such disapproval or opposition occur when one is going with the flow of the sedimented ethical habitus? Assuming *arguendo* a unified habitus[25], if one is just reflecting social norms back after having internalized them, then how could there be any such tension?

To answer this question we must clarify that social heroism does not involve instituting ethical norms that are utterly novel. As with Virginia Durr, it is rather a matter of recognizing and trying to redress the fact that certain socially existing norms – e.g., individual civil rights, or the right to vote—while valid and valuable in themselves, are not instituted correctly or completely

according to their intrinsic sense. To give a name to this, I shall borrow the term "surplus validity" from Axel Honneth's theory of social recognition (Honneth, 2003, p. 186). This refers to the fact that, within a given social context, the meaning and scope of existing ethical norms can, through social and cultural struggle, be altered and expanded. This is the normative space that makes an "immanent critique" of society possible, that is, a critique of society that bases itself normatively not upon some arbitrary or ideal criteria pulled out of thin air, but upon the very norms of the society itself. The point of such a critique is precisely to show that these norms are not fully actualized, that this entails some form of injustice, and to point toward the kind of social progress that might make good on the shortcoming. So even though there is common ground—evinced by the shared value that reactive heroism embodies—different views of the meaning and scope of these norms are often contested— hence the possibility of disapproval or opposition to social heroism.

As I have described it here, social heroism as an embodied phenomenon is located entirely within the normative space of surplus validity. It has nothing to do with idealism in the loose pie-in-the-sky sense of ungrounded moral aspirations. There may be a place for that—in social contexts in which the ethical habitus is very rudimentary or thoroughly compromised with evil, for example, there may be no possibility of a viable immanent critique. And hence no heroism. For just as surplus validity is what makes immanent critique possible, by the same token *it is the basis upon which there could possibly be an embodied commitment to a socially transformative goal*[26]. Reactive heroism is not socially transformative. More generally, a society maintains itself when individuals act morally, i.e., when they do their ethical duty. But it does not progress. There's nothing wrong with acting morally, of course, and in wanting others to do likewise—the inherent self-sacrifice is minimal, and the benefits usually outweigh it. But if we are concerned with progressive social transformation, morality comes up disappointingly short. For all it can offer is a view of supererogation in which self-sacrifice is ratcheted up considerably, with the result that the judgment–action gap opens up much more widely. That supererogatory actions are often generally praised is evidence of broad commitment to values that transcend the minimum moral baseline of society, but the judgment–action gap is a formidable obstacle to progress pursued in this way.

If we are concerned with social progress, and if we reject as unrealistic any extraneous normativity, then our focus should be on realizing surplus validity. And in terms of action there would seem to be two broad ways to approach that—moral supererogation and social heroism—which reflect the two-level model of embodied existence with which we began. The point I wish to make here is simply that the approach of social heroism affords grounds for greater optimism with regard to the prospects of realizing surplus validity. For in contrast to moral supererogation, it indicates a way of bridging the judgment–action gap that it is much more plausible to believe

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[24]It is not just a matter of moral culture, but other acquired skills and habitualities too. Cf. (Kohen et al. (2017), p. 2): "The real reason that most people are bystanders rather than heroes is that most people are out of practice."

[25]This assumption may be false, but if so, then the problem can be solved much more easily.

[26]This is why heroism as I have conceived it is of interest to critical social theory. This is a connection I shall develop more fully in subsequent work.

could be cultivated on a broad scale. For if within a given ethical habitus there are indeed latent but nonetheless real tendencies that would exceed the moral baseline of the *status quo*, then it seems entirely reasonable to suppose that they could be realized or instituted concretely much more effectively to the extent that individuals' commitment to them was a positive matter of their self-realization through existential identification, even to the point of becoming a practical necessity, rather than as a moral aspiration to be achieved through self-sacrificial supererogation[27].

In sum, regardless of how we may construe it intuitively, our approbation of social heroism is an expression of our normative judgment concerning this kind of immanent social progress, and

of our recognition that the hero's self-realization is bound to the historical transformation it implies. Whereas the reactive hero is praised relatively uncontroversially for embodying shared value, the social hero is praised, more contentiously, for embodying a commitment to actualizing the concrete potential of such value more fully. If we do in fact praise a social hero, then, it is because we sense that in and through realizing herself, she gives powerful concrete expression, not so much to *who we are*, as with reactive heroism, nor to who we might ideally aspire to be, as with moral supererogation, but to *who we are in fact aspiring to be*[28].

AUTHOR CONTRIBUTIONS

The author confirms being the sole contributor of this work and has approved it for publication.

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[27]Although this raises myriad questions concerning how it could actually be brought about, it is along these lines alone, I submit, that heroism could possibly be "banal" in the egalitarian sense described by Franco and Zimbardo (2006), and how individuals in general are, as Zimbardo puts it, "heroes in waiting" (see Sommers, 2009).

REFERENCES

Annas, J. (2008). The phenomenology of virtue. *Phenomenol. Cogn. Sci.* 7, 21–34. doi: 10.1007/s11097-007-9068-9

Archer, A. (2015). Saints, heroes and moral necessity. *R. Inst. Philos. Suppl.* 77, 105–124. doi: 10.1017/S1358246115000223

Atkinson, J. (1981). *The Trial of Luther*. New York, NY: Stein and Day.

Bainton, R. H. (1950). *Here I Stand: A life of Martin Luther*. New York, NY; Nashville, TN: Abingdon Press.

Berkowitz, B. (1987). *Local Heroes*. Lexington, MA: Lexington Books.

Bourdieu, P. (1977). *Outline of a Theory of Practice*, Trans. R. Nice. Cambridge: Cambridge University Press.

Brecht, M. (1985). *Martin Luther: His Road to Reformation, 1483–1521*, Trans. J. L. Schaaf. Minneapolis, MN: Fortress Press.

Colby, A., and Damon, W. (1994). *Some Do Care: Contemporary Lives of Moral Commitment*. New York, NY: Free Press.

Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience*. New York, NY: Harper & Row.

DeSouza, N. (2013). Pre-reflective ethical know-how. *Ethic. Theory Moral Pract.* 16, 279–294. doi: 10.1007/s10677-012-9333-z

Dreyfus, H. L. (2002). Intelligence without representation: Merleau-Ponty's critique of mental representation. *Phenomenol. Cogn. Sci.* 1, 367–383. doi: 10.1023/A:1021351606209

Dreyfus, H. L., and Dreyfus, S. E. (1991). Towards a phenomenology of ethical expertise. *Hum. Stud.* 14, 229–250. doi: 10.1007/BF02205607

Dreyfus, H. L., and Dreyfus, S. E. (2004). The ethical implications of the five-stage skill-acquisition model. *Bull. Sci. Technol. Soc.* 24, 251–264. doi: 10.1177/0270467604265023

Dreyfus, S. E. (2004). The five-stage model of adult skill acquisition. *Bull. Sci. Technol. Soc.* 24, 177–181. doi: 10.1177/0270467604264992

Dreyfus, S. E., and Dreyfus, H. L. (1980). *A Five-Stage Model of the Mental Activities Involved in Directed Skill Acquisition*. Berkeley, CA: University of California Berkeley Operations Research Center.

Durr, V. F. (2003). *Freedom Writer: Virginia Foster Durr, Letters From the Civil Rights Years*, ed P. Sullivan. New York, NY: Routledge.

Efthimiou, O. (2017). "The hero organism: advancing the embodiment of heroism thesis in the 21st century," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge).

Elias, N. (2000[1939]). *The Civilizing Process: Sociogenetic and Psychogenetic Investigations*. Oxford: Blackwell.

Finger, M. (2014). *Tom Lee: A Hero's Tale*. Memphis, TN: The City Magazine (1 May 2014). Available online at: http://memphismagazine.com/features/tom-lee-a-heros-tale/

Franco, Z., Blau, K., and Zimbardo, P. (2011). Heroism: a conceptual analysis and differentiation between heroic action and altruism. *Rev. Gen. Psychol.* 15, 99–113. doi: 10.1037/a0022672

Franco, Z., and Zimbardo, P. (2006). The banality of heroism. *Greater Good* 3, 30–35. Retrieved from: https://greatergood.berkeley.edu/article/item/the_banality_of_heroism

Franco, Z. E., Efthimiou, O., and Zimbardo, P. G. (2016). "Heroism and eudaimonia: sublime actualization through the embodiment of virtue," in *Handbook of Eudaimonic Well-Being*, ed J. Vittersø (Basel: Springer), 337–348. doi: 10.1007/978-3-319-42445-3_22

Frimer, J. A., Walker, L. J., Dunlop, W. L., Lee, B. H., and Riches, A. (2011). The integration of agency and communion in moral personality: evidence of enlightened self-interest. *J. Pers. Soc. Psychol.* 101, 149–163. doi: 10.1037/a0023780

Goffman, E. (1971). *Relations in Public: Microstudies of the Public order*. New York, NY: Harper & Row.

Honneth, A. (2003). "Redistribution as recognition: a response to Nancy Fraser," in *Redistribution or Recognition? A Political–Philosophical Exchange*, eds N. Fraser and A. Honneth (London: Verso), 110–197.

Kendrick, M. G. (2010). *The Heroic Ideal: Western Archetypes From the Greeks to the Present*. Jefferson, NC; London: McFarland.

Kohen, A., Langdon, M., and Riches, B. R. (2017). The making of a hero: cultivating empathy, altruism, and heroic imagination. *J. Hum. Psychol.* doi: 10.1177/0022167817708064. [Epub ahead of print].

Lapsley, D., and Narvaez, D. (2014). "The having, doing, and being of moral personality," in *The Philosophy and Psychology of Character and Happiness*, eds N. Snow and F. Trivigno (New York: Routledge), 133–159.

Mandelbaum, M. (1955). *The Phenomenology of Moral Experience*. New York, NY: The Free Press.

Mauss, M. (1936). Les techniques du corps. *J. Psychol.* 32, 271–293.

Merleau-Ponty, M. (1945). *Phénoménologie de la Perception*. Paris: Gallimard.

Monroe, K. R. (1996). *The Heart of Altruism: Perceptions of a Common Humanity*. Princeton, NJ: Princeton University Press.

Oliner, S. P., and Oliner, P. M. (1988). *The Altruistic Personality: Rescuers of Jews in Nazi Europe*. New York, NY: Free Press.

Paldiel, M. (2000). *Saving the Jews: Amazing Stories of Men and Women Who Defied the 'Final Solution'*. Rockville, MD: Schreiber Publishing.

Rees, C., and Webber, J. (2014). "Automaticity in virtuous action," in *The Philosophy and Psychology of Character and Happiness*, eds N. Snow and E. Trivigno (New York, NY: Routledge), 75–90.

Rietveld, E. (2013). "Affordances and unreflective freedom," in *The Phenomenology of Embodied Subjectivity*, eds D. Moran and R. Thybo Jensen (New York, NY: Springer), 21–42.

Schlenker, B., Miller, M., and Johnson, R. (2009). "Moral identity, integrity, and personal responsibility," in *Personality, Identity, and Character: Explorations in Moral Psychology*, eds D. Narvaez and D. Lapsley (Cambridge: Cambridge University Press), 316–340. doi: 10.1017/CBO9780511627125.015

Smyth, B. A. (2010). Heroism and history in Merleau-Ponty's existential phenomenology. *Continental Philos. Rev.* 43, 167–191. doi: 10.1007/s11007-010-9138-5

Smyth, B. A. (2014). *Merleau-Ponty's Existential Phenomenology and the Realization of Philosophy*. New York, NY: Bloomsbury Academic.

Smyth, B. A. (2018). Hero versus saint: considerations from the phenomenology of embodiment. *J. Hum. Psychol.* 58, 479–500. doi: 10.1177/0022167817708401

Snow, N. E. (2010). *Virtue as Social Intelligence: An Empirically Grounded Theory*. New York, NY: Routledge.

Sommers, T. (2009). *A Very Bad Wizard: Morality Behind The Curtain*. San Francisco, CA: Believer Books.

Straughan, R. (1986). "Why act on Kohlberg's moral judgments? (Or how to reach Stage 6 and remain a bastard)," in *Lawrence Kohlberg: Consensus and Controversy*, eds S. Modgil and C. Modgil (Philadelphia, PA: Falmer), 149–157.

Varela, F. J. (1999). *Ethical Know-How: Action, Wisdom, and Cognition*. Stanford, CA: Stanford University Press.

Williams, B. (1981). "Practical necessity," in *Moral luck: Philosophical Papers 1973–1980*, ed B. Williams (Cambridge: Cambridge University Press). doi: 10.1017/CBO9781139165860.011

Williams, B. (1993). Moral incapacity. *Proc. Aristotelian Soc.* 93, 59–70. doi: 10.1093/aristotelian/93.1.59

Wilson, D. (2007). *Out of the Storm: The Life and Legacy of Martin Luther*. New York, NY: St. Martin's Press.

Wright, J. (2007). "The role of perception in mature moral agency," in *Moral Perception*, ed J. Winewski (Cambridge, MA: Cambridge Scholars Publishing), 1–24.

Psychopathy and Pride: Testing Lykken's Hypothesis Regarding the Implications of Fearlessness for Prosocial and Antisocial Behavior

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Despite widespread assumptions that psychopathy is associated with serious and repeated law-breaking, individuals with psychopathic personality traits do not invariably become chronic criminal offenders. As a partial explanation for this finding, Lykken (1995) ventured that a fearless temperament underlies both psychopathic traits and heroic behavior, and that heroic individuals' early exposure to effective socializing forces such as warm parenting or healthy self-esteem often fosters a characteristic adaption that tends to beget "successful" behaviors, thereby differentiating heroes from convicts. In this study, we investigate relations between psychopathy, principally its fearless dominance dimension, pride, and prosocial and antisocial behavior in a community sample (N = 339). Fearless dominance and self-centered impulsivity components of psychopathy yielded differential relations with authentic and hubristic pride (Tracy and Robins, 2004), such that fearless dominance was significantly positively correlated with both facets of pride while self-centered Impulsivity was significantly negatively correlated with authentic pride and significantly positively correlated with hubristic pride. Further, authentic pride moderated (potentiated) the relation between fearless dominance and transformational leadership, one of the two outcome measures for prosocial behavior employed in our investigation. Authentic pride did not moderate the relations between fearless dominance and either our other measure of prosocial behavior (heroism) or antisocial behavior, nor did positive parenting moderate the relations between psychopathy components and social behavior. Unexpectedly, hubristic pride significantly moderated the relation between impulsive-antisocial features and antisocial behavior in a protective manner.

Keywords: psychopathy, pride, prosocial behavior, antisocial behavior, heroism, leadership, boldness

INTRODUCTION

Cleckley's (1941, 1976) *Mask of Sanity* famously described the heart of psychopathic personality as an enigmatic constellation of traits which entail both the outward appearance of healthy functioning, even charm—including social influence and stress immunity—and, paradoxically, brazen maladaptive or antisocial behavior. Individuals marked by psychopathic features are thought to occupy positions on every rung of the socioeconomic ladder—from business leaders

and wartime heroes to smooth-talking con artists and chronic criminal offenders. Clinical lore, along with the writings of Cleckley and other prominent authors (e.g., Lykken, 1995; Patrick, 2006; Fowles and Dindo, 2009), is consistent with the possibility that psychopathy often comprises features that are largely adaptive, at least in the short term, such as fearlessness, venturesomeness, social dominance, and immunity to anxiety. Such traits may be tied to successful interpersonal behaviors and therefore bear important implications for prosocial functioning (e.g., heroism or organizational leadership) (Lilienfeld et al., 2015). In contrast, other scholars assert that adaptive traits are not relevant to psychopathy and should at best be viewed as ancillary features (Lynam and Miller, 2012). Yet for reasons that remain poorly understood, certain highly psychopathic individuals commit few overt antisocial or criminal behaviors, and a few may even lead heroic, accomplished and/or professionally rewarding lives (Smith et al., 2013; Lilienfeld et al., 2015).

Heroism, particularly, may seem a puzzling bedfellow for psychopathic personality. Regardless of how one defines heroism, it reflects—at least superficially—a form of prosocial behavior marked by risk to self. Heroic individuals are among the most revered, fabled, and enduring figures across cultures and throughout history (Campbell, 1949/2008); psychopaths, on the other hand, are commonly perceived as monstrous (e.g., Dr. Hannibal Lecter) or deceptively dangerous (e.g., Ted Bundy) criminals, even killers (but see Lilienfeld and Arkowitz, 2007/2008 and Skeem et al., 2011, for more nuanced and empirically grounded perspectives). Nevertheless, some authors (e.g., Lykken, 1995) posit that the boundary between courageous hero and callous psychopath may be more indistinct than it immediately appears. We investigate this possibility in the current work.

Psychopathy

Researchers have conceptualized and operationalized psychopathy using several competing theoretical models, most of which can claim a modest degree of empirical support. One such conceptualization, Lykken's (1957, 1995) seminal low fear model, views fearlessness as both the source trait (Cattell, 1973) underpinning psychopathy and its core mechanism. Moreover, Lykken theorized that fearlessness gives rise to such behaviors as interpersonal dominance, risk-taking, and persuasiveness, which, in turn, can be manifested in either socially praiseworthy (e.g., daring acts of heroism) or socially proscribed (e.g., criminality) behaviors (or both) as a function of moderator variables like warm parenting or effective socialization.

In a corporate setting, for example, fearlessness may facilitate an individual's capacity to curry favor with or manipulate colleagues, which may foster his or her achievement of influential leadership positions (Hall and Benning, 2006). Some research bears out this conjecture, suggesting that psychopathic individuals tend to exhibit an adaptive style of leadership, termed transformational leadership (Board and Fritzon, 2005; Neo et al., 2016), wherein charismatic leaders provide vision, motivation, and guidance to followers.

Similarly, the impulsivity and grandiose narcissism associated with psychopathic personality, when paired with fearlessness,

may make psychopathic individuals more likely to charge an enemy on the battlefield, fight off a mugger, make a daring escape from wartime imprisonment, and/or any number of comparable acts of heroism. Fearlessness-related traits, including a facility for steadfastly meeting intimidating challenges; comfort in a leadership role; and risk-taking proclivities, are conceptually related to heroism, and a handful of studies offer preliminary evidence that, in certain contexts, fearlessness is associated with heroic behavior (e.g., Smith et al., 2013; see also Murphy et al., 2017). In United States Presidents, for example, fearlessness appears to be tied to previous acts of wartime heroism, presidential performance, crisis management, persuasiveness, and positive relationships with congress (Lilienfeld et al., 2012). Although the arc of psychopathy does not necessarily bend toward heroism—certainly, not all psychopathic individuals are heroic—Lykken's (1995, p. 118) famous hypothesis that heroes and psychopaths are "twigs in the same genetic branch," itself an outcropping of the low fear model, remains an intriguing speculation, albeit one in need of corroboration.

Still, some research does present challenges to the comprehensiveness of Lykken's low fear model, as the effect sizes linking low fear to laboratory deficits appear to be small (Hoppenbrouwers et al., 2016). Modern extensions of the theory submit that low fear is most closely tied to the development of a construct termed boldness, which reflects one of three core constructs that comprise psychopathy (Patrick et al., 2009). In their prominent triarchic model, Patrick and colleagues proposed that psychopathic traits map onto three dimensions: Boldness, Disinhibition, and Meanness. Boldness comprises social potency, insensitivity to threat, and emotional resilience. Disinhibition comprises impulsivity, interpersonal aggression, hostile attribution bias, and emotional dysregulation, and Meanness is marked by callousness, vindictiveness, and antagonism.

An allied three-factor conceptualization, typically assessed using the self-report Psychopathic Personality Inventory-Revised (PPI-R; Lilienfeld et al., 2015), describes similar separable, higher-order dimensions, Fearless Dominance; Self-centered Impulsivity; and Coldheartedness. Fearless Dominance is conceptually related to Boldness, and describes superficial charm, attenuated anxiety, and fearlessness; Self-centered Impulsivity is conceptually related to Disinhibition, and describes poor impulse control, irresponsibility, and egotism; finally, Coldheartedness is conceptually related to Meanness (although it is less saturated with antagonism than is Meanness) and consists of one subscale that captures callousness, attenuated empathy and interpersonal intimacy, and lack of guilt.

Risk and Protective Factors for Antisocial Behavior

The search for risk and protective factors for antisocial and criminal behavior among psychopathic individuals may help researchers to better pinpoint subgroups of psychopathic individuals who are at greater versus lesser risk for antisocial and criminal behavior, and, perhaps, ultimately target intervention efforts toward high-risk subgroups. Even among children with markedly elevated levels of callous and unemotional traits, which are believed by numerous scholars to be precursors of the core

affective deficits of psychopathy (e.g., lack of empathy, lack of guilt), many do not go on to develop later conduct disorder (Frick et al., 2014), suggesting that a better understanding of protective factors is critical. Consequently, Lykken's (1982, 1995) low fear model, which entails moderating variables (e.g., warm parenting) that foster largely adaptive (Lilienfeld et al., 2015)—or at least less maladaptive—behavioral tendencies in psychopathic individuals who do not respond well to more typical, punishment-based social reinforcers, may have far-reaching implications. With the exception of parenting, the nature and/or efficacy of such moderating variables and any attendant mechanisms of change remain(s) largely unexplored.

Positive Parenting

Many scholars have argued that successful socialization stems from a conjunction of temperamental characteristics and parental practices relating to the inculcation of internalized values and rules in children (Kochanska, 1993; Lahey et al., 2008; Grusec and Hastings, 2014). However, given their temperamental disposition, children with marked levels of the affective traits of psychopathy appear to be less influenced than other children by parenting practices that rely on guilt, shame, or punishment (Kochanska, 1995, 1997; Frick et al., 2003; Edens et al., 2008; but see O'Connor et al., 2016). In two longitudinal studies, Kochanska et al. (2007) found that fearless children do not tend to respond constructively to parental discipline or other forms of coercive negative feedback but, instead, may be more efficiently socialized via pathways that capitalize on positive parent-child relationships, such as consistent reinforcement for prosocial behavior. Further, CU traits tend to moderate the relation between (a) low parental warmth and ODD/CD in girls aged 7–8, such that among children with high levels of these traits, increased warmth is associated with fewer features of ODD/CD (Kroneman et al., 2011) and (b) parenting warmth and antisocial behavior in boys aged 4–12, such that increased warmth is associated with lessened anti-sociality (Pasalich et al., 2011).

Pride

One individual difference variable that has received no explicit research attention as a potential protective factor among individuals predisposed to psychopathy is pride. Indeed, from at least as early as Freud (1923/2001), who argued that the conscience consists of both the superego, which punishes us with guilt for inappropriate behavior, and the ego-ideal, which reward us with pride for appropriate behavior, scholars have noted that pride may serve as an alternative avenue to guilt in engendering socialization. Observing the paucity of moral emotions such as guilt and shame in psychopathic individuals, Lykken (1995) reasoned that a healthy sense of pride might function similarly in psychopaths. Specifically, psychopathic individuals imbued with healthy pride may consequently wish to maintain a conception of themselves as good and competent people, thereby predisposing them to channel their propensities into largely adaptive, or at least less maladaptive, behavioral avenues. Pride, then, may be an important and unappreciated alternative, inhibitory pathway to socialization among individuals who are largely devoid of guilt. Particularly, Lykken (1995) posited that

such a prideful self-concept—and attendant view of oneself as a good, worthy, and competent person—largely stems from warm, rewarding parenting. In other words, healthy pride, in conjunction with fearlessness, is the engine driving prosocial behavior in psychopathic individuals, while positive parenting is both the ignition key and roadmap—fostering a positive self-concept, kindling pridefulness, and familiarizing pre-psychopathic children with social norms pertaining to virtuous, praiseworthy, behavior (ultimately providing those who are incentivized to maintain their healthy self-esteem with a schematic to strive toward).

The Prideful Psychopath: Hero or Villain?

Thus, a subset of individuals with pre-psychopathic or psychopathic traits (fearlessness, in particular) who were raised in positive and well-structured environments may—by way of healthy pride—be insulated from their dispositional vulnerability to antisocial behavior, and even shepherded toward transformational leadership, acts of heroism, and/or other prosocial behavior.

Authentic and Hubristic Pride

Notably, philosophers and theologians have long discussed a potential fine line distinguishing adaptive from maladaptive pride, the latter often conceptualized as hubris or vanity (e.g., Hume, 1888, 2003; Damian and Robins, 2013). Tracy and Robins (2007)'s prominent account adopts just such a dichotomy, positing that pride comprises two ostensibly separable facets—authentic and hubristic—that are associated with differential behavioral and cognitive correlates (Tracy and Robins, 2007; Carver et al., 2010). Authentic pride is achievement-oriented (e.g., "I made the team because I practiced") and largely adaptive; further, it is contingent on continuing success and effort (Tracy et al., 2009). Hubristic pride, in contrast, is rooted in grandiose narcissism, and is related to enduring beliefs about oneself (e.g., "I made the team because I am talented"; Tracy and Robins, 2007). Pride, per this dual conceptualization, is related to both adaptive (through authentic pride) and maladaptive (through hubristic pride) social and behavioral outcomes (Carver et al., 2010; Liu et al., 2016).

In this investigation, we integrate Lykken's low fear model with the authentic/hubristic model of pride, positing that it is not merely the presence of pride *per se* that protects against antisociality and fosters prosociality in psychopathic individuals. Rather, the kind of pride that one experiences may, too, play a pivotal role in guiding social behavior. Our expectation is that fearlessness and authentic pride may be a "recipe" for everyday heroism, whereas that very same fearlessness, when instead paired with hubristic pride, often makes for villainous behavior.

Current Study

Lykken (1995) contended that the relation between certain psychopathic features and either prosocial or antisocial behaviors may be moderated by other variables, such as healthy pride or warm parenting, which may facilitate alternative avenues to socialization in psychopathic individuals—who are often high in narcissism and deficient in fear and guilt, and thereby less averse

to violating social norms than are others. Researchers have yet to test the crucial element of Lykken's theory. As such, the current investigation assesses relations among pride, psychopathic traits, parenting style, guilt, personality, and prosocial (i.e., heroism and organizational leadership) and antisocial behaviors. Particularly, we examine whether the two "flavors" of pride outlined by (Tracy and Robins, 2007; Tracy et al., 2009) statistically influence the behavioral manifestations of psychopathic traits, and contend that pride may offer a partial explanation for the sharp divergence in outcomes among psychopathic individuals.

Specifically, we predicted that psychopathy, especially its Fearless Dominance component, will be tied to (a) decreased antisocial and criminal behaviors in the presence of authentic pride; (b) increased heroic and adaptive leadership behaviors in the presence of authentic pride; (c) increased antisocial and criminal behaviors in the presence of hubristic pride; and (d) decreased heroic and leadership behaviors in the presence of hubristic pride. Consistent with Lykken's (1995) model, our primary interactional analyses focused on Fearless Dominance, with secondary analyses focusing on the other psychopathy dimensions of Self-centered Impulsivity and Coldheartedness. We also conducted subsidiary exploratory analyses on the PPI-R Fearlessness subscale given that it is a relatively "pure" measure of low fear.

We further hypothesized that a history of positive parenting would, like authentic pride, attenuate the association between psychopathy, especially Fearless Dominance, and antisocial behaviors, and potentiate the association between psychopathy, especially Fearless Dominance, and heroic and/or transformational leadership behaviors. We also conducted exploratory analyses examining statistical interactions with the other PPI-R dimensions.

Lastly, although our primary hypotheses focused on moderation, we were also interested secondarily in the zero-order correlations between psychopathy subdimensions, on the one hand, and heroism, leadership, criminal and antisocial behavior, parenting, pride, guilt, and narcissism, on the other. We also present correlations with narcissism to examine the specificity of our findings to psychopathy. Our correlational analyses were exploratory, with one notable exception; we predicted that positive parenting would be related to authentic, but not hubristic, pride.

MATERIALS AND METHODS

Participants and Procedure

Participants (N = 339) were United States community members who responded to an advertisement posted on Amazon's Mechanical Turk (MTurk), an online marketplace for crowdsourced labor. The battery took approximately 60 min on average to complete, and participants were compensated $3.50. Previous investigations have suggested that MTurk is an adequate source of self-report data for psychological research, providing data that are largely of equal or better quality than those provided by undergraduate samples (Buhrmester et al., 2011; Miller et al., 2017). Participants were predominantly

women (56% female) and of Caucasian descent (77.7%), with a mean age of 38.6 years (SD = 11.4).

Measures
Normal and Abnormal Personality

Participants completed several widely used measures of psychopathic and narcissistic traits, as well as general personality traits. Participants first completed the *Psychopathic Personality Inventory-Revised* (PPI-R; Lilienfeld et al., 2005) and the *Levenson Self-report Psychopathy Scale* (LSRP; Levenson et al., 1995). The PPI-R is a 154-item self-report questionnaire that yields a total score and eight lower-order subscale scores; these subscales, with the exception of PPI-R Coldheartedness (PPI-R C; α = 0.88), coalesce into two higher-order factors, PPI-R Fearless Dominance (PPI-R FD; α = 0.94) and PPI-R Self-centered Impulsivity (PPI-R SCI; α = 0.93). PPI-R Fearless Dominance comprises the subscales of PPI-R Social Influence, PPI-R Stress Immunity, and PPI-R Fearlessness; PPI-R Self-centered Impulsivity comprises the subscales of PPI-R Carefree Non-planfulness, PPI-R Rebellious Non-conformity, PPI-R Blame Externalization, and PPI-R Machiavellian Egocentricity. The LSRP is a 26-item self-report measure designed for non-institutionalized samples, yielding a total psychopathy score and two higher-order factor scores that describe primary (F1; α = 0.92) and secondary (F2; α = 0.78) psychopathy. Diverging from the PPI-R in factor structure, LSRP F1 measures self-centeredness, coldheartedness, and callousness (e.g., "Success is based on survival of the fittest; I am not concerned about the losers"), whereas F2 measures disinhibition and antagonism, along with other maladaptive traits (e.g., "When I get frustrated, I often 'let off steam' by blowing my top") (Patrick et al., 2009).

We assessed narcissism with the *Narcissistic Personality Inventory* (NPI; Raskin and Terry, 1988), a 40-item self-report measure of trait narcissism from which three broad dimensions can be derived (Corry et al., 2008; Ackerman et al., 2011): Leadership/Authority (L/A; 10 items; α = 0.85), which is characterized by self-assuredness, appetite for power, and dominance (e.g., "I have a natural talent for influencing people"); Grandiose Exhibitionism (GE; 10 items; α = 0.82), which is characterized by social potency, extraversion, and drive (e.g., "I know that I am good because everybody keeps telling me so"); and Entitlement/Exploitativeness (E/E; 4 items; α = 0.44), which is characterized by self-interest, manipulativeness, and neuroticism (e.g., "I find it easy to manipulate people"). Although NPI E/E manifested a low internal consistency, this finding is consistent with Ackerman et al. (2011), who noted that the small alpha is likely due to the low number of items. Average inter-item correlation coefficient for the subscale was .17.

Participants also completed the *HEXACO Personality Inventory* (HEXACO; Lee and Ashton, 2004), a 100-item measure of dimensional personality; the HEXACO consists of 6 factors (the latter five of which correspond broadly to those in the familiar five-factor model of personality): Honesty-Humility (e.g., "I would never accept a bribe, even if it were very large"), Emotionality (e.g., "I sometimes can't help worrying about little things"), Extraversion (e.g., "In social situations, I'm usually the

one who makes the first move"), Agreeableness (e.g., "I rarely hold a grudge, even against people who have badly wronged me"), Conscientiousness (e.g., "I plan ahead and organize things, to avoid scrambling at the last minute"), and Openness to Experience (e.g., "I like people who have unconventional views") (αs ranged from 0.83 to 0.92).

Potential Moderators

Pride and guilt

We assessed pride by means of two well-validated self-report measures: the *7-Item Authentic and Hubristic Pride Scales* (AHPS; Tracy and Robins, 2007), and the *Dispositional Positive Emotions Scale* (DPES; Shiota et al., 2006). We also examined self-esteem as a subsidiary indicator of authentic pride using the *Rosenberg Self-Esteem Scale* (RSES; Rosenberg, 1965). Self-esteem is conceptually related to authentic pride, just as grandiose narcissism is conceptually related to hubristic pride; notably, previous research and theory have suggested that, though authentic pride may be the affective "core" of genuine self-esteem (Tracy et al., 2009), the two constructs are not wholly equivalent. Further, the *Guilt and Shame Proneness Scale* (GASP; Cohen et al., 2011), a 40-item self-report measure, was administered to assess participant's propensity for guilt and shame.

The AHPS contains two 7-item scales, each prompting participants to rate the extent to which a series of words or phrases describes them, assessing authentic (α = 0.94; e.g., "Accomplished") and hubristic (α = 0.93; e.g., "Arrogant") pride, respectively. Previous findings indicate that the two pride scales are generally unrelated to one another, and differentially predict theoretically relevant variables, such as narcissism, healthy self-esteem, and authenticity (Tracy and Robins, 2007; Tracy et al., 2009). However, Holbrook et al. (2014a) raised several concerns with the AHPS' construct validity, positing that AHPS Authentic Pride captures both effort-oriented (i.e., adaptive) and ability-oriented (i.e., maladaptive) pride-related variance, whereas AHPS Hubristic Pride measures the perception that the reporter's pride is excessive or unfounded. The DPES is a 5-item measure of positive emotionality and self-compassion (e.g., "I am proud of myself and my accomplishments"), and yields a composite score (α = 0.92), and the RSES is a 10-item self-report measure of global self-worth (e.g., "On the whole, I am satisfied with myself"), and assesses both positive and negative beliefs about the self (α = 0.94).

The GASP comprises 4 subscales. Two describe guilt, (1) Guilt-Negative Behavior Evaluation (Guilt-NBE; e.g., "After realizing you have received too much change at a store, you decide to keep it because the salesclerk doesn't notice. What is the likelihood that you would feel uncomfortable about keeping the money?"), assessing one's tendency to feel poorly about prior malfeasant behavior; and (2) Guilt-Repair (e.g., "You reveal a friend's secret, but your friend never finds out. What is the likelihood that your failure to keep the secret would lead you to exert extra effort to keep secrets in the future?"), which refers to a propensity for attempts to correct past transgressions, and two describe shame, (1) Shame-Negative Self-Evaluation (Shame-NSE; e.g., "You rip an article out of a journal in the library and take it with you. Your teacher discovers what you did and

tells the librarian and your entire class. What is the likelihood that this would make you feel like a bad person?"), composed of items describing negative beliefs about the self; and (2) Shame-Withdrawal (e.g., "You take office supplies home for personal use and are caught by your boss. What is the likelihood that this would lead you to quit your job?"), which measures one's tendency to withdraw or hide after making a mistake (αs ranged from 0.67 to 0.81).

GASP subscales describing guilt proneness tend to correlate positively with measures of prosocial behavior and correlate negatively with measures of antisocial behavior, whereas shame subscales tend to correlate negatively with self-esteem and emotional stability (Cohen et al., 2011). GASP Shame-NSE and GASP Shame-withdraw often manifest differential patterns of correlations, such that individuals high in shame-NSE behave more prosocially, whereas individuals high in shame-withdraw tend to behave more antisocially.

Positive parenting

Parenting style was measured using a modified version of the *Alabama Parenting Questionnaire* (APQ; Frick, 1991; Essau et al., 2006), wherein participants are asked to reflect on their parents' behavior during childhood and adolescence. Four items from the original scale were omitted to improve model fit (Essau et al., 2006); 38 items remained. In view of our hypotheses, only those items comprising the Positive Parenting subscale (α = 0.80; e.g., "Your parents told you that they liked it when you helped out around the house") were analyzed. The APQ is often employed as a measure of parenting styles that may be related to antisociality (Essau et al., 2006), and exhibits good criterion-related validity with a bevy of conduct problems, including in clinic-referred children (Blader, 2004), non-referred children (Frick et al., 2003), and adolescents (Frick et al., 1999).

Antisocial and prosocial behavior

Participants completed two self-report measures assessing adaptive, successful, or socially sanctioned behaviors as proxies for prosociality—the *Multifactor Leadership Questionnaire* (MLQ; Avolio and Bass, 1995) and the *Activity Frequency Inventory* (AFI; Lilienfeld, 1998, Unpublished). Antisocial behavior was measured with the *Criminal and Analogous Behavior Scale* (CAB; Lynam et al., 1999).

The MLQ is a 26 item self-report measure of leadership style that yields a total score and scores on 3 subscales: (1) Transformational Leadership (α = 0.86; e.g., "I go beyond self-interest for the good of the group"), referring to a leader's ability to inspire and motivate employees; (2) Transactional Leadership (α = 0.66; e.g., "I discuss in specific terms who is responsible for achieving performance targets"), also known as managerial leadership, in which leaders motivate workers based on contingent reward and punishments; and (3) Laissez-faire Leadership (α = 0.61; e.g., "I wait for things to go wrong before taking action"), wherein leaders offer little feedback or support (Jones and Rudd, 2008). Subscales possess adequate reliability and construct validity (Avolio et al., 2004).

The AFI (α = 0.86) consists of 30 items that assess lifetime performance and frequency of reasonably common

heroic acts, such as attempting to break up a physical fight or helping a stranger who is in emotional distress (Patrick et al., 2006). Because acts of extreme heroism are rare, the AFI measures multiple acts of "everyday" heroism. In undergraduate and community samples, the AFI has demonstrated moderate positive correlations with both Rushton et al. (1981)'s Self-Report Altruism Scale and psychopathic personality traits; of these, the AFI appears most related to Fearless Dominance (Smith et al., 2013).

The CAB consists of 69-items assessing for frequency of engaging in various externalizing behaviors, including but not limited to alcohol and drug use, otherwise criminal behavior (e.g., driving under the influence, burglary), risky sexual behavior, intimate partner violence, and gambling. All CAB items were standardized and summed into a single composite of global antisocial behavior ($\alpha = 0.87$).

RESULTS

Psychopathy's Relations with Pride, Guilt, Positive Parenting, and Social Behavior

Pride
AHPS Authentic Pride, RSES total scores, and DPES total scores were positively correlated with PPI-R Fearless Dominance (rs ranged from 0.56 to 0.69; see **Table 1**) and negatively correlated with PPI-R Self-centered Impulsivity (rs ranged from -0.30 to -0.44; see **Table 1**). Of PPI-R Fearless Dominance subscales, relations were significantly more pronounced for PPI-R Social Influence ($r = 0.64$) and PPI-R Stress Immunity ($r = 0.60$) than for PPI-R Fearlessness ($r = 0.13$) (tested by means of tests of dependent correlations; respectively, Steiger's Zs were 9.39, $p < 0.001$ and 7.71, $p < 0.001$ for AHPS Authentic Pride, 9.58, $p < 0.001$ and 7.74, $p < 0.001$ for DPES total scores, and 8.53, $p < 0.001$ and 9.40, $p < 0.001$ for RSES total scores).

In contrast, AHPS Hubristic Pride was positively correlated with both PPI-R Fearless Dominance and Self-centered Impulsivity (rs were 0.21 and 0.42, respectively; see **Table 1**). At the subscale level, PPI-R Fearlessness and PPI-R Social Influence, but not PPI-R Stress Immunity, were significantly correlated with AHPS Hubristic Pride.

Guilt
Psychopathy measures manifested medium to strong negative correlations with GASP subscales that describe guilt (rs ranged from -0.16 to -0.56; see **Table 1**), although relations were significantly more pronounced for PPI-R Self-centered Impulsivity and PPI-R Coldheartedness than PPI-R Fearless Dominance (respectively, Steiger's Zs were 4.45, $p < 0.001$ and 5.30, $p < 0.001$ for GASP Guilt-NBE, and 5.98, $p < 0.001$ and 5.26, $p < 0.001$ for GASP Guilt-Repair). Of the GASP subscales that describe shame, PPI-R Fearless Dominance was negatively correlated with both GASP Shame-NSE and GASP Shame-Withdraw; PPI-R Coldheartedness was strongly negatively correlated with GASP Shame-NSE and was not significantly correlated with GASP Shame-Withdraw

(Steiger's $Z = -8.00$, $p < 0.001$); PPI-R Self-centered Impulsivity was negatively correlated with GASP Shame-NSE and positively correlated with GASP Shame-Withdraw (Steiger's $Z = -9.35$, $p < 0.001$).

Positive Parenting
Psychopathy higher-order dimensions were consistently negatively related to APQ Positive Parenting (rs $= -0.16$ to -0.29; see **Table 1**), except for PPI-R Fearless Dominance, which was positively related. Consistent with Lykken's hypothesis, AHPS Authentic Pride, RSES, and DPES were positively associated with APQ Positive Parenting (rs from 0.37 to 0.39; see **Table 1**). There was no significant association between APQ Positive Parenting and AHPS Hubristic Pride.

Antisocial Behavior
As shown in **Table 1**, the antisocial behavior composite assessed by means of the CAB was significantly associated with PPI-R Fearless Dominance and Self-centered Impulsivity but not PPI-R Coldheartedness.

Prosocial Behavior: Heroism and Leadership
Consistent with previous findings, PPI-R Fearless Dominance and PPI-R Fearlessness ($r = 0.26$) manifested significant relations with the AFI, whereas PPI-R Self-centered Impulsivity and PPI-R Coldheartedness were not significantly correlated with the AFI (see **Table 1**). Further, the AFI was significantly related to MLQ Transformational Leadership and MLQ Transactional Leadership, but, also, to the CAB antisocial behavior composite (rs ranged from 0.19 to 0.26; see **Table 1**). Similarly, MLQ Transformational Leadership manifested significant positive correlations with PPI-R Fearless Dominance and PPI-R Coldheartedness, and significant negative correlations with PPI-R Self-centered Impulsivity.

Specificity: The Role of Narcissism and General Personality Traits

Narcissism
Psychopathy dimensions demonstrated divergent patterns of correlations with the NPI's three dimensions (see **Table 2**). PPI-R Fearless Dominance was more robustly correlated with NPI Leadership/Authority than were either PPI-R Self-centered Impulsivity or PPI-R Coldheartedness (Steiger's Zs were 8.71, $p < 0.001$, and 8.88, $p < 0.001$, respectively). Similarly, PPI-R Fearless Dominance was more robustly correlated with NPI Grandiose Exhibitionism than were either PPI-R Self-centered Impulsivity (Steiger's $Z = 4.28$, $p < 0.001$) or PPI-R Coldheartedness (Steiger's $Z = 4.56$, $p < 0.001$). Conversely, relations between PPI-R Self-centered Impulsivity and PPI-R Coldheartedness, on the one hand, and NPI Entitlement/Exploitativeness, on the other, were significantly more pronounced than for PPI-R Fearless Dominance and NPI Entitlement/Exploitativeness (Steiger's Zs $= 3.57$, $p < 0.001$, and 3.35, $p < 0.001$). These findings are consistent with Ackerman et al. (2011)'s conceptual and empirical description of their three-factor solution, whereby Leadership/Authority assesses largely adaptive aspects of personality, Grandiose Exhibitionism

TABLE 1 | Correlations between pride, guilt, personality features, and prosocial and antisocial behaviors.

	M (SD)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
(1) PPI-R FD	101.78 (22.39)	—																		
(2) PPI-R SCI	33.23 (8.73)	0.12	—																	
(3) PPI-R CH	33.27 (8.39)	0.24	0.35	—																
(4) LSRP F1	28.50 (9.48)	0.25	0.62	0.56	—															
(5) LSRP F2	18.42 (4.99)	0.13	0.71	0.18	0.56	—														
(6) AHPS AP	20.47 (6.55)	0.62	−0.32	0.02	0.04	0.47	—													
(7) AHPS HP	9.17 (4.25)	0.21	0.42	0.20	0.34	0.27	0.10	—												
(8) DPES	4.87 (1.42)	0.69	−0.30	0.03	0.09	0.42	0.84	0.03	—											
(9) RSES	29.85 (7.05)	0.56	−0.40	0.01	0.15	0.46	0.80	0.12	0.85	—										
(10) GASP GR	5.72 (1.14)	0.16	−0.56	0.50	0.53	0.43	0.07	0.27	0.11	0.13	—									
(11) GASP NSE	5.57 (1.31)	0.42	−0.35	0.50	0.47	0.22	0.18	0.21	0.15	0.18	0.52	—								
(12) GASP SW	2.99 (1.29)	0.27	0.35	0.09	0.25	0.36	0.36	0.11	0.35	0.39	0.24	0.04	—							
(13) GASP NBE	5.33 (1.42)	0.24	−0.53	0.56	0.61	0.34	0.01	0.23	0.05	0.06	0.64	0.72	0.14	—						
(14) APQ	12.61 (5.31)	0.20	−0.25	0.21	0.16	0.29	0.40	0.08	0.40	0.37	0.22	0.09	0.20	0.16	—					
(15) CAB	0.11 (3.71)	0.26	0.26	0.03	0.19	0.19	0.05	0.03	0.07	0.04	−0.07	−0.13	0.05	0.14	−0.05	—				
(16) TF	18.81 (3.08)	0.28	−0.38	0.39	0.37	0.43	0.46	0.18	0.49	0.44	0.43	0.25	0.31	0.33	0.32	0.20	—			
(17) TA	9.37 (1.37)	0.05	−0.08	0.13	0.03	0.10	0.15	0.02	0.12	0.04	0.10	0.12	0.11	0.08	0.17	0.14	0.44	—		
(18) LF	1.85 (.70)	−0.21	0.38	0.21	0.32	0.45	0.30	0.23	0.35	0.35	0.35	0.14	0.32	0.20	0.22	−0.09	0.52	0.13	—	
(19) AFI	11.57 (10.38)	0.31	0.06	0.12	0.03	0.02	0.15	0.03	0.15	0.09	0.01	0.06	0.16	0.07	0.02	0.23	0.26	0.19	0.06	—

Bolded is $p < 0.01$, italicized is $p < 0.05$. $N = 339$. AFI, Activity Frequency Inventory; PPI-R, Psychopathic Personality Inventory-Revised; FD, Fearless Dominance; SCI, Self-centered Impulsivity; CH, Coldheartedness; AHPS, Authentic and Hubristic Pride Scales; AP, Authentic Pride; HP, Hubristic Pride; LSRP, Levenson "Self-report" Psychopathy Scale; F1, Factor 1; F2, Factor 2; CAB, Criminal and Analogous Behavior Scale; DPES, Dispositional Positive Emotionality Scale; RSES, Rosenberg Self-esteem Scale; MLQ, Multifactor Leadership Scale; TF, Transformational Leadership; TA, Transactional Leadership; LF, Laissez-faire leadership; GASP, Guilt and Shame Proneness Scale; NBE, Negative Behavior Evaluation; NSE, Negative Self Evaluation; GR, Guilt Response; SW, Shame Withdrawal.

TABLE 2 | Correlations between pride, psychopathy, narcissism, and general personality.

	NPI			HEXACO					
	L/A	**GE**	**E/E**	**H**	**E**	**X**	**A**	**C**	**O**
AHPS AP	**0.51**	**0.37**	0.00	**0.16**	**−0.20**	**0.77**	**0.31**	**0.37**	**0.17**
AHPS HP	**0.30**	**0.45**	**0.38**	**−0.30**	−0.11	0.07	**−0.20**	**−0.18**	−0.01
RSES	**0.39**	**0.23**	−0.11	**0.23**	**−0.21**	**0.74**	**0.32**	**0.37**	**0.20**
DPES	**0.55**	**0.36**	−0.01	**0.19**	**−0.22**	**0.79**	**0.29**	**0.36**	**0.25**
PPI-R FD	**0.72**	**0.55**	**0.24**	−0.05	**−0.50**	**0.76**	*0.14*	*0.12*	**0.23**
PPI-R SCI	**0.21**	**0.28**	**0.48**	**−0.49**	*−0.15*	**−0.24**	**−0.55**	**−0.54**	−0.06
PPIR CH	**0.24**	**0.279**	**0.45**	**−0.62**	**−0.61**	−0.02	**−0.27**	**−0.29**	**−0.30**

N = 339. Bolded is p < 0.01, italicized is p < 0.05. NPI, Narcissistic Personality Inventory; L/A, Leadership/Authority; GE, Grandiose Exhibitionism; E/E, Entitlement/Exploitativeness; HEXACO, HEXACO Personality Inventory; H, Honesty/Humility; E, Emotionality; X, Extraversion; A, Agreeableness; C, Conscientiousness; O, Openness to experience; AHPS, Authentic and Hubristic Pride Scales; AP, Authentic Pride; HP, Hubristic Pride; RSES, Rosenberg Self-esteem Scale; DPES, Dispositional Positive Emotionality Scale; PPI-R, Psychopathic Personality Inventory-Revised; FD, Fearless Dominance; SCI, Self-centered Impulsivity; CH, Coldheartedness.

assesses mixed outcomes, and Entitlement/Exploitativeness assesses largely negative outcomes.

AHPS Authentic Pride, RSES, and DPES were uniformly positively correlated with both NPI Leadership/Authority (rs ranged from 0.39 to 0.55) and NPI Grandiose Exhibitionism (rs ranged from 0.23 to 0.37) but none were significantly correlated with NPI Entitlement/Exploitativeness. AHPS Hubristic Pride manifested medium-to-strong positive correlations with all three NPI dimensions (rs ranged from 0.30 to 0.45).

HEXACO Personality Traits

See **Table 2** for interrelations between personality traits, as assessed by the HEXACO, and pride measures. Most notably, AHPS Authentic Pride, RSES, and DPES were all positively correlated with HEXACO Extraversion (rs ranged from 0.74 to 0.79), HEXACO Honesty/Humility (rs from 0.16 to 0.23), HEXACO Agreeableness (rs from 0.29 to 0.32), HEXACO Conscientiousness (rs from 0.36 to 0.37), and HEXACO Openness to experience (rs from 0.17 to 0.25), whereas AHPS Hubristic Pride was either negatively correlated—as was the case for HEXACO Honesty/Humility, HEXACO Agreeableness, and HEXACO Conscientiousness—or not significantly correlated with those same variables.

Testing Lykken's Hypothesis: Moderators of the Psychopathy-Social Behavior Link

Using the PROCESS macro (Hayes, 2017) in SPSS, we conducted a series of moderated multiple regression analyses to examine whether the relation between psychopathy (especially Fearless Dominance) and social behavior differed as a function of positive parenting and/or pride. We tested all possible combinations of moderation, 30 of which were hypothesis-driven, with all PPI-R higher-order dimensions, PPI-R Fearlessness, and both LSRP factors serving as the predictors; authentic and hubristic pride and positive parenting as the moderators; and antisocial and prosocial behavior, the latter by way of heroism and leadership style, as the external criteria. Given the large number of moderation analyses, we adopted a conservative p level of 0.005 to provide a reasonable balance between

Type I and Type II error. Notable findings are reported below.

Antisocial Behavior

Contrary to expectations, APQ Positive Parenting, the DPES, and the RSES did not significantly moderate the relation between psychopathic traits and antisocial behavior. AHPS Authentic Pride moderated the relations between PPI-R Fearless Dominance and CAB antisocial behavior in a potentiating manner, such that the addition of the interaction term accounted for a small, non-significant, proportion of variance in the outcome [$\Delta R^2 = 0.011$, $F(1,315) = 3.94$, $p = 0.048$]. Note, however, that the direction of this effect, which was potentiating, was opposite to that predicted. This finding held for PPI-R Coldheartedness ($\Delta R^2 = 0.027$, $p < 0.001$), and LSRP F1 ($\Delta R^2 = 0.020$, $p = 0.013$), although the latter finding, as with PPI-R Fearless Dominance, fell short of our more conservative significance threshold.

Again inconsistent with our predictions, AHPS Hubristic Pride moderated the relations between PPI-R Self-centered Impulsivity and CAB antisocial behavior, this time in a protective manner, such that the interaction term accounted for a significant proportion of variance in the outcome [$\Delta R^2 = 0.040$, $F(1,315) = 9.90$, $p = 0.002$]. This finding suggests that AHPS Hubristic Pride may, in fact, protect against criminal and antisocial behaviors in individuals with elevated interpersonal-affective facets of psychopathy (e.g., lying, lack of remorse or guilt, low empathy, and callousness).

Prosocial Behavior

Results for prosocial behavior were more promising, but mixed. As predicted, both the DPES and the RSES significantly moderated the relation between PPI-R Fearless Dominance and MLQ Transformational Leadership in a potentiating manner, such that the interaction terms accounted for a significant increase in the variance of the outcome [DPES: $\Delta R^2 = 0.039$, $F(1,296) = 18.44$, $p < 0.001$; RSES: $\Delta R^2 = 0.023$, $F(1,294) = 9.55$, $p = 0.002$]. Further, DPES scores moderated the relation between PPI-R Fearless Dominance and MLQ Transactional Leadership in a potentiating manner [$\Delta R^2 = 0.025$, $F(1,296) = 7.79$,

$p = 0.006$], although the latter finding again fell short of our more conservative significance threshold. No other significant interaction effects were found across all analyses for relations between our predictor variables and prosocial behavior as measured by the MLQ and AFI.

DISCUSSION

Our investigation sought to evaluate Lykken's (1995) conjecture that pride protects against antisocial behavior and perhaps promotes prosocial behavior in individuals with marked psychopathic traits, especially fearlessness. Further, Lykken contended that parents and other socializing agents could inculcate pride by imbuing pre-psychopathic children with a healthy self-concept. Taken together, our findings yielded a number of new and intriguing insights, but decidedly mixed support for the contention that pride moderates the relation between fearlessness and social behavior.

One of our central hypotheses—namely, that authentic pride would attenuate the risk of antisocial behaviors among individuals with high levels of fearless dominance—received minimal support. We found mixed support for the additional hypothesis that authentic pride would potentiate the association between fearless dominance and prosocial behavior. Consistent with our predictions, healthy pride moderated (potentiated) the relation between fearless dominance and adaptive leadership behaviors (i.e., transformational leadership). Contrary to our predictions, however, this relation did not extend to everyday heroism. Pending independent replication, these data provisionally indicate that authentic pride may be a partial shaping force in "successful" or adaptive psychopathy, a construct that shares considerable conceptual overlap with the archetypal "corporate" psychopath. Further, our findings raise the possibility that individuals high in both fearless dominance and authentic pride may be particularly successful leaders relative to other individuals with psychopathic traits. Prideful psychopaths who are successful leaders may strike an effective balance of bold interpersonal impact and intermittent prosocial behavior—appearing suave, self-assured, and daring to their followers while, critically, corroborating their self-assuredness with "good" behavior stemming from their contingent positive self-regard (i.e., authentic pride). Still, while our positive findings concerning leadership do bear some important implications, they should be interpreted with a measure of caution.

Unexpectedly, hubristic pride moderated the relation between self-centered impulsivity and antisocial behavior in a protective manner. We can envision two mutually exclusive explanations for this puzzling finding. The first is that it reflects Type I error. The second is substantive, although *post hoc* and conjectural. Perhaps psychopathic individuals who are willing to endorse items on the Hubristic Pride Scale with negative connotations such as "conceited" or "arrogant" are especially cognizant of social norms surrounding expressions of egotism. In turn, this awareness may reflect a degree of internalized socialization that protects against antisocial behaviors (Holbrook et al., 2014b).

Although not directly relevant to Lykken's hypothesis, our findings also yielded several previously unreported associations that point to meaningful zero-order relations between psychopathy and pride, and highlight the importance of distinguishing both broad constructs at the subdimension level. For instance, fearless dominance and self-centered impulsivity yielded differential relations with authentic and hubristic pride. Fearless dominance was significantly associated with both subtypes of pride, although it manifested significantly larger associations with authentic pride, consistent with conceptualizations of the former as largely adaptive (Lilienfeld et al., 2012).

The finding that fearless dominance was associated with both forms of pride, suggesting that it is neither entirely adaptive nor maladaptive, can be situated within a broader debate surrounding the relevance of largely adaptive traits within conceptualizations of psychopathy. Some authors (e.g., Lynam and Miller, 2012) contend that fearless dominance is merely peripheral to psychopathy and that its near null associations with externalizing behavior and other maladaptive outcomes raise questions concerning its construct validity as a psychopathy subdimension. In contrast, others (e.g., Lilienfeld et al., 2012) contend that fearless dominance captures the superficially normal "mask" of healthy functioning (Cleckley, 1941) that is part-and-parcel of psychopathy. Of course, our findings regarding the correlations of fearless dominance with facets of pride by no means resolve this debate. At the same time, they suggest that fearless dominance, whatever its relevance to psychopathy, appears to display at least some maladaptive correlates, at least concerning arrogance and related elements of malignant pride and narcissism.

Further, self-centered impulsivity was significantly positively associated with hubristic pride, which is consistent with conceptualizations of both constructs as maladaptive (e.g., Carver et al., 2010; Edens and McDermott, 2010), and negatively associated with authentic pride. Taken together, the differential relations of fearless dominance and self-centered impulsivity, on the one hand, with authentic and hubristic pride, on the other, suggest that psychopathic individuals' self-concept depends on their level of component traits, with individuals with elevated levels of fearless dominance reporting a healthy self-concept and individuals with high levels of self-centered impulsivity being disposed to hubris and malignant self-esteem.

Lastly, although Lykken's model was the focus of our primary analyses, in subsidiary analyses, we used path analysis to examine an alternate model that did not incorporate moderation. This model posited that fearless dominance and positive parenting would contribute directly to authentic and/or hubristic pride, which, in turn, would partially or fully mediate the relation between fearless dominance and social behavior. Hence, nested iterations of three overidentified structural models with predictor (i.e., exogenous) variables PPI-R Fearless Dominance and APQ Positive Parenting, the proposed mediators of AHPS Authentic Pride and AHPS Hubristic Pride, and differing criteria (e.g., CAB Antisocial Behavior, MLQ Transformational Leadership, and AFI Heroism) were evaluated using Ωnyx 1.0-972 (von Oertzen et al., 2015) with maximum-likelihood estimation. The Supplementary

Materials contain path diagrams of each model, relative magnitudes of path coefficients representing the direct and indirect relations of fearless dominance and positive parenting to the outcome variables when mediated by authentic and hubristic pride, and fit indices for full and reduced (i.e., with authentic and/or hubristic pride's a and b paths fixed to zero) models. Assuming the posited causal ordering of our variables was sound, results suggested that (a) both fearless dominance and positive parenting mediate antisocial behavior by way of authentic pride (See Supplementary Figure 1); (b) authentic pride and hubristic pride completely mediate the relation between fearless dominance and transformational leadership (positively for authentic pride and negatively for hubristic pride) (See Supplementary Figure 4); and (c) pride appears to be relevant to psychopathy and social behavior given that models adjusted to elide either authentic or hubristic pride resulted in a significant decrement in fit. Nevertheless, given that these models were exploratory (not predicted) and based on cross-sectional data, they should be interpreted with caution pending replication in longitudinal studies.

Despite its strong basis in theoretically informed conjectures (Lykken, 1995), our study was characterized by several limitations. First, our exclusive reliance on self-report instruments renders our findings potentially subject to mono-method bias. Nevertheless, granting this limitation, self-reported psychopathy subdimensions displayed dramatically different relations with forms of pride, suggesting at least some substantive variance rising above method-covariance. Future research should incorporate informant reports of both psychopathy and pride in addition to self-report to provide stronger corroboration of the findings, especially because individuals with high levels of psychopathy and hubristic pride may be marked by blind spots reflecting a lack of insight (Lilienfeld and Fowler, 2006).

Second, our measure of parenting was retrospective and may have been biased by respondents' current personality traits. For example, perhaps individuals who think highly of themselves attribute their high-esteem in part to their upbringing and thereby recall their parenting as especially positive. Alternatively, it may be that self-reports of pride dimensions and positive parenting are both influenced by a third variable, such as individual differences in positive emotionality. Future tests of Lykken's (1995) hypothesis would benefit from longitudinal follow-ups of the statistical interaction between parenting styles and fearlessness among children.

Third, the construct validity of the Authentic and Hubristic Pride Scales is questionable. Holbrook et al. (2014a) offered theory- and data-driven challenges to certain facets of the Authentic/Hubristic Pride model, as well as to the construct validity of the Authentic and Hubristic Pride Scales. Specifically, they argued that AHPS Authentic Pride indexes both adaptive (i.e., achievement-oriented; authentic) and maladaptive (i.e., effort-oriented; hubristic) pride, whereas AHPS Hubristic Pride conflates hubristic pride with cognizance of social norms and/or an individual's belief that they have engaged in socially proscribed pridefulness (c.f., Tracy and Robins, 2014). This suboptimal operationalization of our target constructs may have led us to commit what and Kimball (1957) and Kaiser (1960)

(among others) called a "Type III error," wherein researchers provide the right answer to the wrong question. Along with informant reports, future research should consider examining non-verbal pride behaviors (e.g., enlarged posture, arms on hips or raised above the head, head tilted backward), which appear across many or most cultures and may signal heightened standing or proficiency (Tracy et al., 2005; Tracy and Robins, 2008), dominance (Williams and DeSteno, 2009) and social attractiveness (Verbeke et al., 2004).

Fourth, we relied exclusively on an M-Turk sample to investigate these relations. Although community samples appear to be largely representative of the broader population (Miller et al., 2017), future research should examine the generalizability of our findings to other samples, particularly those marked by potentially high rates of both prosocial and antisocial behaviors, including corporate and political samples.

Fifth and finally, given that several of our findings were unexpected, or borne of exploratory analyses, a confirmatory, follow-up experiment may allow researchers to better understand the role of pride in shaping the behavioral expressions of psychopathic traits. For instance, future researchers could induce participants to experience either authentic or hubristic pride on a state basis (e.g. McFerran et al., 2014) and subsequently examine their self-reported or behaviorally measured prosocial and antisocial behaviors.

Another potential avenue for future research concerns recent scholarship demonstrating that, although certain psychopathic individuals may have relatively small, hypoactive amygdalae (Jones et al., 2009; Pardini et al., 2014) and exhibit reduced amygdala responses to fearful facial expressions (e.g., Dawel et al., 2012), "extreme" altruists (e.g., individuals who have donated organs to strangers) exhibit enhanced amygdala responsivity and sensitivity to fearful facial expressions (Marsh, 2016). Marsh et al. (2014) posited that these findings reflect a shared cognitive and/or neural mechanism underlying social behavior, such that antisocial and prosocial behavior occupy opposing points on a spectrum of behavior. Still, the degree to which Marsh and colleagues' important work challenges Lykken's low-fear hypothesis remains unclear. Fearlessness is especially relevant to imminent threat (Sylvers et al., 2011), whereas organ donation and other variants of extreme altruism are typically the products of lengthy deliberation. A paucity of fear may allow a heroic individual to charge into a burning building, but an organ donor's fear of bodily harm may, with time, be outweighed by their empathy for the organ recipient[1]. Moreover, positive associations between antisocial behavior and heroic behavior were demonstrated in the current study as well as in several previous investigations in community and undergraduate samples (Smith et al., 2013), suggesting that certain forms

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[1]Notably, the HEXACO Personality Inventory includes an "Interstitial" scale known as HEXACO Altruism (versus Antagonism). The subscale, however, is largely a measure of sympathy, kindness, and soft-heartedness to others, and so is not directly relevant to our hypotheses concerning prosocial behavior. Exploratory analyses revealed that HEXACO Altruism was significantly negatively correlated with PPI-R Fearlessness ($r = -0.28$) and was not significantly correlated with PPI-R Fearless Dominance ($r = -0.05$). Further results concerning HEXACO Altruism are available from the corresponding author upon request.

of prosocial behavior (i.e., heroism) and criminality are not necessarily antithetical. Hence, the implications of Marsh and colleagues work on altruism and psychopathic individuals for moderated expression models of psychopathy (see Hall and Benning, 2006) is an important area of future research.

Our mixed results, along with these limitations and qualifications, notwithstanding, our findings are heuristically valuable in pointing to the largely neglected role of pride in understanding the correlates and potential behavioral manifestations of psychopathic traits. Given that pride may be an alternative venue to adequate socialization in individuals who are deficient in guilt, we strongly encourage psychopathy researchers to pay greater heed to this construct and its subtypes.

ETHICS STATEMENT

This study was carried out in accordance with the recommendations of Emory University Institutional Review Board (IRB) Policies and Procedures, and the Emory IRB. The protocol was approved by the Emory University IRB. All subjects gave written informed consent in accordance with the Declaration of Helsinki.

AUTHOR CONTRIBUTIONS

AU and SL contributed the conception of the study. SL, AU, and AW provided the research design and methodological approach. AU and AW oversaw the collection of data. TC, SL, AU, and AW organized the dataset. TC and AW performed the statistical analysis and interpretation. TC wrote the first draft of the manuscript. TC, SL, and AU wrote sections of the manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

SUPPLEMENTARY MATERIAL

REFERENCES

Ackerman, R. A., Witt, E. A., Donnellan, M. B., Trzesniewski, K. H., Robins, R. W., and Kashy, D. A. (2011). What does the narcissistic personality inventory really measure? *Assessment* 18, 67–87. doi: 10.1177/1073191110382845

Avolio, B. J., and Bass, B. M. (1995). Individual consideration viewed at multiple levels of analysis: a multi-level framework for examining the diffusion of transformational leadership. *Leadersh. Q.* 6, 199–218. doi: 10.1016/1048-9843(95)90035-7

Avolio, B. J., Bass, B. M., and Zhu, F. W. W. (2004). *Multifactor Leadership Questionnaire: Manual and Sampler Set.* Redwood City, CA: Mind Garden.

Blader, J. C. (2004). Symptom, family, and service predictors of children's psychiatric rehospitalization within one year of discharge. *J. Am. Acad. Child Adolesc. Psychiatry* 43, 440–451.

Board, B. J., and Fritzon, K. (2005). Disordered personalities at work. *Psychol. Crime Law* 11, 17–32. doi: 10.1097/00004583-200404000-00010

Buhrmester, M., Kwang, T., and Gosling, S. D. (2011). Amazon's mechanical turk: a new source of inexpensive, yet high-quality, data? *Perspect. Psychol. Sci.* 6, 3–5. doi: 10.1177/1745691610393980

Campbell, J. (1949/2008). *The Hero with a Thousand Faces*, Vol. 17. Novato, CA: New World Library. doi: 10.1177/1745691610393980

Carver, C. S., Sinclair, S., and Johnson, S. L. (2010). Authentic and hubristic pride: differential relations to aspects of goal regulation, affect, and self-control. *J. Res. Pers.* 44, 698–703. doi: 10.1016/j.jrp.2010.09.004

Cattell, R. B. (1973). *Personality and Mood by Questionnaire.* San Francisco, CA: Jossey-Bass.

Cleckley, H. (1941). *The Mask of Sanity; An Attempt to Reinterpret the So-Called Psychopathic Personality.* Oxford: Mosby. Available at: http://psycnet.apa.org/record/1941-02603-000

Cleckley, H. M. (1976). *The Mask of Sanity: An Attempt to Clarify Some Issues about the So-Called Psychopathic Personality.* St. Louis, MO: Mosby.

Cohen, T. R., Wolf, S. T., Panter, A. T., and Insko, C. A. (2011). Introducing the GASP scale: a new measure of guilt and shame proneness. *J. Pers. Soc. Psychol.* 100, 947–966. doi: 10.1037/a0022641

Corry, N., Merritt, R. D., Mrug, S., and Pamp, B. (2008). The factor structure of the narcissistic personality inventory. *J. Pers. Assess.* 90, 593–600. doi: 10.1080/00223890802388590

Damian, R. I., and Robins, R. W. (2013). Aristotle's virtue or Dante's deadliest sin? The influence of authentic and hubristic pride on creative achievement. *Learn. Individ. Differ.* 26, 156–160. doi: 10.1016/j.lindif.2012.06.001

Dawel, A., O'Kearney, R., McKone, E., and Palermo, R. (2012). Not just fear and sadness: meta-analytic evidence of pervasive emotion recognition deficits for facial and vocal expressions in psychopathy. *Neurosci. Biobehav. Rev.* 36, 2288–2304. doi: 10.1016/j.neubiorev.2012.08.006

Edens, J. F., and McDermott, B. E. (2010). Examining the construct validity of the psychopathic personality inventory–revised: preferential correlates of fearless dominance and self-centered impulsivity. *Psychol. Assess.* 22, 32. doi: 10.1037/a0018220

Edens, J. F., Skopp, N. A., and Cahill, M. A. (2008). Psychopathic features moderate the relationship between harsh and inconsistent parental discipline and adolescent antisocial behavior. *J. Clin. Child Adolesc. Psychol.* 37, 472–476. doi: 10.1080/15374410801955938

Essau, C. A., Sasagawa, S., and Frick, P. J. (2006). Callous-unemotional traits in a community sample of adolescents. *Assessment* 13, 454–469. doi: 10.1177/1073191106287354

Fowles, D. C., and Dindo, L. (2009). Temperament and psychopathy: a dual-pathway model. *Curr. Dir. Psychol. Sci.* 18, 179–183. doi: 10.1111/j.1467-8721.2009.01632.x

Freud, S. (ed.). (1923/2001). "The ego and the id," in *The Standard Edition of the Complete Psychological Works*, Vol. 19 (London: Vintage), 19.

Frick, P. J. (1991). *The Alabama Parenting Questionnaire. Unpublished Rating Scale.* Tuscaloosa, AL: University of Alabama.

Frick, P. J., Christian, R. E., and Wootton, J. M. (1999). Age trends in the association between parenting practices and conduct problems. *Behav. Modif.* 23, 106–128. doi: 10.1177/0145445599231005

Frick, P. J., Kimonis, E. R., Dandreaux, D. M., and Farell, J. M. (2003). The 4 year stability of psychopathic traits in non-referred youth. *Behav. Sci. Law* 21, 713–736. doi: 10.1002/bsl.568

Frick, P. J., Ray, J. V., Thornton, L. C., and Kahn, R. E. (2014). Can callous-unemotional traits enhance the understanding, diagnosis, and treatment of serious conduct problems in children and adolescents? A comprehensive review. *Psychol. Bull.* 140, 1–57. doi: 10.1037/a0033076

Grusec, J. E., and Hastings, P. D. (2014). *Handbook of Socialization: Theory and Research.* New York, NY: Guilford Publications.

Hall, J. R., and Benning, S. D. (2006). "The "successful": adaptive and subclinical manifestations of psychopathy in the general population," in *Handbook of Psychopathy*, ed. C. J. Patrick (New York, NY: Guilford Press), 459–478.

Hayes, A. F. (2017). *Introduction to Mediation, Moderation, and Conditional Process Analysis: A Regression-Based Approach.* New York, NY: Guilford Press.

Holbrook, C., Piazza, J., and Fessler, D. M. (2014a). Conceptual and empirical challenges to the "authentic" versus "hubristic" model of pride. *Emotion* 14, 17–32. doi: 10.1037/a0031711

Holbrook, C., Piazza, J. R., and Fessler, D. M. (2014b). Further challenges to the "authentic"/"hubristic" model of pride: conceptual clarifications and new evidence. *Emotion* 14, 38–42. doi: 10.1037/a0035457

Hoppenbrouwers, S. S., Bulten, B. H., and Brazil, I. A. (2016). Parsing fear: a reassessment of the evidence for fear deficits in psychopathy. *Psychol. Bull.* 142, 573–600. doi: 10.1037/bul0000040

Hume, D. (2003). *A Treatise of Human Nature*. North Chelmsford, MA: Courier Corporation.

Hume, D. (1888). *A Treatise of Human Nature*, ed. L. A. Selby-Bigge. Oxford: Clarendon Press.

Jones, A. P., Laurens, K. R., Herba, C. M., Barker, G. J., and Viding, E. (2009). Amygdala hypoactivity to fearful faces in boys with conduct problems and callous-unemotional traits. *Am. J. Psychiatry* 166, 95–102. doi: 10.1176/appi.ajp.2008.07071050

Jones, D., and Rudd, R. (2008). Transactional, transformational, or laissez-faire leadership: an assessment of college of agriculture academic program leaders' (Deans) leadership styles. *J. Agric. Educ.* 49, 88–97. doi: 10.5032/jae.2008.02088

Kaiser, H. F. (1960). Directional statistical decisions. *Psychol. Rev.* 67, 160–167. doi: 10.1037/h0047595

Kimball, A. (1957). Errors of the third kind in statistical consulting. *J. Am. Stat. Assoc.* 52, 133–142. doi: 10.1080/01621459.1957.10501374

Kochanska, G. (1993). Toward a synthesis of parental socialization and child temperament in early development of conscience. *Child Dev.* 64, 325–347. doi: 10.2307/1131254

Kochanska, G. (1995). Children's temperament, mothers' discipline, and security of attachment: multiple pathways to emerging internalization. *Child Dev.* 66, 597–615. doi: 10.2307/1131937

Kochanska, G. (1997). Multiple pathways to conscience for children with different temperaments: from toddlerhood to age 5. *Dev. Psychol.* 33, 228. doi: 10.1037/0012-1649.33.2.228

Kochanska, G., Aksan, N., and Joy, M. E. (2007). Children's fearfulness as a moderator of parenting in early socialization: two longitudinal studies. *Dev. Psychol.* 43, 222–237. doi: 10.1037/0012-1649.43.1.222

Kroneman, L. M., Hipwell, A. E., Loeber, R., Koot, H. M., and Pardini, D. A. (2011). Contextual risk factors as predictors of disruptive behavior disorder trajectories in girls: the moderating effect of callous-unemotional features. *J. Child Psychol. Psychiatry* 52, 167–175. doi: 10.1111/j.1469-7610.2010.02300.x

Lahey, B. B., Van Hulle, C. A., Keenan, K., Rathouz, P. J., D'Onofrio, B. M., Rodgers, J. L., et al. (2008). Temperament and parenting during the first year of life predict future child conduct problems. *J. Abnorm. Child Psychol.* 36, 1139–1158. doi: 10.1007/s10802-008-9247-3

Lee, K., and Ashton, M. C. (2004). Psychometric properties of the HEXACO personality inventory. *Multivariate Behav. Res.* 39, 329–358. doi: 10.1207/s15327906mbr3902_8

Levenson, M. R., Kiehl, K. A., and Fitzpatrick, C. M. (1995). Assessing psychopathic attributes in a noninstitutionalized population. *J. Pers. Soc. Psychol.* 68, 151–158. doi: 10.1037/0022-3514.68.1.151

Lilienfeld, S. O., and Arkowitz, H. (2007/2008). *What "Psychopath" Means*. New York, NY: Scientific American. doi: 10.1038/scientificamericanmind1207-80

Lilienfeld, S. O., and Fowler, K. A. (2006). "The self-report assessment of psychopathy: problems, pitfalls, and promises," in *Handbook of Psychopathy*, ed. C. J. Patrick (New York, NY: Guilford Press), 107–132.

Lilienfeld, S. O., Waldman, I. D., Landfield, K., Watts, A. L., Rubenzer, S., and Faschingbauer, T. R. (2012). Fearless dominance and the U.S. presidency: implications of psychopathic personality traits for successful and unsuccessful political leadership. *J. Pers. Soc. Psychol.* 103, 489–505. doi: 10.1037/a0029392

Lilienfeld, S. O., Watts, A. L., and Smith, S. F. (2015). Successful psychopathy: a scientific status report. *Curr. Dir. Psychol. Sci.* 24, 298–303. doi: 10.1177/0963721415580297

Lilienfeld, S. O., Widows, M. R., and Staff, P. (2005). Psychopathic personality inventoryTM-revised. *Soc. Influ.* 61:97.

Liu, C., Yuan, L., Chen, C., and Yu, G. (2016). Authentic and hubristic pride as assessed by self, friends, and strangers. *Soc. Psychol. Pers. Sci.* 7, 690–696. doi: 10.1177/1948550616649240

Lykken, D. T. (1957). A study of anxiety in the sociopathic personality. *J. Abnorm. Soc. Psychol.* 55, 6–10. doi: 10.1037/h0047232

Lykken, D. T. (1982). Research with twins: the concept of emergenesis. *Psychophysiology* 19, 361–372. doi: 10.1111/j.1469-8986.1982.tb02489.x

Lykken, D. T. (1995). *The Antisocial Personalities*. Hove: Psychology Press.

Lynam, D. R., and Miller, J. D. (2012). Fearless dominance and psychopathy: a response to Lilienfeld et al. *Pers. Disord.* 3, 341–353. doi: 10.1037/a0028296

Lynam, D. R., Whiteside, S., and Jones, S. (1999). Self-reported psychopathy: a validation study. *J. Pers. Assess.* 73, 110–132. doi: 10.1207/S15327752JPA730108

Marsh, A. A. (2016). Understanding amygdala responsiveness to fearful expressions through the lens of psychopathy and altruism. *J. Neurosci. Res.* 94, 513–525. doi: 10.1002/jnr.23668

Marsh, A. A., Stoycos, S. A., Brethel-Haurwitz, K. M., Robinson, P., VanMeter, J. W., and Cardinale, E. M. (2014). Neural and cognitive characteristics of extraordinary altruists. *Proc. Natl. Acad. Sci. U.S.A.* 111, 15036–15041. doi: 10.1073/pnas.1408440111

McFerran, B., Aquino, K., and Tracy, J. L. (2014). Evidence for two facets of pride in consumption: findings from luxury brands. *J. Consum. Psychol.* 24, 455–471. doi: 10.1016/j.jcps.2014.03.004

Miller, J. D., Crowe, M., Weiss, B., Maples-Keller, J. L., and Lynam, D. R. (2017). Using online, crowdsourcing platforms for data collection in personality disorder research: the example of Amazon's Mechanical Turk. *Pers. Disord.* 8, 26–34. doi: 10.1037/per0000191

Murphy, B. A., Lilienfeld, S. O., and Watts, A. L. (2017). "Psychopathy and heroism: unresolved questions and future directions," in *Handbook of Heroism and Heroic Leadership*, eds S. T. Allison, G. R. Goethals, and R. M. Kramer (New York, NY: Routledge), 525–546.

Neo, B., Sellbom, M., Smith, S. F., and Lilienfeld, S. O. (2016). Of boldness and badness: insights into workplace malfeasance from a Triarchic psychopathy model perspective. *J. Bus. Ethics* 1–19. doi: 10.1007/s10551-016-3108-8

O'Connor, T. G., Humayun, S., Briskman, J. A., and Scott, S. (2016). Sensitivity to parenting in adolescents with callous/unemotional traits: observational and experimental findings. *J. Abnorm. Psychol.* 125, 502–513. doi: 10.1037/abn0000155

Pardini, D. A., Raine, A., Erickson, K., and Loeber, R. (2014). Lower amygdala volume in men is associated with childhood aggression, early psychopathic traits, and future violence. *Biol. Psychiatry* 75, 73–80. doi: 10.1016/j.biopsych.2013.04.003

Pasalich, D. S., Dadds, M. R., Hawes, D. J., and Brennan, J. (2011). Do callous-unemotional traits moderate the relative importance of parental coercion versus warmth in child conduct problems? An observational study. *J. Child Psychol. Psychiatry* 52, 1308–1315. doi: 10.1111/j.1469-7610.2011.02435.x

Patrick, C. J. (2006). "Back to the future: cleckley as a guide to the next generation of psychopathy research," in *Handbook of Psychopathy*, ed. C. J. Patrick (New York, NY: Guilford Press), 605–617.

Patrick, C. J., Fowles, D. C., and Krueger, R. F. (2009). Triarchic conceptualization of psychopathy: developmental origins of disinhibition, boldness, and meanness. *Dev. Psychopathol.* 21, 913–938. doi: 10.1017/S0954579409000492

Patrick, C. J., Edens, J. F., Poythress, N. G., Lilienfeld, S. O., and Benning, S. D. (2006). Construct validity of the psychopathic personality inventory two-factor model with offenders. *Psychol. Assess.* 18, 204–208. doi: 10.1037/1040-3590.18.2.204

Raskin, R., and Terry, H. (1988). A principal-components analysis of the Narcissistic personality inventory and further evidence of its construct validity. *J. Pers. Soc. Psychol.* 54, 890–902. doi: 10.1037/0022-3514.54.5.890

Rosenberg, M. (1965). *Society and the Adolescent Self-Image*, Vol. 11. Princeton, NJ: Princeton university press. doi: 10.1515/9781400876136

Rushton, J. P., Chrisjohn, R. D., and Fekken, G. C. (1981). The altruistic personality and the self-report altruism scale. *Pers. Individ. Differ.* 2, 293–302. doi: 10.1016/0191-8869(81)90084-2

Shiota, M. N., Keltner, D., and John, O. P. (2006). Positive emotion dispositions differentially associated with Big Five personality and attachment style. *J. Posit. Psychol.* 1, 61–71. doi: 10.1080/17439760500510833

Skeem, J. L., Polaschek, D. L. L., Patrick, C. J., and Lilienfeld, S. O. (2011). Psychopathic personality. *Psychol. Sci. Public Interest* 12, 95–162. doi: 10.1177/1529100611426706

Smith, S. F., Lilienfeld, S. O., Coffey, K., and Dabbs, J. M. (2013). Are psychopaths and heroes twigs off the same branch? Evidence from college, community, and presidential samples. *J. Res. Pers.* 47, 634–646. doi: 10.1016/j.jrp.2013.05.006

Sylvers, P., Lilienfeld, S. O., and LaPrairie, J. L. (2011). Differences between trait fear and trait anxiety: implications for psychopathology. *Clin. Psychol. Rev.* 31, 122–137. doi: 10.1016/j.cpr.2010.08.004

Tracy, J. L., Cheng, J. T., Robins, R. W., and Trzesniewski, K. H. (2009). Authentic and hubristic pride: the affective core of self-esteem and narcissism. *Self Identity* 8, 196–213. doi: 10.1080/15298860802505053

Tracy, J. L., and Robins, R. W. (2004). Putting the self into self-conscious emotions: a theoretical model. *Psychol. Inq.* 15, 103–125. doi: 10.1207/s15327965pli1502_01

Tracy, J. L., and Robins, R. W. (2007). Emerging insights into the nature and function of pride. *Curr. Dir. Psychol. Sci.* 16, 147–150. doi: 10.1111/j.1467-8721.2007.00493.x

Tracy, J. L., and Robins, R. W. (2008). The nonverbal expression of pride: evidence for cross-cultural recognition. *J. Pers. Soc. Psychol.* 94, 516–530. doi: 10.1037/0022-3514.94.3.516

Tracy, J. L., and Robins, R. W. (2014). Conceptual and empirical strengths of the authentic/hubristic model of pride. *Emotion* 14, 33–37. doi: 10.1037/a0034490

Tracy, J. L., Robins, R. W., and Lagattuta, K. H. (2005). Can children recognize pride? *Emotion* 5, 251–257.

Verbeke, W., Belschak, F., and Bagozzi, R. P. (2004). The adaptive consequences of pride in personal selling. *J. Acad. Mark. Sci.* 32, 386–402. doi: 10.1177/0092070304267105

von Oertzen, T., Brandmaier, A. M., and Tsang, S. (2015). Structural equation modeling with Ωnyx. *Struct. Equ. Modeling.* 22, 148–161. doi: 10.1080/10705511.2014.935842

Williams, L. A., and DeSteno, D. (2009). Pride: adaptive social emotion or seventh sin? *Psychol. Sci.* 20, 284–288. doi: 10.1111/j.1467-9280.2009.02292.x

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