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Testing the TEBOTS model in self-threatening situations: The role of narratives in the face of ostracism and mortality

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The TEBOTS model predicts that narratives are sought after more often in times of depletion. The present study aimed at expanding this idea by testing whether engagement with narratives is also intensified under self-threatening conditions. Further, we examined whether narratives can serve coping functions. In a 3(Threat: mortality salience vs. ostracism vs. control condition) × 2(Review of the narrative: positive vs. negative) online experiment ($N = 228$), we tested whether self-threats and the expectation towards the narrative increase entertainment experiences and facilitate self-serving attributions. The results demonstrated that self-threats and a positive review indeed increased the entertainment experience. Narratives could support coping with an *existential* threat through enhancing self-serving attributions. The findings are discussed in light of the TEBOTS model and its application in the context of self-threats.

KEYWORDS

self-threats, mortality salience, ostracism, narrative engagement, appreciation, transportation, identification, self-serving attributions

Introduction

Stories can influence many aspects of human communication—such as education, persuasion, entertainment, sense-making as well as attitudes and behaviors (Dodell-Feder and Tamir, 2018; Oatley and Djikic, 2018). Recent approaches have therefore attempted to theoretically embed the role of narratives in humans' identity work. Slater et al. (2014) argued that narratives can help the audience “temporarily expand the boundaries of the self” (TEBOTS). The TEBOTS model outlines that narratives provide their audiences with the potential to leave their boundaries behind and experience something beyond the daily constraints of the self. It refers to self-determination theory (Ryan and Deci, 2000) and argues that in real life, basic needs (i.e., the needs for autonomy competence, and relatedness) can only be satisfied to a limited extent. Media offer a way to expand these boundaries and satisfy these needs beyond the “usual” extent. Accordingly, the model suggests that narratives are sought after more frequently in challenging situations.

Whereas, the basic assumptions of the model mainly focus on the *frequency* of engagement with a narrative (= narratives are sought out more), it is also mentioned that certain situations can increase narrative engagement. For instance, the TEBOTS model found increased levels of both enjoyment as well as appreciation in response to narratives when self-control resources of the individual were depleted (Johnson et al., 2015). Further, transportation into the narrative was found to be a mediator for an increased entertainment experience (Johnson et al., 2015, 2016). That is, processes happening during exposure to a narrative (e.g., transportation) can then subsequently increase the overall entertainment experience (see also, Johnson et al., 2016).

Although the empirical work on TEBOTS focused on ego-depletion and self-affirmation so far, the original theoretical groundwork more broadly speaks about “identity threats” which concern personal threats as well as threats to one’s social identity (Shedlosky-Shoemaker et al., 2011; Slater et al., 2014, p. 441). Thus, a narrative’s potential to cope with a threat should only be fully exploited when engagement with it is facilitated (through raising positive expectations, i.e. a positive review). Facilitating the engagement with a narrative could thus especially serve the idea of TEBOTS, that is, narratives as a means to escape the boundaries of the self, thereby providing restoration from life’s challenges and identity threats.

The present study thus aimed at adding to the growing body of research testing the TEBOTS model and more generally the beneficial effects of narratives by investigating whether narratives can serve as a coping tool (Wolfers and Schneider, 2021) in self-threatening situations. In the present research, to compare the effects of narratives for distinct threatening contexts, two examples of self-threats were studied: relational (here: ostracism) and existential (here: mortality salience) threats (Case and Williams, 2004). Whereas, relational threats predominantly and primarily attack one’s need for relatedness, existential threats predominantly and primarily tackle one’s need for control and autonomy. This study thus reports the results of an experiment that tested whether self-threats (independent variable 1, IV1) and expectations toward the narrative through a positive vs. negative review prior to exposure (independent variable 2, IV2) influence entertainment experiences and subsequent dealing with the self-threats.

Self-threats and media coping

Media use and ostracism

One of the worst threats to the self is perhaps a social or relational threat: Ostracism—“ignoring and excluding individuals or groups by individuals or groups” (Williams, 2007, p. 427)—was found to thwart four fundamental human needs (i.e., belonging, self-esteem, control, and meaningful

existence; e.g., Williams, 2007, 2009). According to the temporal need-threat model (Williams, 2007, 2009), responses to ostracism occur in three stages: For human organisms, minimal signals of being ignored or socially excluded suffice to detect such a threat quickly, thereby leading to a universal evolutionarily evolved, and hard-wired initial reflex of social pain. Accompanied by negative affect and thwarted fundamental needs—belongingness, self-esteem, meaningful existence, and control—, this characterizes the *reflexive stage*. At the *reflective stage*, individuals think about their ostracism episode, try to interpret it, and find reasons for being treated that way. During this stage, people also form attributions about the reasons for being excluded.

Moreover, they apply coping strategies to increase need fortification (e.g., prosocial behavior aiming at re-inclusion). Prolonged exposure to episodes of ostracism causes feelings of alienation, helplessness, unworthiness, and depression (*resignation stage*). Whereas, the needs for self-esteem, control, and meaningful existence are more self-related, the belongingness need represents the need more linked to interpersonal relations among those four fundamental needs. As a threat to belongingness also reflects the core of the ostracism experience and thus conceptually differs from other need threats, in the present research, we concentrate on a threat to belongingness only.

Media use has been suggested and empirically tested to be a tool to cope with and restore the thwarted belongingness need in the reflective phase (Lutz et al., 2022). Not only can this be achieved directly (e.g., *via* social media to seek affiliation and find social support; for an overview, see e.g., Vorderer and Schneider, 2016) but also indirectly (e.g., *via* reaffirmed social representations or using social surrogates, e.g., Gardner et al., 2005; Derrick et al., 2009; Derrick, 2013; Gabriel et al., 2016). For instance, previous research has demonstrated that thinking or writing about favored television programs helps cope with belongingness threats (e.g., Derrick et al., 2009; Gabriel et al., 2017). More specifically, social surrogates like immersion into fictional social worlds (Mar and Oatley, 2008; Gabriel and Young, 2011) or parasocial relationships with media figures (for an overview, see Hartmann, 2017) as presented in novels or on TV help cope with threatened belongingness (for overviews, see Gabriel and Valenti, 2016; Gabriel et al., 2016). These mechanisms are in line with general theoretical assumptions about how fictional narratives impact the boundaries of the self (e.g., Green, 2005; Mar and Oatley, 2008; Slater et al., 2014), for instance, by creating links to past experiences (Green, 2005) or prompting simulations of various selves (Mar and Oatley, 2008). If such self-related processes are connected to social experiences, they may serve to fulfill the need to belong and recover from an exclusionary state. However, little research has paid closer attention to how feeling ostracized influences the engagement with and evaluations of fictional narratives. We are only aware of one study in the field of video games that

found no differences in enjoyment of playing a video game after being ostracized or not (Bowman et al., 2015). From a theoretical perspective, however, the TEBOTS model explicitly includes social threats and assumes that in time of social threats, people will use narratives more often (Slater et al., 2014, H3; Ewoldsen, 2021). It also suggests that stories can be more absorbing under self-threatening circumstances and that such an absorption into a story and identification with characters may provide postnarrative recovery from social pain and need threats (Slater et al., 2014, RQ1). These assumptions resonate well with those ideas about fortifying threatened belongingness needs that particularly focus on fictional social entities (e.g., parasocial relationships or fictional social worlds, see Mar and Oatley, 2008; Gabriel et al., 2016). Moreover, Slater et al. (2014, p. 443) argued that one way to restore threatened relatedness needs “is through the social relationships—with friends, lovers, spouses, family members, companions—vicariously experienced while identifying with characters.”

However, it should be noted in this context, that threatened needs are not mutually exclusive and that self-threats do also threaten individual needs holistically and on several dimensions. Ostracism, for instance, not only thwarts the need to belong but also frustrates the needs of self-esteem, control, and meaningful existence, which all represent threats to the self. This makes it even more likely that narratives can also function as tools for coping with a social threat to restore threatened needs and elicit self-serving attributions.

Media use and mortality salience

Another ultimate threat to the self and a particular threat to one's existence is the salience of one's mortality. One prominent theory that explicitly deals with the issue of one's mortality is terror management theory (TMT; Greenberg et al., 1986).

The theory's basic assumption is that humans are threatened by thinking about life's finitude and try to cope with these disturbing thoughts through distraction or symbolic validation or defense of themselves (boosting their self-esteem), their close friends or partners, and/or their cultural worldview. According to TMT, people's central response to death-related thoughts is self-reassurance by making them a “valuable contributor to a meaningful, eternal universe” (Pyszczynski et al., 1999, p. 839).

The theory is empirically based on two main hypotheses that address the interplay of death and defense: (1) The mortality salience hypothesis and (2) the anxiety buffer hypothesis (Burke et al., 2010). The mortality salience hypothesis claims that after death reminders individuals have an enhanced desire to defend their cultural worldview, self-esteem, and close relationships (Greenberg et al., 1986). For instance, activating self-esteem is invoked to an increased extent after thinking about one's death (Mikulincer and Florian, 2002; Pyszczynski et al., 2004). Individuals completed more words as self-esteem-related in

a word-stem task (Kosloff et al., 2010) and they evaluated positive adjectives faster than neutral adjectives when they should imagine these adjectives applied to themselves (Paulhus and Levitt, 1987).

The salience of one's own mortality also promoted a drive to increase self-esteem by promoting self-esteem-relevant behavior (Routledge et al., 2004; Goldenberg et al., 2005), more striving for self-esteem (Pyszczynski et al., 2004) and engaging in more self-serving biases (Mikulincer and Florian, 2002). Self-serving biases become apparent through how people explain the causes of success and failure (Fiske and Taylor, 1991). These causes may vary along three dimensions: locus (from internal to external attributions), stability (stable vs. unstable causes), and globality (global, that is across different situations vs. specific causes) (Abramson et al., 1978). A successful defense mechanism taking place should lead to more self-serving attributions, that is, taking credit for success (internally, stable, and globally) and denying responsibility for failure (Pyszczynski and Greenberg, 1987). This way of maintaining self-esteem has produced positive effects on emotions, cognitions, and behavioral functioning (Mezulis et al., 2004).

The anxiety buffer hypothesis reverses the logic of the mortality salience hypothesis by claiming that buffering structures shielding against the threat of death (i.e., cultural worldview, self-esteem, or close relationships) decreases the necessity to engage in further defenses in response to death-related thoughts (Greenberg et al., 1994). As an example, dispositional high self-esteem has been shown to reduce the necessity to defend one's worldview after triggering mortality salience (Harmon-Jones et al., 1997).

Research has already focused on linking existential threats to media use. Theoretically, Klimmt (2011) subsumed how issues of death and the own mortality portrayed in the mass media may influence situations in everyday life. According to his view, the awareness of one's mortality can increase the interest in media content that validates one's culture, one's self-esteem, or one's beloved ones (close relationships).

In a first experimental approach to study the effects of mortality salience on the response to (entertaining) media offerings, Goldenberg et al. (1999) compared an excerpt of a tragic story from a novel with a non-tragic one. As a result, participants in the experimental condition that elicited mortality salience reported being more touched by the tragic excerpt and reported less enjoyment after the non-tragic excerpt than participants in the control condition. The authors concluded that tragic media content could serve terror management needs by allowing recipients to confront themselves with life's finitude in a safe, fictional environment.

Based on these considerations, several authors hypothesized that media content may help people cope with the salience of their mortality by reminding them of deeper life meaning, or of the values and virtues that persist even after an individual's death (Klimmt, 2011; Hofer, 2013; Rieger, 2017). For instance,

Hofer (2013) showed that participants who were reminded of their mortality appreciated the meaningful movie more when they scored high on search for meaning in life. For enjoyment, the opposite pattern emerged in Hofer's study: Participants high in search for meaning in life reported less enjoyment of the movie after mortality salience. Relatedly, Rieger et al. (2015) demonstrated that people not only appreciated a meaningful movie more than other movie stimuli when confronted with death-related thoughts but that these individuals no longer exhibited the defense mechanisms proposed by TMT. After having watched a meaningful movie excerpt (as compared to a pleasurable or informative excerpt), participants no longer showed an increase in self-esteem activation (Rieger et al., 2015). One potential mechanism could be the vicarious meaning that eudaimonic content can convey: Das and te Hennepe (2022) found increased mixed affect only for movies with meaningful endings (compared to open endings). In this study, mixed affect was further associated with identification with the protagonist and boundary expansion. From a self-threat perspective, providing meaningfulness (e.g., through meaningful endings instead of open ones) could contribute to the restoration of a thwarted need for control (when confronted with death issues).

As a further indicator of the importance of the struggle between life and death in meaningful entertainment, Rieger and Hofer (2017) could show that when mortality was salient, appreciation and liking of the protagonist were highest, when the story informed about the survival of a protagonist after a severe disease. When the same story informed about the protagonist's death, appreciation and liking of this protagonist were decreased. Further, only the positive (survival) version of the movie stimulus could help in coping with death anxieties so that participants no longer showed increased self-esteem activation. In all of these examples, engaging in meaningful interactions or relationships—even with mediated characters—serves terror management needs and helps in coping with the thought of one's inevitable death. Narratives can therefore be regarded as a fruitful source of relief when self-threatening states become salient in everyday life.

Experiencing narratives in self-threatening situations

The idea that media content can help in challenging situations is mirrored in the TEBOTS model (Slater et al., 2014; Johnson et al., 2021). The model aims at explaining why people seek out narratives. It states that maintenance, defense, and regulation of the self in daily life are emotionally and cognitively demanding. In this context, narratives are supposed to serve as support and provide temporary relief from the task of self-regulation. The mechanisms through

which narratives can unfold their beneficial effects are based on their capability to engage people's attention (Graesser, 1981) and their sympathies (Cohen, 2006). Consequently, TEBOTS postulates transportation (Green and Brock, 2002) and identification (Cohen, 2006) to be the main mechanisms driving a narrative's effect—in particular with regard to self-regulation:

When we become absorbed or transported into a narrative, when we become emotionally and imaginatively identified with a character or characters, we are momentarily relieved of the task of maintenance of our personal and social identity. We are no longer confined to the roles, unrealized potentials, or limitations of that identity. We have temporarily expanded the boundaries of the personal and social self (Slater et al., 2014, p. 444).

Accordingly, TEBOTS predicts that narratives will generate greater transportation, identification, enjoyment, and appreciation when self-control resources are depleted (H4 within the TEBOTS model, Slater et al., 2014; see also H1–H4 in Johnson et al., 2015). Further, transportation and identification are defined as potential moderators or mediators for postnarrative restoration (H5 within the TEBOTS model, Slater et al., 2014). Empirical tests of the TEBOTS model supported the assumption that entertainment experiences (enjoyment, appreciation, and transportation) were more pronounced for individuals whose self-control resources were depleted compared to participants in a control condition (Johnson et al., 2015). Taking the reverse logic, a second study tested whether self-affirmed individuals would not show stronger entertainment experiences compared to individuals who were not self-affirmed. Self-affirmation theory (Steele, 1988) posits that affirming oneself with values that are personal relevant to the individual helps them to cope with threat or stress (Cohen and Sherman, 2014). The results demonstrate that those who were self-affirmed experienced less narrative engagement in terms of enjoyment, appreciation, and transportation—in line with the previous study. In both studies, identification did not yield significant results (Johnson et al., 2016).

Although identification did not serve as significant mediator in previous TEBOTS studies, there are additional theoretical arguments to assume that identification plays a role in the context of a narrative's potential to serve the management and restoration of self-threats. While Ott and Moyer-Gusé (2022) also state that narratives can serve as buffers against self-threats, they rely on self-affirmation theory and suggest self-integrity to be important for narratives to help in bolstering against self-threats. According to their study, vicarious self-affirmation can be achieved through identification with the protagonist.

Based on these initial findings, the current study aimed at expanding the findings to the context of self-threatening

situations. Therefore, it explicitly tackled the first research question stated in the theoretical TEBOTS paper: “Does the experience of absorption into a story and identification with narrative characters in fact provide a postnarrative restoration of self-control resources and relief of self-related anxieties and tensions (*Research question 1*)?” (Slater et al., 2014 p. 448).

Within this realm, storytelling was found to help people suffering from social isolation (Nyatanga, 2022). Relatedly, research on meaningful narratives also point towards the idea that stories can increase the feeling of connectedness with others (Janicke and Oliver, 2017; Oliver et al., 2018). Further, the TEBOTS model would predict greater narrative engagement in response to a narrative after having experienced a self-threatening situation (mortality salience or ostracism) compared to a non-threatening control context (H1). That is, we predicted increased transportation (H1a), identification (H1b), enjoyment (H1c), and appreciation (H1d) after experiencing a self-threat. Relatedly, we asked about the difference between existential threats (mortality salience) and relational threats (ostracism) in their influence on entertainment experiences (RQ1).

In light of TEBOTS suggesting temporary relief from the boundaries of the self through engagement with a story, facilitating such engagement might serve the potential for relief. A “facile” engagement would be visible in higher levels of transportation (see e.g., a meta-analysis by Tukachinsky, 2014). Previous research found positive vs. negative reviews to influence transportation and enjoyment (Bilandzic and Busselle, 2008; Shedlosky-Shoemaker et al., 2011; Tiede and Appel, 2020). This is explained by the fact that reviews shape viewers/readers expectations towards the narrative (Tiede and Appel, 2020), for instance in form of confirmation bias or the activation of genre-consistent schemata that facilitate processing of the narrative (Bilandzic and Busselle, 2008). We therefore asked whether providing a positive review prior to exposure enhances the chance of a narrative to serve restoration from a self-threat.

We hypothesized that encountering a positive review before reading a narrative will increase transportation (manipulation check; H2a), identification (H2b), enjoyment (H2c), and appreciation (H2d) concerning the narrative. We additionally wanted to know whether there are any interactions between experiencing self-threats and the nature of the review on entertainment experience (RQ2).

Additionally, to test whether narratives can be regarded as a coping tool (cf. RQ1 in the TEBOTS model), we aimed at examining whether the engagement with a narrative would restore individuals’ selves after having been threatened. One defense mechanism that has been discussed in the literature as self-protective is self-serving attributions, which means, to attribute positive things to oneself as a person and negative things to external factors (Mikulincer and Florian, 2002).

Hence, we asked whether narratives can serve as facilitators of self-serving attributions, and thus be regarded as “helpful” to cope with self-threatening situations (RQ3).

Materials and methods

Design and procedure

The study followed a 3(Threat: mortality salience vs. ostracism vs. control condition) × 2(Review of the narrative: positive vs. negative) between-subject experimental design (online experiment).

After giving informed consent, participants were asked to answer some questions regarding their self-esteem and their current state of threatened needs (Time 1, T1). Then they were randomly assigned to one of the three threat conditions. Threat was induced with the standard procedure (i.e., writing an essay) taken from mortality salience research (Rosenblatt et al., 1989) but also common in ostracism research (e.g., Pickett et al., 2004, Study 2; Greitemeyer et al., 2012, Study 1). Participants were either asked to write an essay describing the emotions that are elicited when they think about dying (mortality salience induction), about being ostracized (ostracism induction), or about going to the supermarket (control condition). Afterward, they randomly received either a positive or a negative review sheet about a short story and were then asked to read the story. As a narrative, we used the short story *The Three Questions* by Leo Tolstoy.¹ Following this, we asked the participants about their entertainment experiences (transportation, identification, enjoyment, and appreciation), and their current state of threatened needs (Time 2, T2)² and presented them with four situation scenarios to measure self-serving attributions. Afterward, they were asked to answer some questions regarding sociodemographics and were debriefed and thanked. In this last part of the questionnaire, we also integrated a suspicion check about the goal of the study.

Sample

A priori sample size was assessed with G*Power 3.1 (Faul et al., 2007). Our analyses involved different tests, thus we used the most conservative test (i.e., the biggest sample size needed; ANOVA with between-subject factor interactions) to

¹ In Tolstoy’s parable, a king wants to get answers to the three most important questions in life from a wise hermit. During their talk, a wounded man arrived and the king helps him to survive. Free text available at https://en.wikipedia.org/wiki/The_Three_Questions.

² For the sake of brevity, the results (not significant) for threatened (restored) needs at T2 are not reported in this paper. They are available upon request.

calculate the sample size. As previous research has provided evidence for medium effect sizes (Johnson et al., 2015, 2016), we used $f = 0.25$ as the a priori effect size. Results of this analysis indicated that we would need $N = 251$ participants, given a power of 0.95 and an alpha level of 0.05.

Our final sample³ consisted of $N = 228$ participants⁴ (80.3% female, $M_{age} = 25.44$, $SD_{age} = 7.75$). On average, they had spent $M = 16.11$ ($SD = 3.56$) years in schooling.

Measures

Trait self-esteem

According to previous research, trait self-esteem can influence the experience of being ignored or excluded and subsequent coping strategies not only concerning self-esteem threats but to self-threats in general (e.g., Leary et al., 1995; Van Dellen et al., 2011). As potential covariate, trait self-esteem was measured with the German version of the 10-item Rosenberg scale (Von Collani and Herzberg, 2003) on a 7-point Likert scale ($\alpha = 0.90$, $M = 5.39$, $SD = 1.08$; 1 = *strongly disagree*, 7 = *strongly agree*).

Need threats

The four subscales of the need threat scale (Van Beest and Williams, 2006) were assessed. Since mortality salience should predominantly threaten the need for *control* ($t1: \alpha = 0.70$, $M = 2.57$, $SD = 0.76$) and ostracism should predominantly threaten the need for *belonging* ($t1: \alpha = 0.68$, $M = 2.11$, $SD = 0.82$), these two subdimensions were analyzed for the purpose of this study as manipulation checks.⁵ The need for *self-esteem* ($t1: \alpha = 0.75$, $M = 3.32$, $SD = 0.77$) and the need for *meaningful existence* ($t1: \alpha = 0.72$, $M = 1.74$, $SD = 0.76$) were additionally included in the manipulation check.

3 $N = 292$ completed the questionnaire, $n = 22$ were excluded due to no variability in the answers (see Meade and Craig, 2012 for discussion about careless answers in surveys), $n = 6$ were further excluded after inspection of the comments section.

4 The study was administered in an international course at the University of [name of University]. Students were asked to distribute the survey link among friends, peer students (who were not part of the course) and via social media. To acknowledge this international setting, we prepared three different language versions of the questionnaire. $n = 292$ filled out the survey in German, $n = 16$ in English and $n = 20$ in Spanish. Due to the inequality in sample size for different languages, this paper relies solely on the German sample.

5 The wording of the items in these two subscales are formulated in misleading/opposite ways: In the belonging subscale, higher values mean *more* threatened belongingness; in the control subscale, higher values mean *less* threatened control.

Transportation and identification

Transportation ($\alpha = 0.82$, $M = 4.51$, $SD = 1.09$) was assessed with seven items with 7-point response options from 1 (*not at all*) to 7 (*very much*), using the Transportation Scale–Short Form (TS–SE, Appel et al., 2015).⁶ To measure participants' *identification* ($\alpha = 0.92$, $M = 3.80$, $SD = 1.21$), we used the 10-item scale by Cohen (2001) with 7-point response options from 1 (*totally disagree*) to 7 (*totally agree*). Transportation and identification were positively correlated, $r = 0.44$, $p < 0.001$.

Entertainment experiences

Enjoyment ($\alpha = 0.92$, $M = 4.29$, $SD = 1.46$) and appreciation ($\alpha = 0.90$, $M = 4.58$, $SD = 1.49$) were assessed with the Fun and Appreciation scales, respectively, with three items each (Oliver and Bartsch, 2010; Schneider et al., 2019). Participants responded to the items on a 7-point scale (1 = *totally disagree*, 7 = *totally agree*).

Self-serving attributions

Participants were asked to make their causal attributions of positive and negative events in a shortened version of the Attributional Style Questionnaire (ASQ; Peterson et al., 1982). To keep the length of the online experiment reasonable, this version of the scale consisted of four hypothetical events, two of which had a positive outcome (e.g., "You succeed in an important exam") and two of which had a negative outcome (e.g., "You fail to prepare a paper in the scheduled time"). Two events were interpersonal/affiliative in nature, two were achievement-related. Participants read each event, wrote down what they thought was the major cause of the event in an open-ended format, and then rated the extent to which this cause was internal, stable over time, global across situations, and of importance to the person. These ratings were made using a 7-point scale ranging from 1 (*not at all*) to 7 (*very much*). The ASQ has been found to differ regarding the reported reliability (see Peterson et al., 1982; Sweeney et al., 1986, for reviews). To test self-serving attributions in this study, means for self-serving attributions in positive situations ($\alpha = 0.61$, $M = 5.22$, $SD = 0.65$) and in negative situations were aggregated ($\alpha = 0.62$, $M = 4.31$, $SD = 0.78$).

Results

Manipulation checks

In order to test the success of our experimental manipulation (threat induction), we calculated a multivariate analysis of

6 The scale usually consists of six items. Two items ask for having a vivid image of the characters. As there were three characters in our short story, we included the exact copy of Items 5 and 6 for this third character as well.

variance (MANOVA) with the four need threat subscales at T1. There was a significant multivariate effect, Multivariate $F_{(8,444)} = 2.90$, Wilks-Lambda = 0.90, $p = 0.004$, $\eta_p^2 = 0.05$. Follow-up univariate tests demonstrated that belonging [$F_{(2,225)} = 3.48$, $p = 0.032$, $\eta_p^2 = 0.03$] and control [$F_{(2,225)} = 3.48$, $p = 0.017$, $\eta_p^2 = 0.04$] were significantly different between conditions. Self-esteem [$F_{(2,225)} = 0.258$, $p = 0.773$, $\eta_p^2 = 0.002$] and meaningful existence [$F_{(2,225)} = 0.801$, $p = 0.450$, $\eta_p^2 = 0.007$] did not differ between conditions.

Pairwise comparisons (LSD) showed the direction of these differences: Participants in the ostracism condition ($M = 2.33$, $SD = 0.93$) had more threatened belongingness than those in the mortality salience condition ($M = 1.99$, $SD = 0.81$; $p = 0.012$) and the control condition ($M = 2.06$; $SD = 0.69$; $p = 0.046$).

Further, participants in the mortality salience condition ($M = 2.39$; $SD = 0.74$) reported more threatened control than participants in the ostracism condition ($M = 2.65$, $SD = 0.74$; $p = 0.035$) and those in the control condition ($M = 2.71$, $SD = 0.76$; $p = 0.007$). For threatened self-esteem, there were no significant differences between the three conditions (mortality salience: $M = 3.28$, $SD = 0.77$; ostracism: $M = 3.37$, $SD = 0.84$; control: $M = 3.33$, $SD = 0.71$, $ps \geq 0.48$). For meaningful existence, there were also no significant differences between all three conditions (mortality salience: $M = 1.79$, $SD = 0.75$; ostracism: $M = 1.78$, $SD = 0.83$, control: $M = 1.65$, $SD = 0.70$; $ps \geq 0.25$).

Based on these results, we deemed our manipulations successful. The ostracism induction (= relational threat) threatened participants' need to belong whereas the mortality salience induction (= existential threat) threatened participants' need for control. The manipulation check for review conditions (positive vs. negative) is checked through H2a.⁷

Hypotheses testing

Table 1 subsumes the correlations among all variables (zero-order correlations as well as partial correlations, controlled for trait self-esteem as this is a relevant variable for RQ2). To test

⁷ We chose to manipulate the "ease" of engaging with the narrative through providing positive vs. negative reviews about the narrative prior to exposure. As is argued in the paper, this manipulation is found to shape the expectation towards the narrative and increases (or decreases) narrative engagement, such as transportation. Further, in a meta-analysis, Tukachinsky (2014) found that manipulating narrative engagement (in this case: transportation) through meta-narrative information (such as positive vs. negative reviews) to provide small-to-medium effect sizes. In our study, transportation is also considered one of the main variables measuring narrative engagement as part of the tenets in the TEBOTS framework. We therefore mention that it is used to check whether our manipulation is successful but is mainly important to test our Hypothesis 2a.

Hypotheses 1 and 2, as well as RQ1 and RQ2, we conducted a MANOVA with threat and review serving as factors and the four scales measuring entertainment experiences as dependent variables.

The analysis yielded a significant multivariate effect for threat, Wilks-Lambda = 0.93, multivariate $F_{(8,438)} = 2.29$, $p = 0.021$, $\eta_p^2 = 0.04$ and a significant multivariate main effect for review, Wilks-Lambda = 0.95, multivariate $F_{(4,219)} = 2.72$, $p = 0.030$, $\eta_p^2 = 0.05$. The interaction was not significant, Wilks-Lambda = 0.99, multivariate $F_{(8,438)} = 0.22$, $p = 0.988$, $\eta_p^2 = 0.004$.

We calculated separate univariate ANOVAs in order to test the hypotheses. The results for all four dependent variables expressed the same pattern: Concerning transportation, there was a significant main effect for threat, $F_{(2,222)} = 6.66$, $p = 0.002$, $\eta_p^2 = 0.06$ and a main effect for review, $F_{(1,222)} = 5.63$, $p = 0.019$, $\eta_p^2 = 0.03$. The interaction was not significant, $F < 1$. A positive review ($M = 4.66$, $SE = 0.10$) resulted in higher levels of transportation than a negative review ($M = 4.32$, $SE = 0.10$). Pairwise comparisons (LSD) add to the picture that participants in the mortality salience condition reported higher transportation ($M = 4.83$, $SE = 0.12$) than those in the ostracism condition ($M = 4.40$, $SE = 0.13$; $p = 0.016$) and those in the control condition ($M = 4.24$, $SE = 0.12$; $p < 0.001$). Participants who received an ostracism induction did not report higher levels of transportation than those in the control condition ($p = 0.349$). The main effect for threat is depicted in Figure 1.

Regarding the reported identification, the data did not have a significant main effect for threat, $F_{(2,222)} = 2.29$, $p = 0.104$, $\eta_p^2 = 0.02$ but a main effect for review, $F_{(1,222)} = 9.37$, $p = 0.002$, $\eta_p^2 = 0.04$. The interaction was not significant, $F < 1$. Again, participants who read a positive review beforehand ($M = 4.02$, $SE = 0.11$) reported higher levels of identification than those who read a negative review ($M = 3.53$, $SE = 0.12$). Although the main effect for threat was not significant, we noticed a significant pairwise comparison (LSD) between the mortality salience condition ($M = 3.99$, $SE = 0.13$) and the control condition ($M = 3.60$, $SE = 0.14$, $p = 0.037$) which will be taken up in the discussion section (see Figure 1).

For enjoyment, there was a significant main effect for threat, $F_{(2,222)} = 3.18$, $p = 0.044$, $\eta_p^2 = 0.03$, but no significant main effect for review, $F_{(1,222)} = 3.73$, $p = 0.055$, $\eta_p^2 = 0.02$. The interaction again was not significant, $F < 1$. Upon inspection (although not significant), a positive review resulted in descriptively slightly higher levels of enjoyment ($M = 4.46$, $SE = 0.13$) than a negative review ($M = 4.01$, $SE = 0.14$). As far as the differences in enjoyment among threat conditions are concerned, only participants in the mortality salience condition ($M = 4.53$, $SE = 0.16$) reported higher levels of enjoyment than those in the control condition ($M = 3.96$, $SE = 0.17$, $p = 0.013$). There were no further significant pairwise comparisons between threat conditions, as the mean for participants in the ostracism

TABLE 1 Zero-order and partial correlations among variables.

Control variable		1	2	3	4	5	6	7	8
None	1. Belongingness	-	-0.15*	0.00	-0.02	-0.07	0.02	-0.13 ⁺	0.22**
	2. Control		-	-0.04	0.03	0.01	0.09	0.16*	-0.18**
	3. Transportation			-	0.44***	0.53***	0.49***	0.08	0.10
	4. Identification				-	0.47***	0.41***	0.18**	-0.04
	5. Enjoyment					-	0.67***	0.00	-0.07
	6. Appreciation							0.09	-0.03
	7. Self-serving attributions (positive)								0.02
	8. Self-serving attributions (negative)								
	9. Trait self-esteem	-0.49***	0.39***	-0.03	-0.06	0.03	0.02	0.20**	-0.42***
Trait self-esteem	1. Belongingness	-	0.06	-0.02	-0.06	-0.06	0.03	-0.03	0.02
	2. Control		-	-0.03	0.06	0.00	0.09	0.09	-0.01
	3. Transportation			-	0.44***	0.53***	0.49***	0.09	0.10
	4. Identification				-	0.47***	0.41***	0.20**	-0.08
	5. Enjoyment					-	0.67***	-0.01	-0.07
	6. Appreciation							0.08	-0.03
	7. Self-serving attributions (positive)								0.12
	8. Self-serving attributions (negative)								

⁺p = 0.05, *p < 0.05, **p < 0.01, ***p < 0.001.

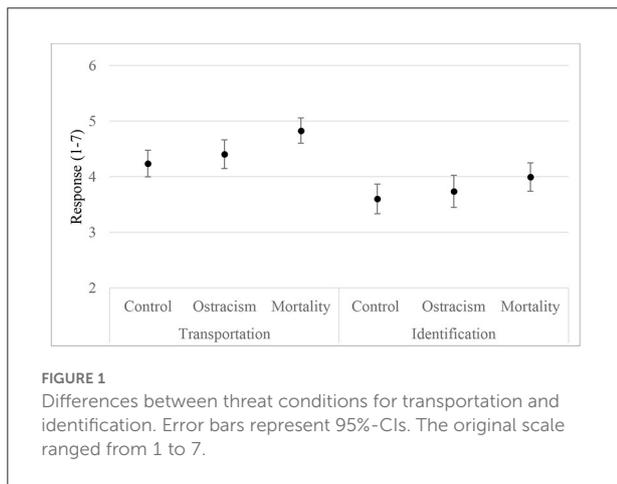


FIGURE 1 Differences between threat conditions for transportation and identification. Error bars represent 95%-CIs. The original scale ranged from 1 to 7.

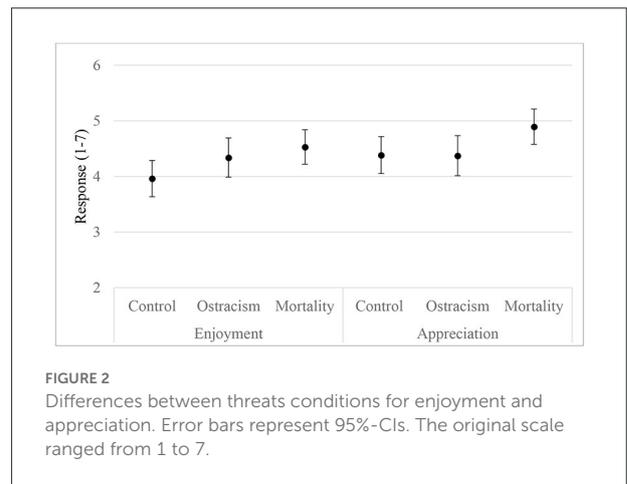


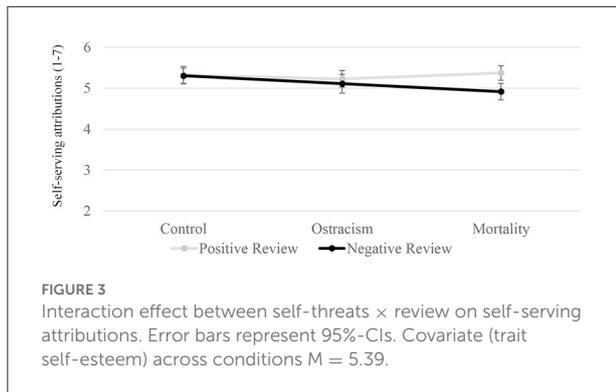
FIGURE 2 Differences between threats conditions for enjoyment and appreciation. Error bars represent 95%-CIs. The original scale ranged from 1 to 7.

condition ranged in between ($M = 4.34, SE = 0.18$). The main effect for threat is depicted in Figure 2.

As regards the reported appreciation, the data showed a significant main effect for threat, $F_{(2,222)} = 3.23, p = 0.041, \eta_p^2 = 0.03$ but not significant main effect for review, $F_{(1,222)} = 3.57, p = 0.060, \eta_p^2 = 0.02$ and no interaction effect, $F < 1$. Again, the descriptive picture (non-significant) demonstrated slightly higher levels for appreciation among those who read a positive review ($M = 4.74, SE = 0.14$) than those who read a negative review ($M = 4.36, SE = 0.14$). To understand the main effect for threat, we again inspected pairwise comparisons (see Figure 2). Participants in the mortality salience condition reported higher levels of appreciation ($M = 4.89, SE = 0.16$)

than the ones in the ostracism condition ($M = 4.37, SE = 0.18, p = 0.033$) and the ones in the control condition ($M = 4.38, SE = 0.17, p = 0.030$). The other pairwise comparisons were not significant.

At this point, regarding Hypothesis 1, it can be stated that our data lend support for self-threats leading to (a) enhanced transportation, (c) enhanced enjoyment, and (d) enhanced appreciation. H1b (enhanced identification) was not supported by the data. As far as Hypothesis 2 is concerned, the data supports the assumption that a positive review facilitates (a) transportation and (b) identification. H2c and H2d regarding enjoyment and appreciation, respectively, are not supported by the data.



To answer RQ3, we conducted a 3(Threat) \times 2(Review) ANCOVA on self-serving attributions in positive situations, controlling for trait self-esteem. There was no main effect for threat, $F_{(2,221)} = 1.64$, $p = 0.196$, $\eta_p^2 = 0.02$. However, there was a main effect for review, $F_{(1,221)} = 5.50$, $p = 0.020$, $\eta_p^2 = 0.02$: Participants who read a negative review reported less self-serving attributions ($M = 5.11$, $SE = 0.06$) than those who read a positive review about the narrative ($M = 5.31$, $SE = 0.06$). The interaction between threat and review was not significant, $F_{(2,221)} = 2.71$, $p = 0.069$, $\eta_p^2 = 0.02$. Although not significant, we inspected the pairwise comparisons; these demonstrate that in the control condition there was no difference between both review conditions ($p = 0.917$). There was neither a difference in the ostracism condition ($p = 0.444$). However, in the mortality salience condition, there was a significant difference in self-serving biases between the positive ($M = 5.37$, $SE = 0.10$) and the negative review ($M = 4.92$, $SE = 0.09$) conditions ($p = 0.001$). The effect of the covariate (trait self-esteem) was also significant, $F_{(1,221)} = 10.55$, $p = 0.001$, $\eta_p^2 = 0.046$ (see Figure 3).

The same analysis was conducted with self-serving attributions in negative situations as dependent variable. The results speak for the same pattern, however less pronounced: There was neither a main effect for threat, $F_{(2,221)} = 1.82$, $p = 0.165$, $\eta_p^2 = 0.016$, nor an interaction effect between threat and review, $F_{(2,221)} = 0.27$, $p = 0.762$, $\eta_p^2 = 0.002$. The main effect for review was significant, $F_{(1,221)} = 5.39$, $p = 0.021$, $\eta_p^2 = 0.024$. Again, participants who read a positive review reported more self-serving attributions in negative situations ($M = 4.43$, $SE = 0.07$) than those who read a negative review about the narrative beforehand ($M = 4.21$, $SE = 0.07$). We again exploratively inspected the pairwise comparisons: A significant difference between positive and negative review was only found in the mortality salience condition ($p = 0.042$).

Discussion

The present findings suggest that the TEBOTS model can be applied to challenging phases in life, including self-threats:

These enhance the entertainment experiences in response to a narrative in such a way that when experiencing a relational (ostracism) or an existential threat (mortality), individuals reported more transportation, enjoyment, and appreciation, thus supporting H1a, c, and d. The analysis for identification (H1b) was not significant. However, in answering RQ1, the data depicts the same clear trend for all four hypotheses: Entertainment experiences were especially pronounced for participants who had to deal with mortality salience as a self-threat. The findings support the original hypotheses from the TEBOTS model and thus replicate past research (Johnson et al., 2015, 2016) that also found enhanced entertainment experiences when engaging in narratives during “challenging” states. Further, our results also extend the idea of motivations for “entering the story world” (Slater et al., 2014, p. 439) (beyond self-control as hypothesized in the original model) by successfully applying it to self-threatening situations. It should be noted that our data fully support the assumptions made by TEBOTS only for mortality salience as self-threat. We will discuss later on what implications can be drawn from this differential look.

As far as the impact of a positive/negative review is concerned, a positive review could indeed facilitate transportation (manipulation check, H2a). Further, also identification with the protagonist was intensified after reading a positive review compared to a negative review. However, enjoyment and appreciation of the story did not differ. In sum, this supports H2a and b, but not c and d. Answering RQ2, there were no interactions between the type of self-threat and the expectations towards the narrative (through reading a positive vs. negative review prior to exposure). This lends support to the idea that self-threatening situations and expectations of a narrative work independently. Threats alone might be sufficient motivators for engagement with a narrative with no further need to raise expectations in order to increase narrative engagement. Nevertheless, it should be mentioned here that facilitating engagement (vs. hampering it) might be more important during longer exposures or when the surroundings make it harder to engage. The context of reading a short story should not be generalized to longer narratives and situations in which cognitive load could hamper the engagement (Das et al., 2017; Sukalla et al., 2020) or in which the narrative itself poses challenges (Bartsch and Hartmann, 2017; Hartmann, 2017; Rieger et al., 2022). Such challenges could include affective (including negative emotions like horror or gore or moral decisions and dilemmas) as well as cognitive (including complex content or structure).

Moreover, and thereby answering RQ3, it was demonstrated that managing a self-threatening state can be successfully coped with through a narrative. However, this was dependent on the expectation towards the narrative: Only after having read a positive review beforehand, did individuals engage in more self-serving attributions. It is—again—noteworthy at this point

that this effect especially occurred for individuals who were reminded of their mortality. For mortality salience though, it is in line with research testing the basic assumptions of TMT (Mikulincer and Florian, 2002) and with its application in the context of meaningful entertainment (Rieger et al., 2015; Rieger and Hofer, 2017).

However, more research is needed in this context: Our data lend only weak support for the idea that narratives can restore threatened needs and therefore facilitate self-esteem protection (and thus emotional well-being). First, our results slightly speak for the fact that not all threats are coped with equally. In our study, the results were more pronounced for mortality played a role in this process: For mortality salience as self-threat, our data demonstrate that narratives provide the potential to cope with this threat when the expectation towards the narrative is high (and thereby, transportation is facilitated).

For ostracism as self-threat, more research is needed. Even though this is only one small study, these first notions are in line with Ott and Moyer-Gusé (2022) who claim that narratives help in buffering against self-threats by facilitating self-integrity. In turn, self-integrity is only bolstered when the narrative provides the means for it: In their study, this was achieved through high identification with the main character.

Relatedly, research in the context of TEBOTS suggested boundary expansion as mechanism through which stories alleviate readers or viewers from the restrictions of the self (Johnson et al., 2016). On the one hand, insecurely attached individuals report higher boundary expansion through narratives (Silver and Slater, 2019). On the other hand, self-affirmation decreases boundary expansion through storylines. Boundary expansion, in turn, is associated with higher levels of enjoyment (Johnson et al., 2016). Thus, it seems that boundary expansion could also serve as coping mechanism in narratives for people experiencing self-threats and should thus be integrated in future studies in this context.

There is also the necessity to consider story characteristics more closely. In our study (and with our chosen short story), self-threats increased transportation, enjoyment, and appreciation. For identification, the results were less pronounced. This might reflect the nature of the story more than it does the nature of engagement after self-threat inductions. Ott and Moyer-Gusé (2022) for instance report a strong identification with the protagonist to be important for vicarious self-affirmation. As Table 1 suggests, identification could play a role in the context of engaging in self-serving attributions. In our study, the results for identification might be less pronounced because (1) we used a manipulation (IV2) tackling predominantly transportation and (2) the story is maybe not well-suited to create strong levels of identification. At this point, our study mainly corroborates that more research

should focus on the role of identification in coping with self-threats (see also Rieger and Hofer, 2017).

Relatedly, the topics within our short story (death, being alone) reflect the challenges of mortality and ostracism as self-threats, thereby fostering “topic-consistent” engagement (see also Klimmt and Rieger, 2021). However, these topics might be less suited to cope with the threats and do not take the structural differences of both threats into account. Topics such as death and being an eremite fit into the realm of mortality salience and similar narratives were already used in previous studies (e.g., Das and te Hennepe, 2022). A story offering little social interaction or vicarious inclusion might be less suited in the context of ostracism.

Concerning the differences between a relational and an existential threat, effects seemed stronger for the existential threat (mortality salience) than for the relational threat (ostracism). This finding sheds some light on the idea that self-threats from different domains (belonging vs. control) require different buffers, respectively. For mortality salience, this study is in line with previous research that found narratives to be helpful when facing mortality (Goldenberg et al., 1999; Hofer, 2013; Rieger et al., 2015; Rieger and Hofer, 2017; Das and te Hennepe, 2022). Thereby, it supports the tenets of the TEBOTS framework. One pathway that can be taken from these studies is that thwarted need for control might find relief in narratives, especially when they provide room for control, for instance, through meaningful (Das and te Hennepe, 2022) or positive endings (Rieger and Hofer, 2017).

In contrast, research examining ostracism and media use has often focused on social media use (e.g., Vorderer and Schneider, 2016; Lutz et al., 2022). Thus, future studies should look at need fortification after being excluded and potential coping mechanisms that are available when engaging with narratives that more closely resemble (vicarious) social contact. Processes tackling interpersonal contact should work best against threats where belongingness is at risk or even thwarted and increase the restoration after ostracism as well, for instance, through higher levels of identification (Cohen, 2001; Frischlich et al., 2014; Ott and Moyer-Gusé, 2022) or parasocial relationships (Horton and Wohl, 1956; Hartmann and Goldhoorn, 2011).

Limitations

First, our sample was mainly composed of students (and being a convenience sample). Thus, the participants represent a rather young part of the general population. Research on TMT found the fear of death to increase with age (Martens et al., 2005; Taubman-Ben-Ari and Findler, 2005), and so did research on meaningful media content (Bartsch, 2012; Hofer et al., 2014). That is, the effectiveness of narratives in self-threatening situations should be expanded to (a) other (older) samples and (b) to real-life scenarios in which self-threats are not induced

through writing an essay but in more realistic situations in which relief (through narratives) might be helpful. One application could for instance be in-patient stays in hospitals in which often media consumption is the only option to distract from an illness or situations in which uncertainty (as another self-threat) could be high. While we do not assume that our results would be different with other age groups, they might yield stronger effects when the necessity to expand the boundaries of the self is higher (see e.g., Carstensen, 1992).

Another limitation is the way we induced the two self-threats. We induced both self-threats *via* an essay writing task, adapted from the original mortality salience induction. Typically, however, ostracism is induced using the Cyberball paradigm (Williams, 2009), which puts participants in an actual ostracism situation (i.e., playing a simple ball game with two other persons). This induction might be stronger and therefore also yield stronger effects than the ostracism induction we used (writing an essay about an ostracism event). Additionally, mortality is something future-oriented; therefore the classic induction also encompasses a future-oriented description of “what *will* happen when you physically die” (see Rosenblatt et al., 1989). Typically, ostracism is something past-oriented, that is, someone should write about a *past* ostracism episode. The difference here might lie in the amount that coping can already take place: Remembering a past ostracism episode means that the person has successfully passed that episode whereas the fear of mortality (and the moment itself) cannot be coped with. Future research could adapt the so-called future-alone paradigm, in which individuals in the social exclusion group receive a bogus personality feedback that they will spend their future life alone (e.g., DeWall and Baumeister, 2006) and which might be more comparable to the mortality salience induction.

Related to our discussion point that the chosen short story (and its plot) might be accountable for some of the effects, this speaks to a bigger issue of single-stimulus designs in communication studies. Using one single stimulus comes along with idiosyncratic effects (Slater et al., 2015; Reeves et al., 2016). That is, our results offer limited generalizability for other narratives and thus provide only initial first evidence for the use of narratives in coping with self-threats. This finding should be replicated with different narratives in order to rule out idiosyncratic story effects and potential matches or mismatches between the nature of a self-threat and the features of the story.

It should also be noted here concerning the explanation of our second IV that we did not measure the expectation towards the narrative directly and only refer to it because previous studies found the mechanism behind providing positive vs. negative reviews prior to exposure with the narrative to be the influence on expectations (Carstensen, 1992; Tiede and Appel, 2020). Our attempt was to manipulate the ease of narrative engagement. Based on a meta-analysis by Tukachinsky (2014), manipulating transportation *via* meta-narrative information (such as reviews about the narrative) provide small-to-medium

effect sizes. Future studies should include items directly tackling whether expectations towards the narrative were affected.

As a last point, as regards the power of our online experiment, the results demonstrate rather small effect sizes and we did not fully achieve the sample size which would have been desired based on our a priori power analysis. That is, the first (weak) evidence should only be considered a fruitful starting point for further research on self-threats and narratives.

Conclusion

Taken together, the findings of our study elucidate that stories can serve as buffers against self-threats: In self-threatening situations (e.g., mortality salience or ostracism), reading a story increases narrative engagement. Further, when facing one's own mortality, reading a (positively evaluated) story facilitates the potential for self-serving attributions in order to cope with the threat. Thus, the results provide evidence for the power of stories in dealing with existential situations and support the assumptions of the TEBOTS framework.

Data availability statement

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation, in this location-<https://osf.io/nc2qt/>.

Ethics statement

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. The patients/participants provided their written informed consent to participate in this study.

Author contributions

DR and FS conceptualized and conducted the study together. DR performed the data analysis and wrote the initial version of the manuscript. FS contributed by providing feedback, suggested literature, wrote part of the theory, and re-checked the analyses. Both authors contributed to the article and approved the submitted version.

Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

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