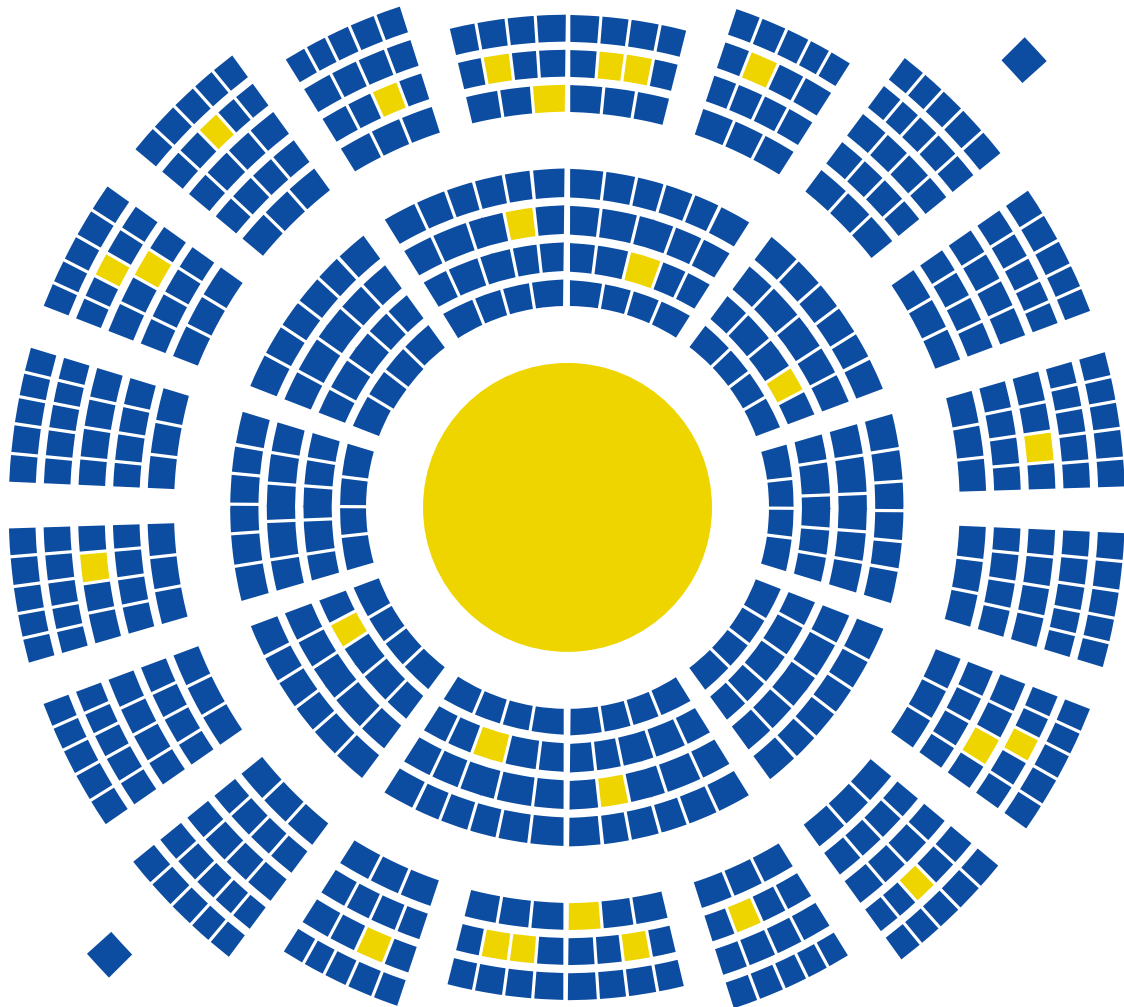# POLITICAL PSYCHOLOGY: THE ROLE OF PERSONALITY IN POLITICS

EDITED BY: Scott Pruysers, Julie Blais and Philip Gordon Chen
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POLITICAL PSYCHOLOGY: THE ROLE OF PERSONALITY IN POLITICS

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Editorial: Political Psychology: The Role of Personality in Politics

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Editorial on the Research Topic

Political Psychology: The Role of Personality in Politics

INTRODUCTION

What is Personality?

Why do electors develop preferences for certain political parties and their leaders? Why do some individuals engage in political activism more frequently than others? How can we explain divergent policy preferences among citizens? These, and similar questions, have been studied by political scientists for decades. While much of the literature has focused on factors such as sociodemographic characteristics, partisanship, and ideology (Campbell et al., 1960; Converse, 1972; Marsh and Kaase, 1979), at last part of our understanding of political behavior must be rooted in individual differences in personality. As Feist and Feist (2009) note, "although no single definition is acceptable to all personality theorists, we can say that personality is a pattern of relatively permanent traits and unique characteristics that give both consistency and individuality to a person's behavior" (p. 4).

Perhaps, the most common way of studying personality has been through the trait approach. Traits, or dispositions, refer to the characteristics that are internal to the person, that are reasonably stable over time and across situations, and that help to explain differences between individuals (Larsen et al., 2018). There are now several different models that help organize various personality traits, with the Five Factor Model (FFM; McCrae and Costa, 1987) being the most prominent. The FFM includes the traits of extraversion (e.g., gregariousness, assertiveness, and excitement-seeking), agreeableness (e.g., trust, modesty, warmth), conscientiousness (e.g., competence, self-discipline, and achievement-striving), neuroticism (e.g., anxiety, irritability, and vulnerability), and openness to experience (e.g., ideas, fantasy, and unconventional values). A competing model, the HEXACO (Ashton and Lee, 2007), similarly includes the traits of extraversion, conscientiousness, and openness; however, the HEXACO re-defines agreeableness (e.g., forgiveness, gentleness, and patience) and neuroticism (changing the name to emotional stability) while also adding the sixth trait of honesty-humility (e.g., fairness, greed avoidance, modesty). In contrast to these general traits, the Dark Triad (Paulhus and Williams, 2002) defines the three more malevolent traits of psychopathy (e.g., callousness, impulsivity, antagonism), narcissism (e.g., self-aggrandizement, antagonism), and Machiavellianism (e.g., manipulation, planfulness, antagonism). While other individual traits (e.g., authoritarianism, sadism, etc.) and models (e.g., Light Triad) do exist, the FFM, HEXACO, and Dark Triad tend to be the most common.

Why Does Personality Matter?

At least part of the reason for the enduring legacy of the study of personality is its ability to explain important behavioral outcomes. Individual differences in traits from the FFM, for example, have been associated with outcomes related to health and illness (e.g., Friedman, 2001), educational achievement (e.g., Poropat, 2009), relationship satisfaction (e.g., Malouff et al., 2010), and overall life expectancy (e.g., Hill et al., 2011). More recently, personality has also been identified as an important consideration when studying political behavior (Mondak and Halperin, 2008; Mondak, 2010; Mondak et al., 2010; Gerber et al., 2011a, 2011b, 2013). Rather than re-inventing personality structures, these scholars have relied on the existing trait models of personality and applied them to a variety of political outcomes and attitudes including political participation (Vecchione and Caprara, 2009; Mondak, 2010), political interest (Gerber et al., 2011a), vote choice (Barbaranelli et al., 2007; Schoen and Schumann, 2007), political ideology (Chirumbolo and Leone, 2010), political ambition (Blais et al., 2019), and trust (Mondak, 2010). As Dinesen et al. (2016) explain, "individuals think and behave differently politically depending on their personal predispositions, specifically their personality" (p. 56). Likewise, Blais and St-Vincent (2011) write, "if one's personality influences how often one smiles, what kind of music one likes and how one dresses then why should it not have some impact on whether one finds politics interesting or boring and on whether one believes that it is a civic duty to vote" (p. 406)?

While it's clear that personality has much to offer in understanding different political outcomes, research in this area is still in its infancy. We examined three prominent political science journals that publish on the subject of political behavior (*Political Behavior*; *Electoral Studies*; and *Political Psychology*) and three prominent personality psychology journals (*Journal of Personality and Social Psychology*; *Journal of Personality*; *Personality and Individual Differences*) to get a sense of the prevalence of articles dealing with personality as it relates to political outcomes. Through a keyword search and an analysis of titles and abstracts, we documented the prevalence of personality and politics research for the last 21 years (2000–2020). Though only a crude measure, our data provide us with a glimpse into the prominence (or lack thereof) of personality in the study of political outcomes. Outside of some early focus on authoritarianism and social dominance orientation, explorations of personality in political science journals have remained rather niche. Since 2010, for instance, the pooled data reveal that only about 3% of articles across the three journals addressed questions relating to personality and politics. More importantly, there has been little change over the period examined. At the same time, articles dealing with personality and political outcomes in prominent personality journals have increased only slightly over the past 21 years. Despite this increase, on average, fewer than 2% of articles deal with this topic.

Summary of the Research Topic

A key purpose of this research topic is to highlight the diverse set of questions and approaches that are currently being used in the personality and politics literature. Using a number of different methodologies (surveys, experiments, etc.) our contributors draw on established taxonomies (FFM, HEXACO, Dark Triad, Light Triad), individual traits (authoritarianism, empathy, and openness), and different emotional expressions (e.g., collective nostalgia) to answer a variety of questions relating to tolerance and acceptance of racist speech, attitudes towards welfare recipients, public health compliance, voting for challengers or incumbents, likeability of different candidates, political engagement, and ideology. In this way, this research topic considers myriad of ways that personality can be used to answer important interdisciplinary questions and highlights the importance of personality beyond just the "Big 5."

Several papers in this issue examine the role of personality in shaping attitudes towards political parties and their candidates. Nai et al., for example, employ an experimental study in order to better understand the relationship between perceived personality traits and candidate evaluations. By manipulating the personality profile of a candidate in a randomly assigned vignette, the authors are able to disentangle these ratings from the effects of partisanship, and make a number of important contributions. Among other findings, the authors reveal that the general public tends to rate candidates with dark triad traits lower in likability, but that this is reversed for voters who themselves score higher on these darker traits. Bittner, by contrast, engaging with the personalization of politics literature, considers the extent to which the subjective evaluations of the personality traits of party leaders helps us understand the political behavior of electors—specifically their vote choice. Using longitudinal data that spans five countries and a number of decades, Bittner finds that leader evaluations and leader traits matter for vote choice, but not necessarily more than they did in the past. While leaders (and their traits) certainly matter, it is not clear that personalization (as a process) is indeed occurring. Continuing with the role of personality in developing political preferences, Ramey et al., ask why some electors tend to prefer lesser-known, and therefore riskier candidates, while others favor well-established incumbents. Using the FFM trait of openness, as well as the concept of psychological entropy, the authors reveal that electors higher in openness are more willing to vote for uncertain challengers, but that this is limited to independent respondents who are unable to rely on partisan cues.

The next set of papers considers whether personality can help us understand different attitudes and support for specific policies. Blanchet and Landry, for instance, use the sudden onset of the COVID-19 pandemic as an opportunity to study the relationship between authoritarian dispositions and attitudes towards welfare recipients in Canada. While their results indicate that authoritarianism is indeed associated with more negative views of welfare recipients, their longitudinal data also reveal that the pandemic did not seem to exacerbate

this relationship. Harell et al., by contrast, use the trait of empathy to better understand political tolerance and the acceptance of racist speech. Drawing on observational and experimental data from Canada and the United States, the authors provide compelling evidence regarding the importance of empathy in the formation of political attitudes. In particular, the authors demonstrate that individuals with higher levels of empathy express less tolerance towards groups engaged in exclusionary and potentially harmful speech. Rounding out the question of personality and policy attitudes, Stefaniak et al., contribution helps contextualize policy differences on the left and right in the context of collective nostalgia. The authors demonstrate that, while both liberals and conservatives long for an idealized view of society, conservatives focus on homogeneity while liberals focus on openness. These differing forms of nostalgia, in turn, translate into protection of in-groups and welcoming of out-groups, respectively.

The final papers explore the relationship between personality and political action. Petersen and Palmer explore the extent to which both the Dark (Machiavellianism, psychopathy, and narcissism) and Light (faith in humanity, Kantianism, and humanism) triads are related to a variety of political behaviors including participation and nascent political ambition. The addition of the Light Triad is an important contribution as the political science literature has yet to meaningfully engage with this particular construct. Overall, the authors find that the dark traits hold considerably more explanatory power compared to those of faith in humanity,

Kantianism, and humanism. Finally, Blais et al., draw upon survey data with an embedded experiment to study the relationship between personality (both general and dark traits) and public health compliance. In general, the authors find that prosocial traits (honesty-humility, conscientiousness, and openness) are related to greater public health compliance whereas antisocial traits (Machiavellianism, psychopathy, and narcissism) are related to greater defiance. On the experimental side, the authors find that public health messaging that focusses on the severity of the pandemic can have unintended consequences as some individuals, such as those higher in emotionality, respond with greater compliance, whereas others, such as those higher in antagonism, respond with less compliance.

As we end this brief introduction a word of thanks is warranted. The contributors to this collection produced high quality cutting-edge interdisciplinary research during a global pandemic. We are remarkably grateful for their participation, as well as that of each of the reviewers who provided valuable feedback. Our hope is that the papers in this issue continue to push the study of personality and politics into the mainstream, and that the work published here generates a host of new questions to be addressed.

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Personality Goes a Long Way (for Some). An Experimental Investigation Into Candidate Personality Traits, Voters' Profile, and Perceived Likeability

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The personality traits of political candidates, and the way these are perceived by the public at large, matter for political representation and electoral behavior. Disentangling the effects of partisanship and perceived personality on candidate evaluations is however notoriously a tricky business, as voters tend to evaluate the personality of candidates based on their partisan preferences. In this article we tackle this issue via innovative experimental data. We present what is, to the best of our knowledge, the first study that manipulates the personality traits of a candidate and assesses its subsequent effects. The design, embedded in an online survey distributed to a convenience sample of US respondents (MTurk, $N = 1,971$), exposed respondents randomly to one of eight different "vignettes" presenting personality cues for a fictive candidate - one vignette for each of the five general traits (Big Five) and the three "nefarious" traits of the Dark Triad. Our results show that 1) the public at large dislikes "dark" politicians, and rate them significantly and substantially lower in likeability; 2) voters that themselves score higher on "dark" personality traits (narcissism, psychopathy, Machiavellianism) tend to like dark candidates, in such a way that the detrimental effect observed in general is completely reversed for them; 3) the effects of candidates' personality traits are, in some cases, stronger for respondents displaying a weaker partisan attachment.

Keywords: candidate personality, voter personality, dark triad, big five, experiment

INTRODUCTION

Personality Matters

Elections are usually considered a mechanism through which voters decide in which direction a polity should be heading policy-wise: What measures should be taken to boost the economy? How should the problem of social inequality be addressed? How can the environment be protected, and climate change effectively tackled? What policies should be implemented to protect the country from foreign threats? But elections are also the time when voters choose political leaders. Often there are large - sometimes even dramatic - differences between candidates in terms of their (perceived) skills (e.g., competence, leadership) and image (e.g., charisma). More fundamentally, most candidates

differ with respect to their personality - "who we are as individuals" (Mondak, 2010, p. 2). The recent U.S. presidential elections provide a clear example that voters were asked not only to make a choice between competing sets of policies, but also between different personalities (e.g., Visser et al., 2017; Nai and Maier, 2018; Book et al., 2020).

Choosing leaders with a particular personality profile can potentially lead to serious political consequences. For instance, the personality of political leaders has been shown to drive their accomplishments once in office in terms of, e.g., policy accomplishments, relationships with the legislative branch, use of executive orders, and likelihood of unethical behavior (e.g., Rubenzer et al., 2000; Lilienfeld et al., 2012; Watts et al., 2013; Joly et al., 2019).

Voters often display low motivation and information about politics (e.g., Delli Carpini and Keeter, 1996), and tend thus to rely on cognitive heuristics when making up their mind on political matters (e.g., Sniderman et al., 1991; Lau et al., 2001). Since the personality profile of candidates is hard to hide (and is often explicitly showcased for electoral purposes), it provides ready-to-use cues for voters to gauge what they can expect from a given candidate if elected.

Of course, the personality profile of voters is equally likely to matter for their choices (e.g., Chirumbolo and Leone, 2010; Mondak, 2010; Nai and Maier, 2020a). including when it comes to candidate perception. Most notably, consistent evidence exists that candidate and voter traits are systematically linked to each other, in such a way that that voters are more likely to support candidates with personalities that "match" their own (e.g., Caprara et al. 2003; Caprara and Zimbardo, 2004; Fortunato et al., 2018). However, as this is also the case with respect to partisanship – voters strongly prefer candidates of "their" party – disentangling the specific effect of personality from the effects of partisanship is not a trivial task. Indeed, much evidence exists that the perception of candidates' personality traits is a direct function of partisan preferences(e.g., Hyatt et al. 2018; Nai and Maier, 2019; Fiala et al., 2020).

In this article, we attempt to contribute to a better understanding of how candidates' (perceived) personality traits influence their likeability, and the role of voters' individual differences and partisanship. Using an innovative survey experiment among U.S. respondents we demonstrate that 1) the public at large dislikes politicians scoring higher on "nefarious" personality traits; 2) voters that themselves score higher on those "dark" personality traits tend to like dark candidates; 3) the effects of candidates' personality traits are, in some cases, stronger for respondents with weak partisan attachments.

Direct and Moderated Effects of Candidate Personality

There is a long tradition that aims to conceptualize, measure, and describe individual personality traits. The Big Five Inventory

(BFI; McCrae and John, 1992) is the most studied personality inventory, and the most widely used to study the effects of personality on political attitudes and behavior (e.g., Mondak, 2010). The inventory identifies five "general" personality traits (extraversion, agreeableness, conscientiousness, emotional stability, and openness). More recent studies suggest that humans, in addition to the rather positively valenced traits assessed via the BFI, can have socially aversive - yet non-pathological - traits (Moshagen et al., 2018). The so-called "Dark Triad" identifies three "malevolent" components: narcissism, psychopathy, and Machiavellianism (Paulhus and Williams, 2002). These components have been shown to be associated to political attitudes and behaviors (e.g., Arvan, 2013; Jonason, 2014). In a nutshell, *psychopathy* is "the tendency to impulsive thrill-seeking, cold affect, manipulation, and antisocial behaviors" (Rauthmann, 2012, p. 487), *narcissism* is "the tendency to harbor grandiose and inflated self-views while devaluing others [. . . and to] exhibit extreme vanity; attention and admiration seeking; feelings of superiority, authority, and entitlement; exhibitionism and bragging; and manipulation" (Rauthmann, 2012, p. 487) and *Machiavellianism* is the tendency to harbor "cynical, misanthropic, cold, pragmatic, and immoral beliefs; detached affect; pursuit of self-beneficial and agentic goals (e.g., power, money); strategic long-term planning; and manipulation tactics" (Rauthmann, 2012, p. 487).

There are good reasons to expect that voters tend to dislike candidates with such dark traits. Individuals higher in psychopathy tend to have a more lenient approach to anti-social behaviors, which they often lack the ability to recognize. They tend furthermore to be impulsive and prone to callousness, and often show a strong tendency towards interpersonal antagonism (Jonason, 2014). Indeed, candidates scoring higher on psychopathy tend to display a "confrontational, antagonistic and aggressive style of political competition" (Nai and Maier, 2020b, p. 2). Like psychopathy, narcissism has been shown to predict more successful political trajectories (Watts et al., 2013), also in part due to the prevalence of social dominance intrinsic in the trait. This being said, narcissism is often linked to overconfidence and deceit (Campbell et al., 2004), a marked preference for hypercompetitiveness (Watson et al., 1998), reckless behavior and risk-taking (Campbell et al., 2004). Narcissists tend to go to great lengths to promote themselves and have indeed been shown to likely engage in angry/aggressive behaviors and general incivility in their workplace (Penney and Spector, 2002). Like psychopathy, Machiavellianism also has an aggressive and malicious side (Rauthmann and Kolar, 2013). People higher in Machiavellianism tend to display "cynical and misanthropic beliefs, callousness, a striving for argentic goals (i.e., money, power, and status), and the use of calculating and cunning manipulation tactics" (Wisse and Sleebos, 2016, p. 123), and in general show a proclivity to engage in malevolent behaviors intended to "seek control over others" (Dahling et al., 2009). Indeed, behavioral evidence suggests that higher Machiavellianism is associated with bullying at work (Pilch and Turska, 2015) and the use of more aggressive forms of humor (Veselka et al., 2010).

All in all, candidates higher in the Dark Triad should be more likely to adopt more aggressive behavioral patterns, as shown for instance in Nai and Maier (2020b) with respect to the use of a harsher communication style. Since all three components of the Dark Triad - narcissism, psychopathy, and Machiavellianism - point towards the direction of anti-social behavior, and voters tend to prefer leaders with a positive personality (Aichholzer and Willmann, 2020), we expect that voters tend, on average, to dislike "dark" candidates. We therefore expect:

H1. Exposure to candidates with dark personality traits reduces positive feelings for the candidate.

Importantly, we do not expect this general effect to exist across the board. Recent advances in the literature on elite cues and electoral behavior have clearly demonstrated that individual differences matter. For instance, Weinschenk and Panagopoulos (2014) show that respondents higher in agreeableness can be discouraged to turn out when exposed to negative campaigning messages. Similarly, the usage of "aggressive metaphors" tend to mobilize voters with "aggressive traits" and demobilizes strong partisans lower in aggression (Kalmoe, 2019). Mutz and Reeves, (2005) show that exposure to uncivil content lowers political trust in respondents that dislike conflicts, Nai and Maier, (2020a) present several instances in which darker personality traits of voters meaningfully moderate the effectiveness of negative and uncivil campaign messages. Beyond communication dynamics, Bakker et al., (2016) show that it is especially voters scoring lower on agreeableness that tend to appreciate populist candidates (who themselves score particularly lower on agreeableness, Nai and Martinez i Coma, 2019).

All in all, we have strong reasons to expect individual differences in voters to moderate the effect of candidates' personality traits. First, we expect that the detrimental role of the dark personality profile of candidates, expected to exist in general (H1), does not exist among a specific set of respondents: those who themselves score higher on those dark traits. The rationale supporting this expectation is twofold. On the one hand, increasing evidence exists that voters with "darker" personality profiles tend to like darker politics - be it in terms of exposure to more negative and uncivil campaigns (Weinschenk and Panagopoulos, 2014; Nai and Maier, 2020a), or in terms of support for more confrontational and aggressive candidates (e.g., Bakker et al., 2016). On the other hand, this mechanism perfectly overlaps with the general "homophily" (or "congruence") effect - that is, the established notion that voters are often more likely to support candidates with personalities that "match" their own (Caprara et al., 2003; Caprara and Zimbardo, 2004; Caprara et al., 2007; but see; Klingler et al., 2018). As summarized by Caprara and Vecchione (2017), personality "traits represent important elements through which the similarity-attraction principle may operate in politics because they allow voters to organize their impression of politicians, to link politicians' perceived personalities to their own, and ultimately to justify their preferences on the assumption that similarity in traits carries similarity in worldview and values. Therefore, the more voters acknowledge their own pattern of behavior in a political leader, the more they may assume that the leader in question also shares

their own principles" (Caprara and Vecchione, 2017, p. 236). We thus expect the following:

H2. Exposure to candidates with dark personality traits increases positive feelings for the candidate among respondents with dark personality traits.

We also expect the attitudinal profile of respondents to play a moderating role - more specifically, the strength of their partisan identification. Countless studies have shown that strong partisan affiliation (strong partisanship) is a central factor in determining how voters receive, accept, sample and process (new) political information. Voters unconsciously act as motivated reasoners (Kunda, 1990) and tend to reject information that is inconsistent with their attitudes and previously held beliefs (Druckman, 2012; Taber and Lodge, 2016). Because strong partisanship helps voters navigate the complex and treacherous waters of contemporary politics, it is no surprise that party attachment is one of the most important cognitive heuristics in their toolbox (Lau and Redlawsk, 2001; Schaffner and Streb, 2002; Fortunato and Stevenson, 2019). What happens when this navigation tool is absent? For voters that do not rely on (strong) partisanship to guide their political perceptions – a continuously increasing slice of the population in Western democracies (e.g., Dalton 2019) – we argue the following: exposure to the personality of candidates can act as "thin slices" - that is, "brief excerpt[s] of expressive behavior sampled from the behavioral stream" (Ambady et al., 2000, p. 203; see also; Spezio et al., 2012) - and heuristically provide them with schemata on which they develop their judgment. Voters heuristically compensate the lack of information they suffer from when they make judgments about political candidates (e.g., Huckfeldt et al., 2005). They use "evaluative impression formation of candidates by organizing and summarizing a diverse body of information in relatively simple terms [. . . which] ultimately determine voters' likes and dislikes of candidates" (Caprara et al., 2002, p. 78). In other terms, we expect the effect of exposure to personality vignettes to be generally more effective, that is, more strongly associated with differences in candidate perception, for voters with *weak* partisan attachment.

H3. Candidates personality traits have stronger effects on candidate likeability among respondents with weak party attachment.

This Study

The main objective of this article is to assess the effect that (dark) personality profiles of political candidates have on shaping how voters perceive them - both directly, and as a function of individual differences in voters themselves (personality, partisanship). Unfortunately, disentangling the effects of candidates' personality on voters' perceptions is an arduous task. Voters' perception of political figures is likely to reflect their underlying partisan preferences. For instance, there is consistent evidence that liberals have a much more critical perception of Donald Trump than conservatives. The former mostly highlight Trump's lower agreeableness, lower conscientiousness, and lower emotional stability, whereas the latter rate the President higher on all the Big Five, and especially on openness and conscientiousness (e.g., Hyatt et al., 2018; Nai and Maier, 2019; Fiala et al., 2020). In this case,

assessing how voters perceive specific personality traits - and the effects of such perceptions - is contaminated by their (pre-existing) political opinions about Trump refracted through the lens of partisanship.

In this article we tackle this issue via innovative experimental data. We present what is, to the best of our knowledge, the first study that manipulates the personality profile of a candidate along well-established personality inventories - and assesses its subsequent effects in terms of voters' perceptions (however, see Rehmert, 2020 and de Geus et al., 2020, for examples of studies that use conjoint experiments to manipulate other salient aspects of the personal profiles of candidates, such as gender or socio-economic background). The design, embedded in an online survey distributed to a convenience sample of US respondents (MTurk, N = 1,971), exposed respondents randomly to one of eight different "vignettes" presenting personality cues for a fictive candidate - one vignette for each of the five general traits (Big Five) and one for each of the three "nefarious" traits of the Dark Triad. Respondents were asked to rate the personality of the candidate they were exposed to using the traditional abbreviated personality measures (the "TIPI" for the Big Five and the Dirty Dozen for the Dark Triad) and were subsequently asked to give an overall assessment of the candidate (thermometer).

Via this innovative experimental setup – a research design able to disentangle the effects of candidate personality, perceived traits, and voter's preferences in such a way that their partisan preferences do not come into play - our analyses provide rather consistent support for our hypotheses. Our results will show that 1) the public at large dislikes "dark" politicians, and rates them significantly and substantially lower in likeability; 2) voters that themselves score higher on "dark" personality traits (narcissism, psychopathy, Machiavellianism) tend to *like* dark candidates, in such a way that the detrimental effect observed in general is completely reversed for them; 3) the effects of candidates' personality traits are, in some cases, stronger for respondents displaying a weaker partisan attachment.

All materials, data, and syntaxes are available for replication in the following OSF repository: https://osf.io/wxruy/

DATA AND METHODS

Sample

In May 2020 we fielded a survey among a convenience sample of 2,010 US respondents via Amazon's Mechanical Turk (MTurk; Paolacci and Chandler, 2014), an online crowd-sourced data platform. MTurk provides convenience samples, which should not be assumed to be representative of the general US population. In this sense, they are ill-suited to provide information to project general trends to the population at large (e.g., electoral predictions based on voting intentions). Nonetheless, MTurk surveys have been shown to perform quite well when compared to other convenience samples (Berinsky et al., 2012), because they tend to mirror the psychological divisions of liberals and conservatives in the US general population (Clifford et al., 2015). MTurk samples seem thus to represent a cheap and reliable way to

collect systematic data from convenience samples (Hauser and Schwarz, 2016) - but see, for a more critical take, Harms and DeSimone (2015) and Ford (2017).

MTurk participants were invited to fill in a short online survey against a small compensation ($0.7). The questionnaire included an "attention check" (Berinsky et al., 2014) where specific instructions - select the option "other" and write a keyword in the entry box - were embedded within a long and digressing question. Respondents that failed such attention check (N = 39, 1.9%) were assumed to only skim through the questions and were excluded. The analyses are run on a final sample of N = 1,971 respondents. The final sample is composed of 49% of female respondents, and the average age is 42 years. The sample is mostly composed of white/Caucasian respondents (75%), followed by blacks/African-Americans (12%). 41% of respondents declare being "very interested" in politics, and only 2% declare "no interest at all". The average self-reported left-right position is 4.8 (SD = 3.1) on a 0–10 scale.

Protocol

The survey included an experimental component in which we "simulated" the personality traits of a fictive candidate. We created eight imaginary magazine interviews with a fictive candidate - independent Paul A. Bauer, running for a seat in the US House of Representatives for Minnesota's 9th Congressional district.[1] Each mock interview was set up to cue respondents towards a specific personality trait of the fictive candidate, using both the framing of the journalist conducting the interview and the candidate response. For instance, the introductory paragraph the interview intended to cue higher extraversion (henceforth: "extraversion vignette"), reads as follows (excerpt):

> "Bauer is a rising star in politics but is still relatively unknown to the public at large. Acquaintances describe him as enthusiastic and outgoing, but also as extremely talkative. I asked him three short questions, and found him to be extraverted and warm."

After this initial introduction, tailored to the specific trait we wanted to cue, all mock interviews ("vignettes") were set up as a series of questions and answers about what their usual day looks like and their perception of what politics is, similar to interviews that one might encounter reading the back page of a magazine like Newsweek. For instance, the "emotional stability vignette" reads as follows for the answer to the journalist question "what is politics to you?":

> "Politics is being able to take the best decision in the most calm and nuanced way possible. Impulsivity cannot have a place in politics. At the end of the day, only nuanced and rational decisions matter."

Finally, the fictive candidate was asked to identify which "fictional character" he would like to be "for just a single day." The use of fictional character to illustrate personality traits and facets is relatively common in the literature. For instance, Jonason

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[1]Minnesota has only eight Congressional districts.

et al. (2012) refer, to illustrate the dark traits of narcissism, psychopathy and Machiavellianism, to the fictive characters of James Bond, Hannibal Lecter, and House, M.D. Similarly, Schumacher and Zettler (2019) contrasts the two opposed personas of the fictive US presidents Josiah Bartlett (*The West Wing*) and Frank Underwood (*House of Cards*) to illustrate higher and lower scores on the "Honesty-Humility" trait in the HEXACO inventory. Drawing inspiration from these works, the fictional candidate refers in the interview to two fictive characters he would like to be for one day, with the idea that such characters reflect his personality, thereby amplifying the cueing potential of the vignette.[2] The mock magazine interview included a picture of the fictive Paul A. Bauer; in actuality a portrait of former Swiss federal councilor Didier Burkhalter, who reflects, in our opinion, a perfectly generic stereotype of the political norm: a "normal" white, middle-aged male candidate.

After random exposure to one of the eight "personality vignettes", respondents were asked to rate the candidate using two "short" personality batteries: the "TIPI" for the Big Five (Gosling et al., 2003) and the "Dirty Dozen" for the Dark Triad (Jonason and Webster, 2010). The former is set up as a battery of 10 statements about the candidate (e.g., "the candidate might be someone who is extraverted, enthusiastic," "anxious, easily upset"), which respondents had to evaluate; pairs of statements yield scores on the five traits in the Big Five inventory. The latter is a battery of 12 statements (e.g., "the candidate might be someone who tends to want others to pay attention to him," ". . . tends to be cynical"); the average of three sets of four statements yield scores for each trait in the Dark Triad. Using abbreviated measures of personality traits is not without its critics. Very brief measures (e.g., 1-item and 2-item scales, like the TIPI) have been shown to substantially underestimate the role personality traits appear to play when it comes to political behaviour, thereby increasing the odds of generating Type I and Type II errors (Credé et al., 2012). Bakker and Lelkes (2018) also show that abbreviated measures of personality traits tend to underestimate the relationship between ideology and personality traits and that researchers should ideally utilize more elaborate measures (e.g., 20-item or 50-item batteries). We have nonetheless chosen to use the 10-item "TIPI" battery in this research for pragmatic reasons: as it occupies the proverbial "middle ground" between the (extremely abbreviated) measures critiqued by Credé et al. (2012) and the ideal yet unwieldy measures proposed by Bakker and Lelkes

(2018), it therefore represents an acceptable trade-off between feasibility and reliability for the purposes of our study.

A series of t-tests shows that respondents that were exposed to a vignette for a specific trait (e.g., extraversion) systematically rated the candidate as significantly higher on that trait when compared to the *average* of the other seven traits: $t(1,969) = -13.77$, $p < 0.001$ (*extraversion*), $t(1,969) = -13.56$, $p < 0.001$ (*agreeableness*), $t(1,969) = -5.61$, $p < 0.001$ (*conscientiousness*), $t(1,969) = -11.23$, $p < 0.001$ (*emotional stability*), $t(1,969) = -7.85$, $p < 0.001$ (*openness*), $t(1,969) = -11.48$, $p < 0.001$ (*narcissism*), $t(1,969) = -13.81$, $p < 0.001$ (*psychopathy*), and $t(1,969) = -16.81$, $p < 0.001$ (*Machiavellianism*). On average, thus, the "personality vignettes" were quite successful: they evoked in the mind of the respondents the personality profile that we intended to manipulate in the first place. **Supplemental Figure SA** in the Appendix illustrates the average score on all the personality traits for the fictive candidate as estimated by the respondents, depending on which vignette they were exposed to (bars in each panel).

Randomization checks indicate a successful random distribution of respondents according to their age, party identification, and personality traits (even if some marginal differences exist for some traits). Our tests indicate that female respondents were more likely to be exposed to a positive treatment and male more likely to be exposed to a negative treatment; the difference is statistically significant, $\chi2(1, N = 1964) = 9.87$, $p = 0.002$. To exclude any confounding effects, we will replicate all analyses discussed below controlling for the gender of the respondents; see robustness checks discussed in Robustness Checks.
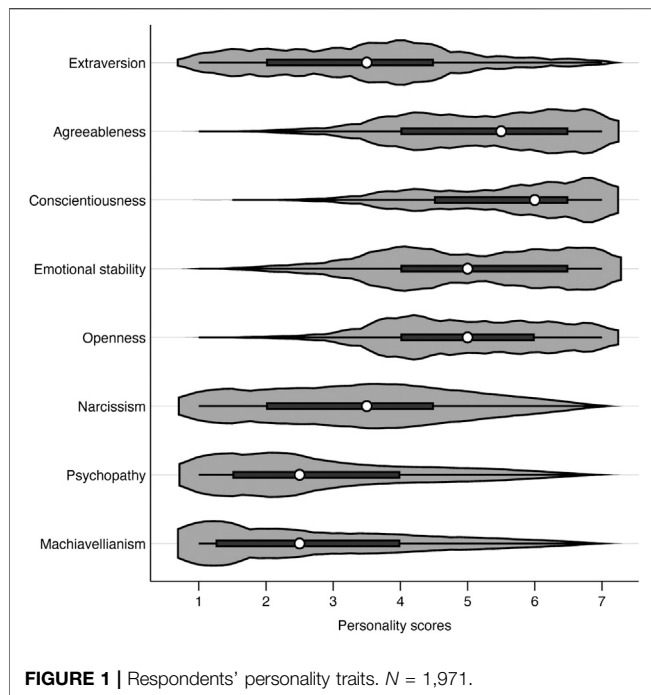
Measures
General Feelings for the Candidate
The dependent variable in all our analyses - the way respondents feel about the candidate, or more simply candidate likability - is simply measured using the "feeling thermometer" developed by the ANES research group (Wilcox et al., 1989). Responses range on a 0–100 scale where low scores signal an unfavorable or "cold" opinion and high scores a favorable or "warm" one ($M = 58.38$, $SD = 26.18$).

Partisanship and Strength of Party Identification
The questionnaire included a series of questions intended to measure party proximity. First respondents were asked whether they think of themselves as a Democrat, a Republican, and Independent, or if they have no preference. Respondents that selected the first two options were then asked whether they would call themselves a strong or a not very strong Democrat (Republican). Respondents that selected the other options (independents or non-aligned) were given the chance to indicate if they feel close to the Democrats, Republicans, or neither. The combination of these different questions yields a 5-point scale, taking the values 1 for "Strong Democrat" (25.1%), 2 for "Leaning Democrat" (respondents that feel weakly attached to the Democratic party or that declared themselves independents but feel closer to that party; 26.9%), 3 for "Independent" (including those who do not lean in either direction; 11.7%), 4

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[2]The list of all fiction characters is as follows: Han Solo (*Star Wars*) and Michael Scott (*The Office*) for extraversion; WALL-E (Pixar's *WALL-E*) and Forrest Gump (*Forrest Gump*) for agreeableness; Hermione Granger (*Harry Potter* books and movies) and The Batman (*Batman* movies) for conscientiousness; Samwise Gamgee (*The Lord of the Rings* book and movies) and Sancho Panza (*Don Quixote*) for emotional stability; Lisa Simpson (*The Simpsons*) and Huckleberry Finn (*The Adventures of Huckleberry Finn*) for openness; James Bond (*James Bond* movies and novels) and Miranda Priestly (*The Devil Wears Prada*) for narcissism; Hannibal Lecter (*The Silence of the Lambs*) and Sarah Connor (*The Terminator*) for psychopathy; House, M.D (*House, M.D*) and Frank Underwood (*House of Cards*) for Machiavellianism.

FIGURE 1 | Respondents' personality traits. *N* = 1,971.

for "leaning Republican" (19.2%), and 5 for "Strong Republican" (17.1%).

Using some of these variables we have also created a simplified binary variable of strength of partisan attachment. Because Independents cannot be considered as having a weak ideological identity, we have excluded all respondents that declare themselves "Independents" (or anything else than D or R) in the initial question above. Strength of partisanship is thus computed among respondents that think of themselves as either a

Republican or a Democrat, and takes the value 0 if this identification is perceived as weak, and 1 if this identification is perceived as strong. Among those respondents, 42.1% have a weak partisan attachment, and 57.9% have a strong one.

Respondents' Personality

Prior to the experimental component we also measured the respondents' personality traits, using the same scales used afterwards for the candidates - the "TIPI" for the Big Five inventory (Gosling et al., 2003) and the "Dirty Dozen" for the Dark Triad (Jonason and Webster, 2010). All inventories yield scales that range from 1 "Very low" to 7 "Very high." **Figure 1** plots the distribution of respondents on the eight traits. The average score on the three "dark" traits of narcissism, psychopathy, and Machiavellianism reflects a unified measure of the "dark core" (e.g., Paulhus and Williams, 2002; Book et al., 2015; Moshagen et al., 2018; *M* = 3.02, *SD* = 1.36; *α* = 0.82).

RESULTS

Does exposure to candidates with a dark personality drive more negative perceptions of these candidates? And, if so, for whom? This section presents evidence suggesting that the personality of candidates goes a long way indeed - and especially for some.

Candidate Personality and Perceived Likeability

To what extent is the (perceived) personality of political candidates associated with their likeability by the public at large? Are agreeable candidates more likeable? Are narcissists disliked? **Table 1** regresses the scores on the feeling thermometer for the candidate (0–100) on the personality vignette respondents

TABLE 1 | Feeling thermometer by exposure to candidate personality vignettes.
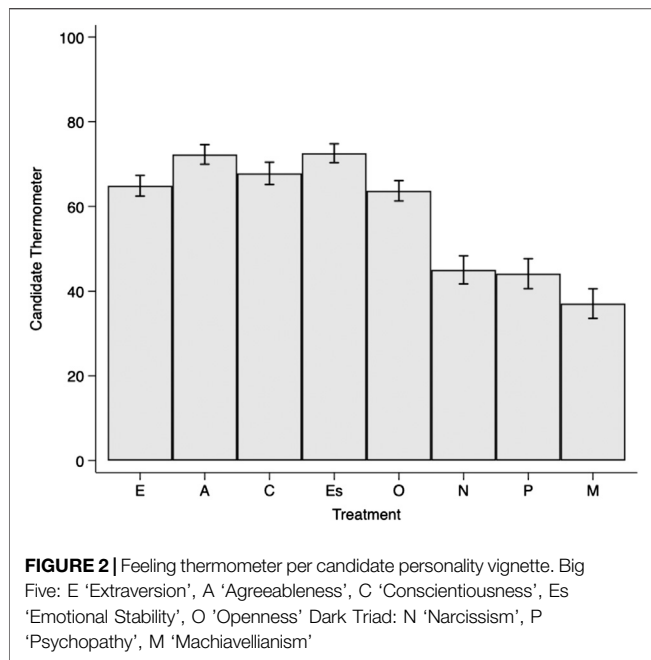
	M1			M2			M3		
	Coef.	**Se**	**sig**	**Coef.**	**Se**	**sig**	**Coef.**	**Se**	**sig**
Vignette: Extraversion[a]	−2.94	(2.06)							
Vignette: Agreeableness	4.47	(2.06)	*						
Vignette: Emotional stability	4.75	(2.07)	*						
Vignette: Openness	−4.11	(2.06)	*						
Vignette: Narcissism	−22.80	(2.07)	***						
Vignette: Psychopathy	−23.68	(2.07)	***						
Vignette: Machiavellianism	−30.74	(2.06)	***						
Vignette: Dark Triad (DT) [b]				−26.17	(1.06)	***	−32.34	(2.28)	***
Republican [c]							0.40	(0.45)	
Republican * DT							2.24	(0.73)	**
Constant	67.81	(1.48)	***	68.23	(0.65)	***	67.12	(1.41)	***
Observations	1,971			1,971			1,971		
R-squared	0.25			0.23			0.24		

*In all models the dependent variable is the feeling thermometer for the fictive candidate, and ranges between 0 "very cold" and 100 "very warm" feelings towards him. ***p < 0.001, **p < 0.01, *p < 0.05, [†]p < 0.1.*
[a]Reference category for all vignettes is "Conscientiousness".
[b]The variable takes the value 1 if respondents have been exposed to a personality vignette reflecting one of the three Dark Triad traits (narcissism, psychopathy, Machiavellianism), and the value 0 for exposure to a vignette reflecting one of the Big Five (extraversion, agreeableness, conscientiousness, emotional stability, openness). Reference category is 0.
[c]5-point scale ranging from 1 "Strongly Democrat" to 5 "Strongly Republican".

were exposed to. Because conscientiousness represents an ideal trait for political leaders (and is also the trait that is more likely to drive better electoral results for competing candidates; Nai, 2019), we use exposure to the conscientiousness vignette as the reference category - that is, the effects of exposure to the other vignettes are computed against exposure to this vignette. Model M1 shows that candidates framed as higher in agreeableness and emotional stability receive somewhat higher ratings on the feeling thermometer, whereas candidates framed as higher in openness receive lower scores. But it is for the Dark Triad that we see the most impressive effects. Compared to candidates framed higher in conscientiousness, candidates framed with narcissistic, psychopathic, and, especially, Machiavellian traits receive significantly and substantially lower thermometer scores - up to 30 points less for Machiavellianism. The average thermometer score associated with all vignettes is illustrated in **Figure 2**.

Model M2 then estimates the thermometer score of the candidate as a function of respondents' exposure to a "socially desirable" personality vignette (one of the Big Five, reference category) or rather to a "socially nefarious" vignette (one of the Dark Triad traits). Exposure to a dark trait, compared to exposure to a Big Five trait, reduces positive feelings for the candidate up to 26 points. Models M1 and M2 confirm, in other terms, that darker personality traits are detrimental for the likeability of competing candidates. The public at large, it seems, dislikes dark politicians.

Model M3 controls for respondents' partisan identification and adds an interaction term between partisan identification and type of personality vignette (Dark Triad or Big Five) respondents were exposed to. There is no direct effect of party identification – which makes sense as the fictional candidate has been introduced as an Independent. The significant interaction in Model M3 shows that exposure to a "dark" vignette yields slightly higher

thermometer scores for respondents identifying as a (strong) Republican. This reflects results in the literature showing that dark personality traits are more likely to be expressed among (strong) conservatives (e.g., Jonason, 2014). The effect is however not particularly strong.

Beyond simple exposure to personality cues, perceived personality traits of the candidates are likely to matter. For instance, it would not matter that a respondent is exposed to a narcissist candidate if they do not perceive the candidate as particularly higher on that trait. With this in mind **Figure 3** plots, for each trait, the marginal effect of trait perception on the candidate likeability (feeling thermometer). For each panel in **Figure 3**, the models estimate how respondents feel about the candidate (thermometer) as a function of how high they perceive the candidate to score on the trait, depending on which vignette they were exposed to. Thus, for instance, the top-right panel is only run for respondents exposed to the "conscientiousness" vignette and estimates the marginal effects of perceived candidate conscientiousness (1-7 scale on the *x*-axis) on the feeling thermometer.

As the figure shows, for all personality traits - excluding extraversion (top-left panel) - the more respondents perceive the candidate as scoring higher on the trait in question, the stronger its effects on the thermometer. Full results are in **Supplementary Table SA1** in the Appendix.

Moderated Effects

Results discussed above regarding the partisan identification of respondents - that is, that exposure to a "dark" vignette yields slightly higher thermometer scores for respondents identifying as (strong) Republican(s) - support the idea that the personality of candidates does not play uniform roles across the electorate. Evidence discussed in Bakker et al. (2016), for instance, shows that it is especially voters scoring lower on agreeableness that tend to appreciate populist candidates (themselves scoring particularly lower on agreeableness, Nai and Martinez i Coma, 2019). Similarly, recent experimental evidence shows "darker" forms of political communication, such as negativity and incivility, are appreciated by voters with specific personality profiles (e.g., Weinschenk and Panagopoulos, 2014; Nai and Maier, 2020a). With this in mind, the question is then: to what extent is the effect of candidates' personality traits on their likeability a function of the personality of the respondents themselves? **Table 2** tests for the moderating role of respondent's personality (dark core) on the effects of exposure to dark personality vignettes on the thermometer scores. M1 shows a significant interaction term, substantiated with marginal effects in **Figure 4**.

As **Figure 4** shows clearly, not only does the respondents' (dark) personality moderate the effects of the candidate's personality, but it reverses the negative effect shown across all respondents. This means that higher scores on the feeling thermometer are a function of increasing levels of dark personality of respondents themselves (dark core, representing the average scores on narcissism, psychopathy, and Machiavellianism) - but only for respondents exposed to a "dark" vignette. For respondents scoring lower on the dark core it is exposure to positive personality traits (Big Five) that

FIGURE 3 | Feeling thermometer by perceived personality trait. In all models the dependent variable is the feeling thermometer for the fictive candidate, and ranges between 0 "very cold" and 100 "very warm" feelings towards him. Marginal effects with 95% confidence intervals, based on coefficients in **Supplementary Table SA1** (Appendix).

drives higher thermometer scores. Simply put: dark voters like dark candidates. This effect does not seem to be further moderated by the partisan affiliation of the respondent (M2).

We also expected respondents with a weaker party identification to be more likely to be affected by the candidate's personality cues - because they are more likely to use such cues heuristically. **Supplementary Table SA2** in the Appendix reports a series of models where we have regressed, for each personality vignette, the candidate thermometer scores on the interaction between perceived candidate personality and the respondent strength of partisanship (binary variable, 0 low, 1 strong). **Figure 5** substantiates all interaction effects in **Supplementary Table SA2**, with marginal effects. Each panel represents respondents exposed to a specific personality vignette (e.g., extraversion in the top-left panel), and the graph reflects the estimated marginal thermometer scores as a function of perceived trait (*x*-axis) for respondents with weak party attachment (white circles) and strong party attachment

(black diamonds). We find significant interaction terms in three cases - agreeableness, emotional stability, and psychopathy (respectively, models M2, M4, and M7 in **Supplementary Table SA2**). In all three cases, the effect of the personality vignettes shown before for all respondents (**Table 1**) is stronger for respondents with a weak party attachment compared to those with a strong attachment. The effect is particularly visible for agreeableness and emotional stability. Put otherwise, for these three traits we can confirm the expectation that respondents with weak party attachment use cues related to the personality of candidates to make up their mind about the likeability of said candidates - much more so compared to respondents with strong party attachment.

Table 3 reports results of a simplified test for the moderating effect of party strength, contrasting only exposure to a "socially desirable" personality vignette (one of the Big Five, reference category) instead of a "socially nefarious" vignette (one of the Dark Triad traits). Model M1 illustrates the absence of interaction

TABLE 2 | Feeling thermometer by candidate and respondent personality traits.

	M1			M2		
	Coef.	Se	sig	Coef.	Se	sig
Vignette: Dark Triad (DT)[a]	−55.00	(2.42)	***	−62.43	(5.15)	***
Respondent Dark Core (CORE)[b]	0.78	(0.45)	†	−1.01	(0.98)	
CORE * DT	9.30	(0.72)	***	11.05	(1.53)	***
Republican[c]				−1.43	(0.98)	
Republican * DT				2.71	(1.61)	†
Republican * CORE				0.57	(0.28)	*
Republican * CORE * DT				−0.62	(0.45)	
Constant	65.91	(1.48)	***	70.38	(3.21)	***
Observations	1,971			1,971		
R-squared	0.34			0.35		

In all models the dependent variable is the feeling thermometer for the fictive candidate, and ranges between 0 "very cold" and 100 "very warm" feelings towards him. ***p < 0.001, **p < 0.01, *p < 0.05, †p < 0.1.
[a]The variable takes the value 1 if respondents have been exposed to a personality vignette reflecting one of the three Dark Triad traits (narcissism, psychopathy, Machiavellianism), and the value 0 for exposure to a vignette reflecting one of the Big Five (extraversion, agreeableness, conscientiousness, emotional stability, openness). Reference category is 0.
[b]Average score on respondents' Dark Triad traits (narcissism, psychopathy, Machiavellianism), ranging from 1 "Very low" to 7 "Very high".
[c]5-point scale ranging from 1 "Strongly Democrat" to 5 "Strongly Republican".
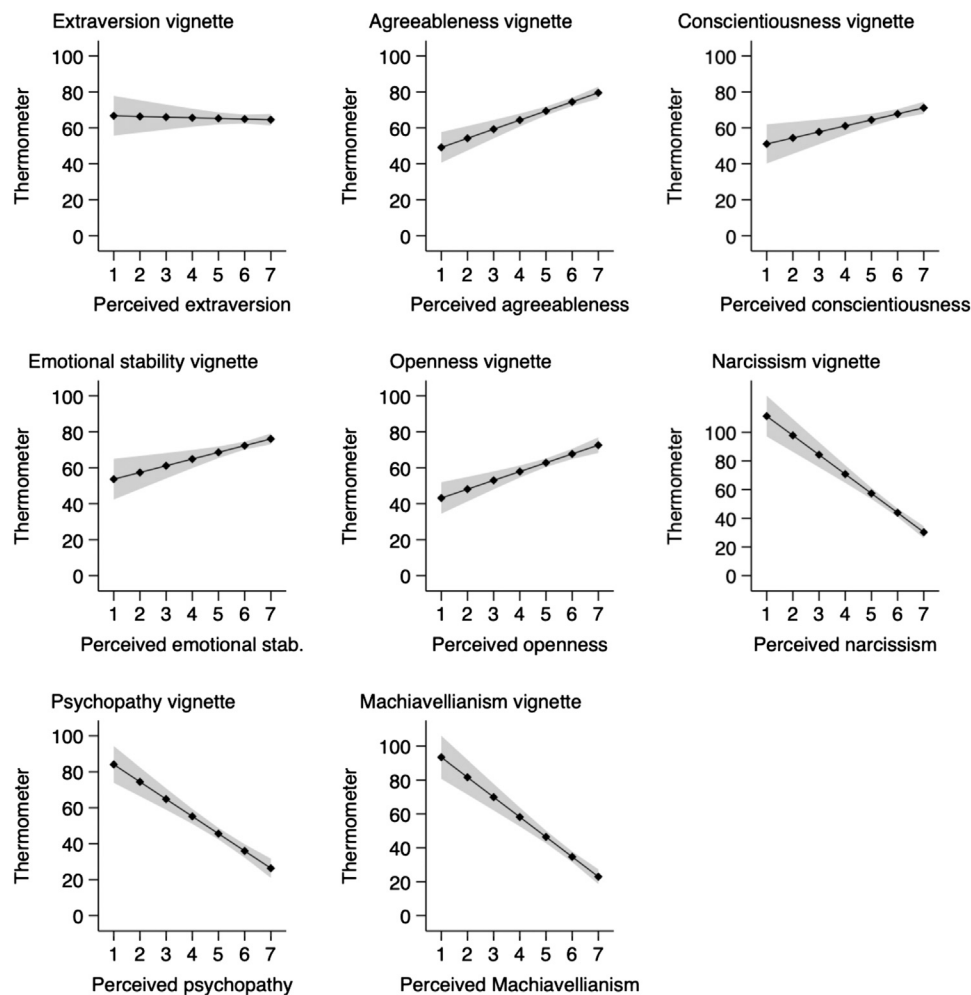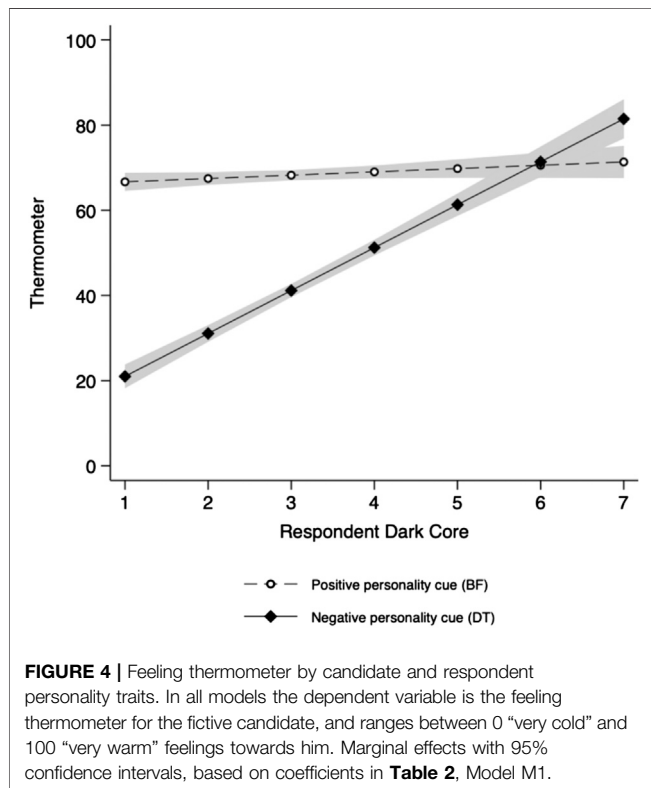

FIGURE 4 | Feeling thermometer by candidate and respondent personality traits. In all models the dependent variable is the feeling thermometer for the fictive candidate, and ranges between 0 "very cold" and 100 "very warm" feelings towards him. Marginal effects with 95% confidence intervals, based on coefficients in **Table 2**, Model M1.

effects between this simplified measurement of simulated personality and intensity of party strength - confirming the idea, discussed above, that this interaction exists only for specific traits and not across the board. Furthermore, M2 suggests that the moderating role of party strength is also a function of respondents' dark personality traits. As substantiated in **Figure 6** with marginal effects, the three-way interaction shows that it is especially among respondents scoring higher on the "dark core" that weak party attachment increases the effect of dark personality cues (left-hand panel), and that this effect exists also, and more strongly so, among respondents with high party attachment. In other terms, if strength of party attachment seems to have specific effects for specific traits, it does not moderate the effectiveness of personality cues across the board. Furthermore, its effect is clearly overshadowed by the strong moderating role of the dark personality traits of respondents.

Robustness Checks

All results presented above resist models with alternative specifications. The same results are found in models that exclude respondents living in Minnesota (thus potentially privy of the deception in our experimental manipulation; N = 26), and in models that do not exclude "shrinkers" that failed the attention check (N = 39). Replication materials in the OSF repository include all specifications for these additional robustness checks. Finally, all results resist controlling the models by the gender of the respondent; the fact that male and female respondents were not randomly distributed across experimental conditions, as described beforehand, does not seem to affect the results.

DISCUSSION AND CONCLUSION

Differences between candidates are often framed merely as policy differences. For instance, shortly before the 2020 US presidential election *Nature* highlighted the contrasting approaches and policy proposals put forth by Biden and Trump to respond to the COVID-19 pandemic and climate change (Maxmen et al., 2020).

This paper argues that not only policy differences matter but also differences in candidates' personality when it comes to voter preferences. Using an innovative experimental design in which we manipulated the personality profile of a fictitious candidate – we randomly exposed subjects to vignettes created to cue one of the five general traits (Big Five) or one of the three "nefarious" traits of the Dark Triad – we demonstrated that the public at large dislikes "dark" politicians, and rates them significantly and substantially lower in likeability. Furthermore, our findings suggest that the personality profile of voters and the (perceived) personality profile of candidates interact with each other. Voters are more likely to prefer candidates with personalities that "match" their own. In particular, the analyses found that voters that themselves score higher on "dark" personality traits (narcissism, psychopathy, Machiavellianism) tend to like dark candidates. The magnitude of this effect is so substantial that the detrimental effect observed in general is completely reversed for them. Finally, the study demonstrated that the effects of candidates' personality traits are, in some cases, stronger for respondents that have weaker partisan attachments.
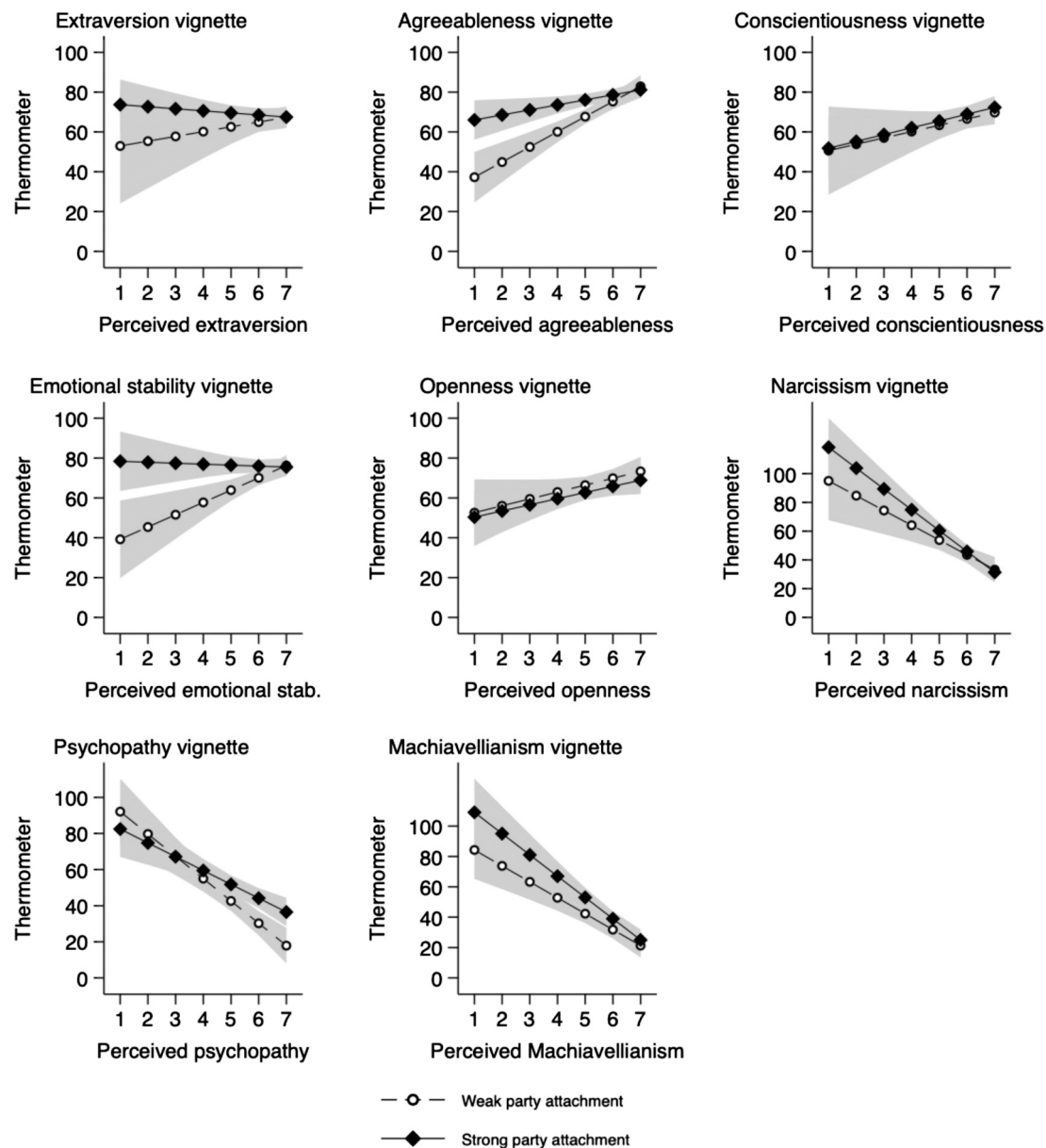
FIGURE 5 | Feeling thermometer by perceived personality trait, by strength of party attachment. In all models the dependent variable is the feeling thermometer for the fictive candidate, and ranges between 0 "very cold" and 100 "very warm" feelings towards him. Marginal effects with 95% confidence intervals, based on coefficients in **Supplementary Table SA2** (Appendix).

Such results underline the relevance of personality for political decision making. Voters take into account the personality of candidates when forming judgments, above and beyond partisanship.

Although our research design is innovative (we are not aware of studies in political communication that manipulate the personality traits of candidates in a similar fashion), it also comes with limitations. First, independent candidates are rather rare; in the 2018 Midterm election they received only about 2.5% of the votes cast for the House of Representatives (Federal Election Commission, 2019: 9). Hence, it is unclear whether the effects

we find can be generalized for candidates running for the Democratic or the Republican Party. A clear partisan identification of the candidate (e.g., Republican) would have been more realistic and generalizable, but would have introduced the confounding role of respondents' partisanship into our design. Because voters' perception of political figures has been shown to be a function of their partisan preferences (e.g., Hyatt et al., 2018; Nai and Maier, 2019; Fiala et al., 2020), assigning a clear partisan identity to the fictive candidate would have introduced a perceptual bias in both how respondents assess the profile of the candidate (personality traits) and their general

TABLE 3 | Feeling thermometer by exposure to candidate personality vignettes, respondents' dark traits, and strength of partisanship.

	M1			M2		
	Coef.	Se	sig	Coef.	Se	sig
Vignette: Dark Triad (DT)[a]	−27.37	(1.91)	***	−40.82	(4.96)	***
Strength of partisanship (SP)[b]	2.34	(1.56)		−2.12	(3.70)	
SP * DT	2.91	(2.51)		−20.63	(6.01)	***
Respondent Dark Core (CORE)[c]				0.07	(0.98)	
CORE * DT				4.57	(1.58)	**
CORE * SP				1.41	(1.14)	
CORE * SP * DT				6.05	(1.83)	***
Constant	68.40	(1.18)	***	68.18	(3.07)	***
Observations	1,436			1,436		
R-squared	0.24			0.37		
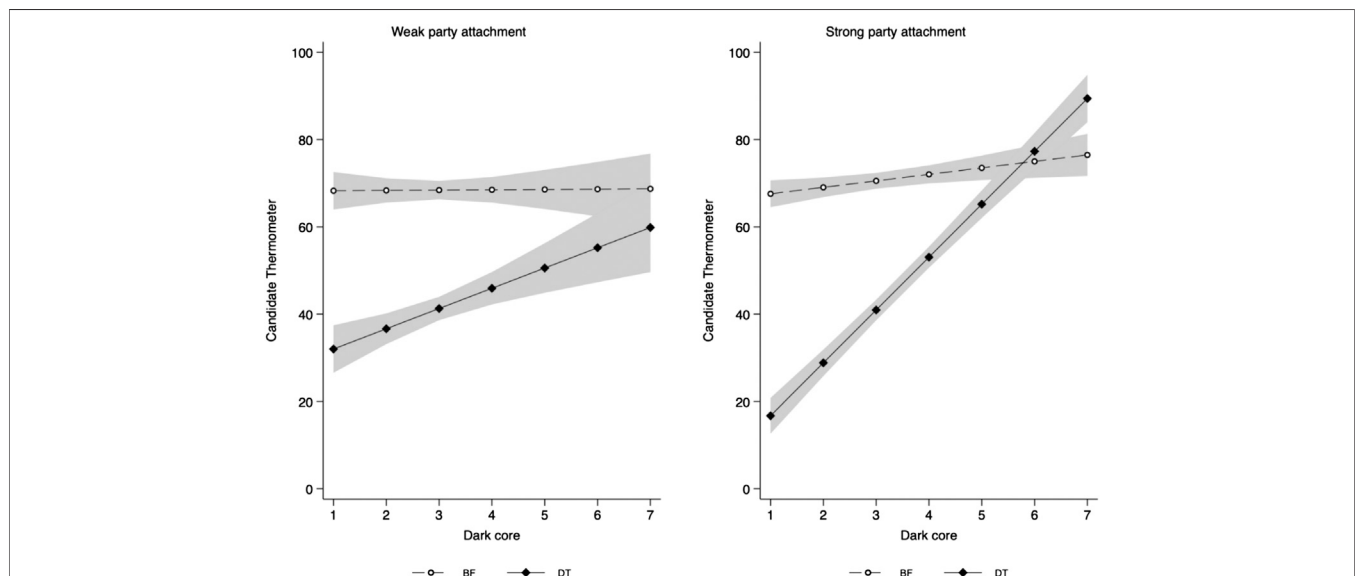
*In all models the dependent variable is the feeling thermometer for the fictive candidate, and ranges between 0 "very cold" and 100 "very warm" feelings towards him. ***p < 0.001, **p < 0.01, *p < 0.05, †p < 0.1.*
[a]The variable takes the value 1 if respondents have been exposed to a personality vignette reflecting one of the three Dark Triad traits (narcissism, psychopathy, Machiavellianism), and the value 0 for exposure to a vignette reflecting one of the Big Five (extraversion, agreeableness, conscientiousness, emotional stability, openness). Reference category is 0.
[b]Binary variable (0 "Weak party attachment", 1 "Strong party attachment").
[c]Average score on respondents' Dark Triad traits (narcissism, psychopathy, Machiavellianism), ranging from 1 "Very low" to 7 "Very high".

evaluation (thermometer) - which we feared not being able to disentangle empirically. Furthermore, because personality traits are themselves not independent from political leaning (e.g., liberals tend to score higher on openness; Jonason, 2014; Xu et al., 2020), assigning a clear partisan identity to the candidate would likely make some traits more "in character", thus potentially introducing

another source of perceptual bias. Using an independent candidate allows to directly "control out" the driving role of respondents' partisanship in assessing the personality of the candidate.

Second, the relatively complex nature of the vignettes (candidate description, answers to questions, and references to fictive characters) makes it harder to estimate precisely the contribution of each specific element in regards to the effects they caused. Of course, all experimental components were unique to each specific vignette, and as such worked conceptually as a whole to cue respondents about the profile of the candidate. But, even if manipulation checks were successfull on the whole, more specific checks for each of the active components would have helped disentangle the unique contribution of the specific elements in the vignettes. Third, the fact that the personality of candidates matters should not overshadow the relevance of other characteristics of their profile - their gender, for instance, is often linked with stereotypical perceptions of personality and other candidate characteristics more complex experiments are required. Fourth, it is unclear how important psychological personality traits really are. Models including, e.g., other candidate perceptions (for instance, competence, integrity) as well as a candidate's stance on important issues are necessary to assess the true impact of psychological personality traits, especially in light of the fact that personality is often contingent to political leanings (and thus, likely, policy propositions). Fifth, this study is limited to a very specific case, the United States, known for harsh electoral competition and entrenched affective polarization (Iyengar et al., 2019). Future comparative research will need to establish whether the driving role of (perceived) candidate personality is also at play in less extremely competitive political arenas, such as more consensual democracies or countries with

FIGURE 6 | Feeling thermometer by exposure to candidate personality vignettes, respondents' dark traits, and strength of partisanship. In all models the dependent variable is the feeling thermometer for the fictive candidate, and ranges between 0 "very cold" and 100 "very warm" feelings towards him. Marginal effects with 95% confidence intervals, based on coefficients in **Table 3** (Model M2).

proportional electoral systems. Finally, our article exclusively assesses the role of candidate personality on voters' perceptions and attitudes; with the data at hand, we cannot make claims as to whether the dynamics discussed here also matter for downstream behaviors, such as voting choices or turnout. Nonetheless, given the primacy of candidate evaluation for voting choices (e.g., Garzia et al., 2020), it is rather unlikely that the manner in which respondents perceive the personality of candidates, both directly and as a function of their own personality profile, is completely unconnected to their actual political behavior. Further research that is able to extend the dynamics investigated here to include voting behaviors, for instance by triangulating experimental with observational data, is therefore both recommended and necessary.

DATA AVAILABILITY STATEMENT

The data presented in this article, as well as codes and all experimental materials, can be accessed via the following repository for replication purposes: https://osf.io/wxruy/.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Department of Communication Science at University of Amsterdam on 11 May 2020 (ref. 2020-PCJ-12317). The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

AN and JM conceived the general idea and developed the theoretical framework. AN and JV developed the initial framing of the experimental treatments and protocol. All three authors designed jointly the treatments and finalized the protocol. AN implemented data collection and performed the computations, also following suggestions by JM. AN wrote the initial draft but all three authors discussed the results and contributed to the final manuscript.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpos.2021.636745/full#supplementary-material.

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ORIGINAL RESEARCH

Different Pasts for Different Political Folk: Political Orientation Predicts Collective Nostalgia Content

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Collective nostalgia is a bittersweet emotion that reflects sentimental longing for valued aspects of the past of one's group. Given that conservatism is typically associated with a general desire to preserve the societal status quo or return society to its traditional way of being, nostalgia has been theorized to be characteristic of those on the political right (i.e., conservatives). In the current work, we proposed and tested the hypothesis that collective nostalgia is experienced by both conservatives and liberals, but the content of their nostalgizing differs. Across three studies in three socio-political contexts—United States (Study 1, MTurk, N = 352), Canada (Study 2, student sample, N = 154), and England (Study 3, online panel, N = 2,345)—we found that both conservatives and liberals experienced collective nostalgia for a more homogenous and open society. However, conservatives experienced more homogeneity-focused collective nostalgia, whereas liberals experienced more openness-focused collective nostalgia. Replicating previous findings, homogeneity-focused nostalgia emerged as a positive, whereas openness-focused nostalgia emerged as a negative, predictor of intergroup attitudes. The results have both theoretical and practical significance for understanding political attitudes and behaviors. To the point, variance in the conservative and liberal political agendas is, in part, a function of a difference in their respective predisposition to nostalgize about and thus desire the return of a particular aspect of the in-group's past.

Keywords: collective nostalgia, political orientation, openness-focused nostalgia, homogeneity-focused nostalgia, intergroup attitudes

INTRODUCTION

As humanity fumbles toward modernity, a sense of loss and change have grown in many societies (Duyvendak, 2011). That is, some people feel that a cherished social group to which they belong (their ingroup) is losing connection with its past (Smeekes and Verkuyten, 2015). Such a feeling of collective discontinuity (i.e., disconnection) is aversive. People prefer to believe that their social groups have temporal persistence (i.e., collective continuity; Sani, 2010), because the past provides the existential ground on which group members stand (Jetten and Wohl, 2012). Put differently, the past informs group members who they are, where they came from, and where they are going. As such, when group members come to believe that their group is becoming discontinuous, they often turn back to the past, as it provides an anchor in the midst of uncertainty (Wohl et al., 2020a). This is

typically accomplished psychologically via collective nostalgic reverie (i.e., wistful reflection)—a group-based emotion that helps bridge the past with the present (Wildschut et al., 2014; Sedikides and Wildschut, 2019; Wohl et al., 2020b). By reliving the past through collective nostalgia, the group member symbolically rekindles bonds with the ingroup's past, a process that can confer psychological equanimity.

Indeed, the human mind is a master time traveler, with the past often being a place of refuge for people who perceive that a cherished group to which they belong (e.g., national, religious) is under threat. Group members experiencing collective nostalgia turn to the past to find (or construct) the source of their social identity, agency, and community that are felt to be blocked, subverted, or threatened in the present. Collective nostalgia can thus be framed as a coping mechanism. Nostalgizing about better times in the group's past directs group members' focus to what aspects of their group help define the essence of the group, and thus what to protect in the name of ensuring the ingroup's future (Wohl et al., 2020a). In this way, collective nostalgia is functional. It motivates group members not only to take pro-ingroup action, but also directs what action is needed to ensure collective continuity (Wohl et al., 2020b; Cheung et al., 2020).

Within the political sphere, nostalgic rhetoric represents a call for collective continuity in times of perceived insecurity and social change. Specifically, nostalgia is often used as a tool to justify and support policies and political stances that aim to reestablish connection with the group's fundamental essence—an essence that is threatened by different aspects of modernity (e.g., immigration; Robinson, 2016). As such, nostalgia is often thought to be an intrinsically conservative emotion (Schlesinger, 1955; Kenny, 2017; Lammers & Baldwin, 2018). This is so, because the politics of conservatism are typically linked to an overvaluation of the past and a corresponding need to keep things the way they were (Kirk, 1953; Muller, 1997).

Herein, we contend that the traditional approach to collective nostalgia (i.e., collective nostalgia as a conservative emotion) conflates longing for the past with longing for a stable, traditional, and hierarchized society. That is, collective nostalgia can and does have utility on both sides of the political spectrum. As argued by Kenny (2017) and Mudde (2017), nostalgic rhetoric is a widespread tool of political discourse—one that is used by conservatives and liberals alike. Liberals, for example, are defined, in part, by their openness to

experience and rejection of inequality (Jost et al., 2003). They may be confronted, then, by socio-political contexts which elicit the belief that the present is unstable and shifts the group away from the values of openness and equality. Consequently, they may long to return to a past when (in their mind's eye) group members were more open to others, their ideas, and their way of life (i.e., liberal-oriented nostalgizing; Wohl et al., 2020b). In all, we hypothesized that both conservatives and liberals engage in collective nostalgia, but the content of their nostalgic reverie differs. Whereas conservatives are apt to nostalgize about days of yore in which the ingroup was more homogeneous, liberals are apt to nostalgize about days where the ingroup was more open to other cultures and their way of life. To test this hypothesis, we conducted three studies in three socio-political contexts: United States, Canada, and England.

Nostalgic Reverie as Conservatism

In the opening sentence of his 2018 article on polarization in America, Tom Jacobs wrote: "In these polarized times, liberals and conservatives tend to talk past each other. Leftists tend to envision a brighter future, while right-wingers lovingly look to a more-perfect past. 'Forward,' urged Barack Obama. 'Make America Great Again,' replied Donald Trump". With this observation, Jacobs, 2018 captures a critical difference between conservatives and liberals: conservatives tend to be past-focused, while liberals tend to be future-focused. Indeed, since the French Revolution, an ideological fault line exists that separates people who have a relative preference for the status quo and how things were traditionally done (conservatives) from those who have a relative preference for change and how things could be (liberals; Jost et al., 2008).

The conservative preference for how things used to be means that, in the modern world, rapid social and political changes may be perceived as a threat to their cherished social groups (e.g., national or religious)—groups that are seen as becoming untethered from what they really are as a result of societal change (Duyvendak, 2011). One way to alleviate this threat is by turning to the past and finding refuge in the "good old days." Collective nostalgia, a sentimental longing for the past of one's group (Wildschut et al., 2014; Wohl and Stefaniak, 2020), allows people to focus on the aspects of their group that are of import and worth protecting in the name of ensuring the group's future vitality. Given conservatives' general preference for tradition and

TABLE 1 | Means, standard deviations, correlations among variables, and comparisons between liberals and conservatives study 1.

	M (SD)		F_{int}/t	η_p^2/d	1.	2.	3.	4.
	Conservative	Liberal						
1. CN-homogeneity	4.19[a] (1.27)	2.92 (1.56)	87.98***	0.25		−0.174*	−0.262**	0.348***
2. CN-openness	4.52[a] (1.22)	5.57 (1.28)			−0.142		0.420***	−0.472***
3. Feelings	9.41 (21.68)	27.74 (20.01)	7.24***	−0.88	−0.181*	0.170*		−0.731***
4. Social distance	2.52 (0.94)	1.67 (0.78)	−8.12***	0.99	0.350***	−0.232**	−0.659***	

CN-homogeneity, homogeneity-focused collective nostalgia; CN-openness, Openness-focused collective nostalgia; Feelings, Feeling thermometer towards outgroups. We calculated the comparison between levels of the two types of collective nostalgia between conservatives and liberals using mixed-design Analysis of Variance (ANOVA) (F_{int} = interaction term), and calculated the comparison for levels of feelings towards outgroups and social distance using independent sample t-test. Means with the same superscript do not differ from one another. Correlations above the diagonal are for conservatives, below for liberals.

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

the status quo, they are perceived as significantly more susceptible to experiencing collective nostalgia than liberals (Mudde, 2016; Robinson, 2016; Kenny, 2017). Providing empirical support for this supposition, Lammers and Baldwin (2018), Study 1 showed that conservatives are more prone to nostalgizing about the past than are liberals. In fact, these authors showed that simply framing liberal issues (e.g., gun control, support for immigration) as "going back to how things were" (vs. as a future-oriented progress) was enough to garner support of conservative participants or at least substantially decrease their opposition. Stronger collective nostalgia is also significantly and positively associated with political conservatism (Smeekes and Verkuyten, 2015, Studies 1–3; Smeekes et al., 2015, Studies 1 and 2).

The powerful impact of collective nostalgic reverie on the political scene was evidenced by the successes of the 2016 Republican (i.e., conservative) presidential candidate Donald Trump as well as the 2016 "Leave" campaign led by the Conservative Party in the United Kingdom in their desire to exit from the European Union (i.e., BREXIT). By skillfully appealing to nostalgic sentiments, Trump was able to convince enough Americans to elect him President of the United States in 2016, and the Conservative Party was able to convince enough voters to support them and their BREXIT initiative. Thus, both existing research and salient political outcomes suggest that collective nostalgia is, in fact, an emotion that is not only conservative in nature, but that when experienced can breed conservatism. Contrary to this perspective, we contend that traditional understanding of the link between collective nostalgia and political ideology has overlooked one crucial component—the *content* of collective nostalgia, that is, the exact elements of collective past for which people are nostalgic (Wohl et al., 2020a; Wohl et al., 2020b). Specifically, we argue that it is not simply that conservatives experience nostalgia and liberals do not (or do so to a disproportionately lesser extent). Instead, people who differ in their political orientation will likely experience *different* types of nostalgia. To the point, politicians on opposite ends of the ideological spectrum use nostalgia to garner support, but appeal to different elements of the past.

Indeed, calls to make America *great again* and to get Britain *back* could be understood as appealing to times when traditionally dominant social groups (White men) had greater power in society and were not threatened by immigration and demands for equal rights from minorities (Mudde, 2017; Gaston and Hilhorst, 2018). At the other end of the political spectrum, Barack Obama invoked America's "founding principles" and its history as an immigrant nation to support his plea for immigration reform (Remarks by the President on Comprehensive Immigration Reform, 2013). Similarly, United States senator Bernie Sanders refers to the secure, well-paying blue-collar jobs of the 1950's, and to stronger trade unions and welfare state of the past, to argue for the need of similar institutions and protections today (Mudde, 2018). Taken together, politicians on both ends of the ideological divide appear to use collective nostalgia (albeit for different elements of the past) to mobilize their voters.

Collective Nostalgia Contents

Nostalgia refers to sentimental longing for the past (Sedikides et al., 2004). Initially, it was studied as an individual-level medical condition (Anspach, 1934) and later as a psychiatric disorder (Sedikides et al., 2004). Since then it has lost its purely negative and medical connotation, and is now commonly understood as an emotion that is predominantly positive (as it entails longing for positively valenced past) with an element of bitterness (because that past is now gone) (Sedikides and Wildschut, 2016; Leunissen et al., 2020; Wohl and Stefaniak, 2020). Recent research shows that people may and do experience nostalgia not only for their personal past, but also as a function of their group belonging (Wildschut et al., 2014; Sedikides and Wildschut, 2019). Similar to its individual-level counterpart, collective nostalgia entails longing for a time in the past of one's social group that is seen as particularly illustrious.

Understood in this way, collective nostalgia has been seen as more characteristic of conservatives (Robinson, 2016; Kenny, 2017). However, this may be an artifact of traditional understanding and operationalization of the concept. In most extant research, collective nostalgia was treated as a unitary phenomenon. That is, participants were asked about the extent to which they experienced collective nostalgia, but not about the specific aspects of the collective past for which they felt nostalgic. For instance, Wildschut et al. (2014) asked their participants to think about a nostalgic event that they experienced alone or with other people in their social group, and then to rate the extent to which they were "having nostalgic feelings" and they were "feel [ing] nostalgic at the moment" (Wildschut et al., 2014, Study 1 and Study 2). Similarly, Smeekes (2015; see also Smeekes et al., 2015) asked Dutch participants whether they felt nostalgic for "[t] he way Dutch people were," "[t]he way Dutch society was," and "[t]he way the Dutch landscape (i.e., surroundings) looked like," and found a significant positive correlation with conservatism. Lammers and Baldwin (2018) assessed participants' nostalgia proneness with Holbrook, 1993 8-item scale (e.g., "Things used to be better in the good old days," "They don't make 'em like they used to"). Given conservatives general preference for the past, it is not surprising that they scored higher than liberals.

However, considering that the aspects of the collective past called upon by left and right-wing politicians are diametrically opposed, it is possible that the extant measures of nostalgia simply did not capture liberal nostalgia. Mudde and Kaltwasser (2018) in their work on populism contended that, if collective nostalgia, typically attributed to the populist right, were operationalized in a way that captured more "socialist" aspects of the past, populist left may relate to it just as strongly as populist right does. Some support for this contention comes from three studies reported by Lammers and Baldwin (2020). They showed that, when collective nostalgia was differentiated into nostalgia for less vs. more political correctness, nostalgia for less political correctness was positively associated with right-wing populism, whereas nostalgia for more political correctness was negatively associated with right-wing populism. However, to our knowledge, no research exists that directly compares the types of collective nostalgia experienced by liberals and conservatives or the relative levels of collective nostalgia among them.

We conducted the current research to fill the aforementioned gap in knowledge. We employed a more nuanced approach to the collective nostalgia that liberals compared to conservatives are likely to experience. Specifically, we explored collective nostalgia among self-identified liberals and conservatives for elements of the collective past that are potentially more appealing to people on the left and right side of the political spectrum. Reflecting conservatives' preference for tradition and acceptance of inequality (Jost et al., 2008), we assessed nostalgia for a more ethnically homogeneous society of the past. Reflecting liberals' preference for equality, we assessed collective nostalgia for a more open and tolerant society of the past. We also investigated the potential role of different types of collective nostalgia in explaining the link between political orientation and intergroup attitudes (Duckitt, 2001; Jost et al., 2008). In prior research, collective nostalgia for a homogenous society predicted more hostile intergroup attitudes, whereas collective nostalgia for an open society predicted more positive intergroup attitudes (Wohl et al., 2020b). Therefore we hypothesized that one of the outcomes of participants orientation as conservative (compared to liberal) would be their relative preference for homogeneity-focused nostalgia and disfavor towards openness-focused nostalgia. In turn, this preference would explain conservatives relatively less favorable intergroup attitudes (towards minorities and towards immigrants) and desire to maintain social distance from outgroup members. We tested this hypothesis in three studies conducted in the United States, Canada, and England. For all studies, we received ethical approval from the Carleton University Office of Research Ethics.

METHODS AND MATERIALS

Study 1
Method
In Study 1, a correlational investigation, we tested a sample of United States MTurk workers. Study overview and data are available at OSF: https://osf.io/vutyq/

Participants
Out of $N = 391$ MTurk workers who clicked on the survey link, one person did not answer any questions, 22 people failed one of the pre-specified qualifiers (i.e., they declared not being Christian), 15 people withdrew from the study, and one person indicated that they did not consent to their data being used upon being debriefed. The final sample comprised 352 participants.[1] The participants were on average 34.55 years old ($SD = 11.86$). Of them, 188 (53.41%) identified as female, 163 (46.31%) as male, and one person (0.28%) as genderqueer.

Measures[2]
Unless otherwise indicated all measures used a response scale from 1 (*strongly disagree*) to 7 (*strongly agree*).

We assessed political orientation with a single item: "In politics people refer to the political Left (i.e., liberal) and Right (i.e., conservative). Where would you place yourself on the following scale?" Participants could select one of the following answers: *strongly liberal, somewhat liberal, in between, somewhat conservative, strongly conservative, don't know/other*. Given that we were only interested in analyzing data from participants with a clear ideological preference, we excluded those who selected *in between* and *don't know/other*, and created a new binary variable that captured the liberal (strongly and moderately identified, $n = 139$) vs. conservative (strongly or moderately identified, $n = 132$) division.

We measured collective nostalgia with three items that tapped into homogeneity-focused collective nostalgia (e.g., "I long for a time when Americans were more culturally similar"), and three items that tapped into openness-focused collective nostalgia (e.g., "I feel nostalgic for a time when America was more open to cultural diversity"), all taken from Wohl et al. (2020b). We then calculated the composite scores for each type of nostalgia ($\alpha = 0.68$ for homogeneity-focused nostalgia, $\alpha = 0.69$ for openness-focused nostalgia).

We used two indicators of intergroup attitudes: feeling thermometer and social distance. The feeling thermometer measure asked the participants about their feelings towards Muslims, Jews, and refugees.[3] The response scale ranged from -50 (*cold/negative*) to $+50$ (*warm/positive*). The three items were strongly inter-correlated, and so we averaged them to create an index of intergroup feelings ($\alpha = 0.83$). The social distance measure assessed whether participants would accept the presence of outgroup members in their social circles (modeled on Bilewicz et al., 2013). The measure asked about the extent to which participants would be comfortable if a Jew/Muslim/refugee became their boss, moved into their neighborhood, or married a member of their family. The response scale ranged from 1 = *very uncomfortable* to 5 = *very comfortable*, but was re-coded such that higher scores indicated greater social distance. We averaged the items to create a global social distance index ($\alpha = 0.94$).

Results
We present, in **Table 1**, means, standard deviations, and correlations among variables as well as differences between liberals and conservatives on all variables.

Replicating effects observed by Wohl et al. (2020b), homogeneity-focused nostalgia was positively related to social distance and negatively related to warm feelings towards outgroups, whereas openness-focused nostalgia showed an opposite results pattern. The two types of nostalgia were

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[1]A sensitivity power analysis showed that the study was sufficiently powered to detect the hypothesized interaction of political orientation and type of collective nostalgia (achieved power = 0.84), as well as the hypothesized mediation effects (all achieved power = 1.00).

[2]See **Supplementary Material** for the exact wording of all measures used in all three studies.

[3]We also asked about attitudes towards gay people. However, given that we did not record participants sexual orientation, it was impossible to determine whether, for a given participant, gay people were an ingroup or an outgroup. Therefore, we did not analyze the relevant data.
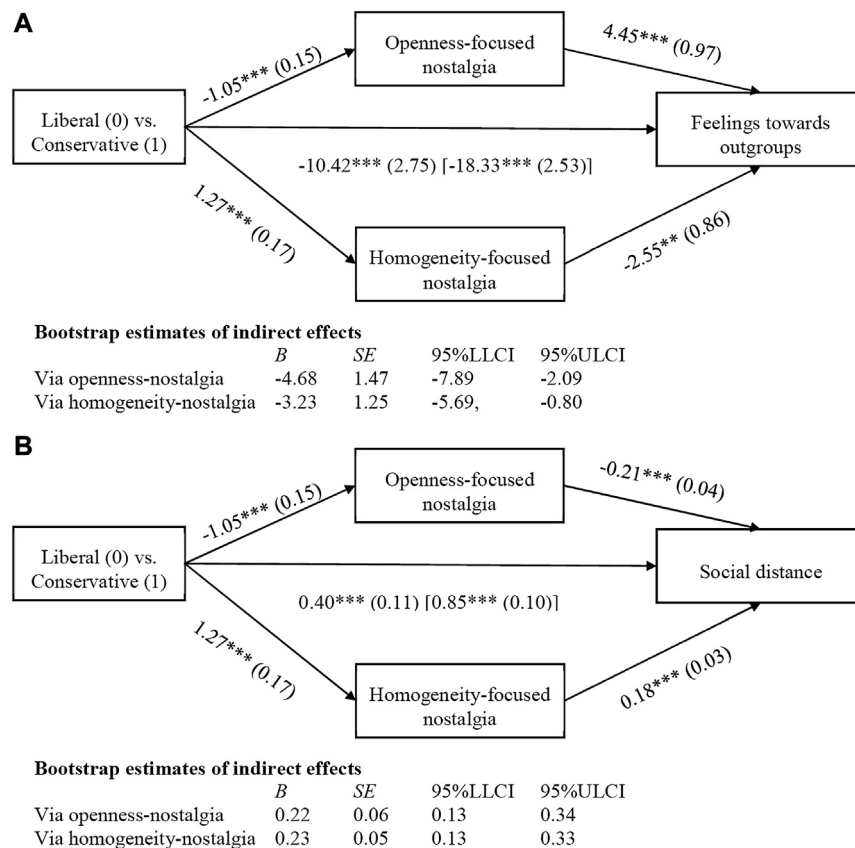
FIGURE 1 | Mediation of the effect of participants' political orientation on **(A)** feelings towards outgroups and **(B)** social distance towards outgroups in study 1 (American participants, MTurk). Unstandardized coefficients are presented, total effects is in square brackets.

significantly negatively associated among conservatives, but only descriptively negatively associated among liberals. We found a significant interaction between participants' political orientation and the type of collective nostalgia they reported, $F(1, 269) = 87.98$, $p < 0.001$, $\eta_p^2 = 0.25$. Among liberals, the level of openness-focused nostalgia was significantly higher than their level of homogeneity-focused nostalgia ($p < 0.001$, $\eta_p^2 = 0.47$). Conservatives reported similar levels of both types of collective nostalgia ($p = 0.069$, $\eta_p^2 = 0.01$). Liberals reported significantly more openness-focused nostalgia than conservatives ($p < 0.001$, $\eta_p^2 = 0.15$), while conservatives reported significantly more homogeneity-focused nostalgia than liberals ($p < 0.001$, $\eta_p^2 = 0.17$). Overall, conservatives were not more nostalgic than liberals, $F(1, 269) = 1.06$, $p = 0.305$, $\eta_p^2 = 0.004$.

Next, we conducted two mediation analyses (Process 3.0, Model 4; Hayes, 2017) in which we entered participants' political orientation as the independent variable, two types of collective nostalgia as mediators, and feelings towards outgroups and social distance as separate dependent variables. Conservatives experienced significantly less openness-focused nostalgia, $B = -1.05$, $SE = 0.15$, 95%CI [−1.35, −0.75], and more homogeneity-focused nostalgia, $B = 1.26$, $SE = 0.17$, 95% CI [0.93, 1.61], than liberals. The two types of nostalgia, in turn, were related to more positive, $B = 4.45$, $SE = 0.97$, 95%CI [2.53,

6.37], and more negative, $B = -2.55$, $SE = 0.85$, 95%CI [−4.23, −0.87], feelings towards outgroups, respectively. Identifying as a conservative (compared to identifying as a liberal) had a negative indirect effect on intergroup feelings via less openness-focused nostalgia, $B = -4.68$, $SE = 1.47$, 95%CI [−7.89, −2.09], and via more homogeneity-focused nostalgia, $B = -3.23$, $SE = 1.25$, 95% CI [−5.69, −0.80] (**Figure 1A**).

When the model tested social distance as the dependent variable (**Figure 1B**), the relations between participants' political orientation and the two types of collective nostalgia were identical. Openness-focused collective nostalgia related to a desire for less social distance towards outgroups, $B = -0.21$, $SE = 0.04$, 95%CI [−0.29, −0.14], and homogeneity-focused collective nostalgia was related to a desire for more social distance towards outgroups, $B = 0.18$, $SE = 0.03$, 95%CI [0.11, 0.24]. The effect of participants conservative political orientation on the desire for more social distance towards outgroup was mediated via both homogeneity-focused nostalgia, $B = 0.23$, $SE = 0.05$, 95%CI [0.13, 0.33], and openness-focused nostalgia, $B = 0.22$, $SE = 0.06$, 95%CI [0.13, 0.34].

Discussion

We demonstrated in Study 1 that participants who identify (strongly or moderately) as conservatives and liberals differ in the type and intensity of collective nostalgia that they experience.

Although conservatives experienced significantly more homogeneity-focused nostalgia than liberals, liberals experienced significantly more openness-focused nostalgia than conservatives. These differences in the content of collective nostalgia were, in turn, related to participants' intergroup attitudes. Specifically, the greater intergroup hostility (evidenced by more negative feelings and greater social distance towards outgroups) reported by conservatives was partly explained by the higher degree of homogeneity-focused nostalgia and lower degree of openness-focused nostalgia they experienced compared to liberal participants.

Study 2
Method
In Study 1, we obtained support for our hypothesis that conservatives and liberals nostalgize about different aspects of their group's past. In Study 2, we sought to replicate and extend these findings to a different national context. Specifically, we wondered whether we could find a similar pattern of results among young adults and verify whether different types of collective nostalgia would explain the link between participants political orientation and anti-immigration sentiments. To this effect, we included measures of interest in a longitudinal study that was a part of a larger project on the influence of changes in the political context (namely, parliamentary elections) on collective nostalgia in Canada[4]. Data are available at OSF: https://osf.io/vga8c/

Participants
We intended to recruit a sample of 300 Canadian students from a university in Ontario. However, despite our efforts to encourage participation, only 162 students clicked on the survey link at Time 1. Of those, three indicated that the were not Canadian citizens, four did not identify as Canadian, and one indicated that they were not yet 18 years old. We excluded these individuals, leaving a sample of 154.[5] Participants were on average 20.95 years old (SD = 7.33). Of them, 101 (65.58%) identified as female, 46 (29.87%) as male, and 1(0.65%) as trans male, with six (3.9%) not indicating gender.

Measures
Unless otherwise indicated, all measures implemented a response scale from 1 (*strongly disagree*) to 7 (*strongly agree*).[6]

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[4]Therefore, we only report results obtained in the first study wave. Please note that there were no differences between participants who took part in the study at Time 1 and Time 2 and the pattern of results held whether Time 1 or Time 2 results were analyzed.

[5]A sensitivity power analysis revealed that the study was sufficiently powered to detect the hypothesized interaction between political orientation and type of collective nostalgia (achieved power = 0.81), but was underpowered to detect the mediation effects. Specifically, the study achieved 0.07 power to detect mediation via homogeneity-focused collective nostalgia and 0.57 power to detect the effect via openness-focused collective nostalgia in the model for intergroup feelings, and 0.27 and 0.05, respectively, in the model for anti-immigration sentiments.

[6]As indicated, Study 2 was a part of a larger research project. Thus, besides measures reported here, this project included measures of voting preferences and voting behavior, essentialist perceptions of political figures, and collective angst.

We assessed political orientation with the same single item as in Study 1. Again, given our interest in the attitudes of conservatives vs. liberals, we excluded participants who selected *in between* and *don't know/other* as their political preference from analyses. We also created a binary variable that captured the split between conservative (n = 19) and liberal (n = 76). The sample was predominantly liberal, given the general liberal skew of the Canadian population, which is even stronger in university students (Hastie, 2007; 2020 Social Progress Index Executive Summary, 2020).

We measured collective nostalgia with two items tapping into homogeneity-focused nostalgia, $r(93) = 0.806$, $p < 0.001$, and two items tapping into openness-focused nostalgia, $r(93) = 0.660$, $p < 0.001$. We derived these items from Wohl et al. (2020b) and adjusted them to the Canadian context. We calculated composite scores for each type of nostalgia.

We used two indicators of intergroup attitudes: feeling thermometer and anti-immigration sentiments. Feeling thermometer asked the participants about the extent to which their feelings towards Muslims, refugees, Indians, Africans, and Chinese were *cold/negative* (-50) or *warm/positive* ($+50$). The five items were strongly inter-correlated and so we averaged them to form an index of intergroup feelings ($\alpha = 0.94$). We measured anti-immigration sentiments with a single item: "You will now receive a question about the number of immigrants that the Canadian government allows access to Canada. Please indicate whether you find these numbers too little, good, or too much. The number of immigrants the Canadian government is allowing into our country is: ..." The response scale ranged from 1 (*way too little*) to 5 (*way too many*).

Results
We followed the same data-analytic strategy as in Study 1. We display, in **Table 2**, means, standard deviations, correlations among variables, and differences between conservatives and liberals on the measured variables. Likely due to the much smaller sample size, most of bivariate correlations were not significant. However, we did find a significant positive correlation between openness-focused nostalgia and warm intergroup feelings among liberals.

Comparisons between conservatives and liberals showed that, as hypothesized, the former had more negative intergroup feelings and stronger anti-immigration sentiments. Again, there was a significant interaction between participants' political orientation and the type of collective nostalgia they reported, $F(1, 93) = 21.50$, $p < .001$, $\eta_p^2 = 0.19$. Conservatives experienced similar levels of homogeneity-focused nostalgia and openness-focused nostalgia ($p = 0.909$, $\eta_p^2 = 0.0001$). Liberals reported significantly stronger openness-focused nostalgia than homogeneity-focused nostalgia ($p < 0.001$, $\eta_p^2 = 0.53$). Liberals experienced marginally more openness-focused nostalgia than conservatives ($p = 0.083$, $\eta_p^2 = 0.03$), whereas conservatives experienced significantly more homogeneity-focused nostalgia, compared to that of liberals ($p < 0.001$, $\eta_p^2 = 0.17$). The main effect of political orientation on collective nostalgia was significant such that conservatives reported more nostalgia than liberals, $F(1, 50) = 8.66$, $p = 0.005$, $\eta_p^2 = 0.15$.

TABLE 2 | Means, standard deviations, correlations among variables, and comparisons between liberals and conservatives study 2.

	M (SD)		F_{int}/t	η_p^2/d	1.	2.	3.	4.
	Conservative	Liberal						
1. CN-homogeneity	4.13[a] (1.46)	2.39 (1.57)	21.50***	0.19		−0.100	−0.070	0.312
2. CN-openness	4.08[a,†] (1.30)	4.70[b] (1.41)			0.125		−0.078	−0.109
3. Feelings	5.80 (20.39)	36.37 (17.21)	6.01***	−1.71	−0.166	0.254*		−0.452[†]
4. Anti-immigration	3.79 (0.86)	2.79 (0.68)	−5.44***	1.39	0.202	− 0.080	−0.390**	

CN-homogeneity, homogeneity-focused collective nostalgia; CN-openness, Openness-focused collective nostalgia; Feelings, Feeling thermometer towards outgroups; Anti-immigration, anti-immigration sentiments. We calculated the comparison between levels of the two types of collective nostalgia between conservatives and liberals using mixed-design Analysis of Variance (ANOVA) (F_{int} = interaction term), and calculated the comparison for levels of feelings towards outgroups and social distance using independent sample t-test. Means with the same superscript do not differ from one another (or differ only marginally, when indicated by: [†]). Correlations above the diagonal are for conservatives, below for liberals.
****p < 0.001, **p < 0.01, *p < 0.05.*
[†]p < 0.09.
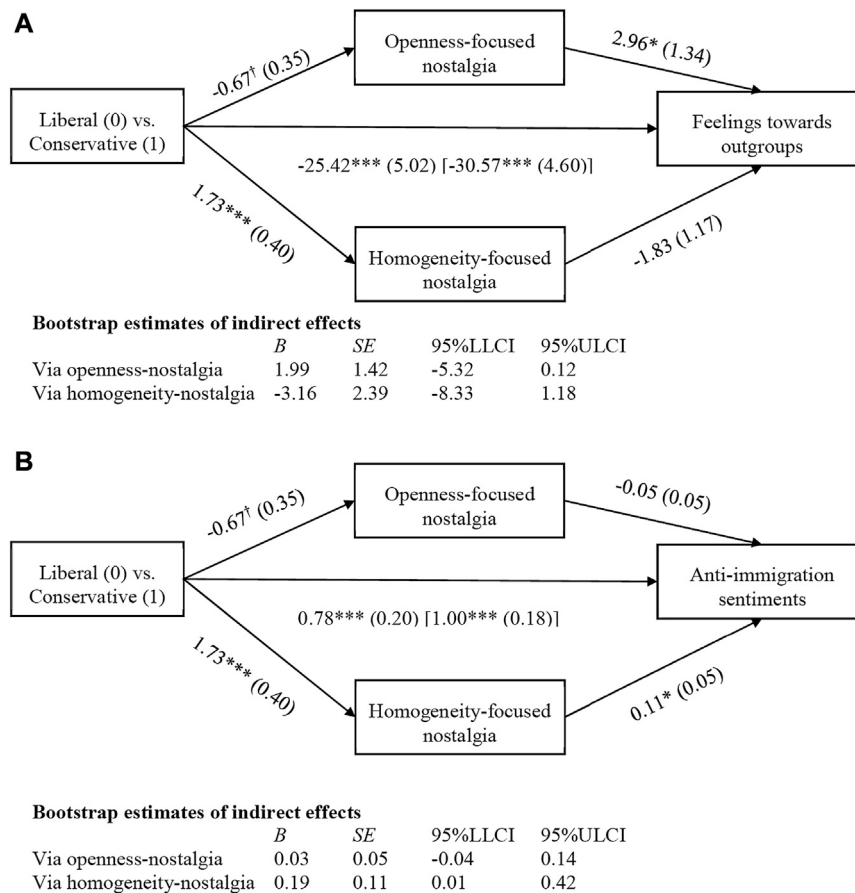
FIGURE 2 | Mediation of the effect of participants' political orientation on **(A)** feelings towards outgroups and **(B)** social distance towards outgroups in study 2 (Canadian students). Unstandradized coefficients are presented, total effects is in square brackets.

Lastly, we conducted two mediation analyses (Process 3.0, Model 4; Hayes, 2017). In both analyses, we entered participants' political orientation as the independent variable, the two types of collective nostalgia as mediators, and the two measures of attitudes (feelings towards outgroups and anti-immigration sentiments) as the dependent variables. Conservatives were more likely than liberals to experience homogeneity-focused nostalgia, $B = 1.72$, $SE = 0.40$, 95%CI [0.92, 2.52], and

marginally less likely than liberals to experience openness-focused nostalgia, $B = -0.67$, $SE = 0.35$, 95%CI [−1.37, 0.03]. Openness-focused collective nostalgia related to more positive intergroup feelings, $B = 2.96$, $SE = 1.34$, 95%CI [0.29, 5.63], but homogeneity-focused collective nostalgia was unrelated to intergroup feelings, $B = -1.83$, $SE = 1.17$, 95%CI [−4.16, 0.50]. Although participants' political orientation was a significant and strong predictor of their intergroup feelings, $B = - 30.57$, $SE =$

4.60, 95%CI [−39.70, −21.43], this effect was not mediated by their openness-focused, $B = -1.99$, $SE = 1.42$, 95%CI [−5.32, 0.12], or homogeneity-focused collective nostalgia, $B = -3.16$, $SE = 2.39$, 95%CI [−8.33, 1.18] (**Figure 2A**).

In the model for anti-immigration sentiments, the relations between participants' political orientation and both types of collective nostalgia were identical. Homogeneity-focused collective was a significant predictor of anti-immigration sentiments, $B = 0.11$, $SE = 0.05$, 95%CI [0.01, 0.20], whereas openness-focused collective nostalgia was not, $B = -0.05$, $SD = 0.05$, 95%CI [−0.16, 0.05], Again, participants political orientation was a significant predictor of their anti-immigration sentiments, $B = 1.00$, $SE = 0.18$, 95%CI [0.63, 1.37]. This effect was mediated by homogeneity focused collective nostalgia, $B = 0.19$, $SE = 0.11$, 95%CI [0.01, 0.42], but openness-focused collective nostalgia was not a significant mediator, $B = 0.03$, $SE = 0.05$, 95%CI [−0.04, 0.14] (**Figure 2B**).

Discussion

Study 2 replicated the main findings of Study 1, in that Study 2 demonstrated significant differences in the type of collective nostalgia reported by participants who identify as conservatives or liberals. Conservatives displayed significantly more homogeneity-focused nostalgia than liberals, an effect typically found in the collective nostalgia literature (Lammers and Baldwin, 2018). However, when openness-focused collective nostalgia was assessed, it was liberals who displayed (marginally) higher levels of this emotion. Additionally, homogeneity-focused collective nostalgia mediated the effect of conservative participants' political orientation on their anti-immigration sentiments. Although these effects were promising, Study 2 suffered from two shortcomings that may undermine the reliability of its findings. Due to recruitment difficulties, the sample size was much smaller than intended, rendering the study insufficiently powered to detect all effects of interest. Additionally, the sample was disproportionately liberal, which is typical of the student population (Hastie, 2007), but makes comparisons between conservatives and liberals less reliable. We decided to test the replicability of our findings in another study, conducted with a large online sample of English adults.

Study 3
Methods
Similar to Study 2, Study 3 was embedded in a larger project on the effects of political change (i.e., parliamentary elections) on people's sense of collective continuity, nostalgia, and political attitudes. The study consisted of four measurement points, two before and two after the most recent British parliamentary election in November 2019.[7] Data are available at OSF: https://osf.io/u8hxv/

Participants
Given that Study 3 used a longitudinal design with four measurement points, it had to account for projected attrition estimated at about 50% between each wave. Thus, to achieve a sample size of at least 200 at Time 4, we recruited 2,347 participants at Time 1.[8] We recruited participants and conducted the study using Qualtrics. The company recruited a large sample of online participants and followed them up over the course of the four study waves. Participants, who were British citizens residing in England, were on average 55.36 years old ($SD = 13.32$). Of them, 1,237 (52.71%) identified as female, 1,109 (47.25%) as male, and 1 (0.04%) as transgender.

Measures
Study 3 measures were virtually identical to those of Study 2, with wording adjusted to the English context.[9] The only exception was that we selected five minority groups most salient in Britain to measure participants' attitudes with a feeling thermometer. Unless otherwise indicated, all measures used a response scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

We assessed political orientation with a single item: "What is your political orientation?" (1 = *very left wing*, 2 = *moderately left wing*, 3 = *center*, 4 = *moderately right wing*, 5 = *very right wing*, 6 = *don't know/other*.)[10] In line with the previous studies, we excluded participants who selected *center* and *don't know/other* as their political preference, and created a binary variable that captured the split between left-leaning ($n = 454$) and right-leaning ($n = 698$) participants.

We measured collective nostalgia as in Study 2, two items tapping into homogeneity-focused nostalgia, $r(1149) = 0.710$, $p < 0.001$, and two items tapping into openness-focused nostalgia, $r(1147) = 0.803$, $p < 0.001$ (after Wohl et al., 2020b). We averaged responses to create two composite scores.

We measured intergroup attitudes with a feeling thermometer towards outgroups and a measure of anti-immigration sentiments. The feeling thermometer asked about participants' feelings towards five groups: Muslims, refugees, Indians, Africans, and Poles (−50 = *cold/negative*, +50 = *warm/positive*). The items were strongly inter-correlated, and so we averaged responses to create an index of intergroup feelings ($\alpha = 0.92$). We measured anti-immigration sentiments with a single item: "The number of immigrants the British government is allowing into our country is . . ." (1 = *way too little*, 5 = *way too many*).

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[7]Please note that there were no differences between participants who took part in the study at Time 1, Time 2, Time 3, and Time 4; and the pattern of results held whether Time 1, Time 2, Time 3, or Time 4 results were analyzed.

[8]A sensitivity power analysis indicated that the study was sufficiently powered to detect the crucial interaction of political orientation and type of collective nostalgia (achieved power = 0.87), as well as the mediation effects (all achieved a power of 1.00).

[9]In Study 3, we used the same design as in Study 2. Also, Study 3 involved the same additional measures (besides the ones reported here) as part of the broader project (Footnote 6). The larger project (including the hypothesis about differences between conservatives and liberals in collective nostalgia content) was pre-registered at OSF: https://osf.io/cqnpr/

[10]In the British context, we refer to right-wing versus left-wing rather than conservative versus liberal political orientation.

TABLE 3 | Means, standard deviations, correlations among variables, and comparisons between liberals and conservatives study 3.

	M (SD)		F_{int}/t	η_p^2/d	1.	2.	3.	4.
	Right-wing	Left-wing						
1. CN-homogeneity	4.54 (1.35)	3.56 (1.67)	279.46***	0.20		− 0.016	−0.360***	0.398***
2. CN-openness	3.99 (1.47)	5.19 (1.39)			−0.217***		0.392³	−0.323***
3. Attitudes	−2.54 (20.87)	15.58 (22.43)	13.95***	−0.84	−0.399***	0.481***		−0.549***
4. Anti-immigration	4.08 (0.84)	3.20 (0.95)	−16.46***	0.99	0.458***	−0.438***	−0.523***	

CN-homogeneity, homogeneity-focused collective nostalgia; CN-openness, Openness-focused collective nostalgia; Feelings, Feeling thermometer towards outgroups; Anti-immigration, anti-immigration sentiments. We calculated the comparison between levels of the two types of collective nostalgia between conservatives and liberals using mixed-design Analysis of Variance (ANOVA) (F_{int} = interaction term), and calculated the comparison for levels of feelings towards outgroups and social distance using independent sample t-test. Means with the same superscript do not differ from one another. Correlations above the diagonal are for conservatives, below for liberals.
***p < 0.001.

Results

We followed the same data-analytic strategy as before. We present, in **Table 3**, means, standard deviations, correlations among variables, and differences between right-leaning and left-leaning participants on the measured variables. Again, homogeneity-focused collective nostalgia was significantly and negatively related to warm feelings towards outgroups and positively associated with anti-immigration sentiments, whereas an opposite pattern was true for openness-focused nostalgia. These relations held for people with self-declared right- and left-wing political preferences. The two types of collective nostalgia did not correlate among right-wing participants but were negatively related among left-wing participants.

Right-wing participants displayed significantly colder feelings towards outgroups and significantly stronger anti-immigration sentiments than left-wing participants. The interaction between participants' political orientation and the type of collective nostalgia they reported was significant, $F(1, 1150) = 279.18$, $p < 0.001$, $\eta_p^2 = 0.20$. Left-wing participants declared significantly higher levels of openness-focused nostalgia than homogeneity-focused nostalgia ($p < 0.001$, $\eta_p^2 = 0.18$), whereas right-wing participants evinced the reverse pattern ($p < 0.001$, $\eta_p^2 = 0.04$). Left-wing participants' openness-focused nostalgia was stronger than the same emotion among right-wing participants ($p < 0.001$, $\eta_p^2 = 0.14$), whereas homogeneity-focused nostalgia was stronger among right-wing participants, compared to left-wing participants ($p < 0.001$, $\eta_p^2 = 0.10$). Similarly to Study 1, the overall difference in the level of collective nostalgia between right-wing and left-wing participants was not significant, $F(1, 1150) = 3.57$, $p = 0.059$, $\eta_p^2 = 0.003$.

We proceeded with two mediation models (Process 3.0, Model 4; Hayes, 2017). In both models, we entered participants' political orientation (1 = right-wing, 0 = left-wing) as the independent variable, the two types of collective nostalgia as mediators, and the two measures of intergroup attitudes as separate dependent variables. Right-wing participants had higher levels of homogeneity-focused nostalgia, $B = 0.99$, $SE = 0.09$, 95%CI [0.81, 1.17], and lower levels of openness-focused nostalgia, $B = −1.21$, $SE = 0.09$, 95%CI [−1.38, −1.04]. Participants' right-wing political orientation, $B = −6.33$, $SE = 1.23$, 95%CI [−8.73, −3.92], as well as homogeneity-focused nostalgia, $B = −4.76$, $SE = 0.37$, 95%CI [−5.47, −4.05], were negative predictors

of warm feelings towards outgroups, whereas openness-focused nostalgia was a positive predictor, $B = 5.86$, $SE = 0.37$, 95%CI [5.13, 6.59]. Both homogeneity-focused nostalgia, $B = −4.71$, $SE = 0.60$, 95%CI [−5.92, −3.58], and openness-focused nostalgia, $B = −7.08$, $SE = 0.74$, 95%CI [− 8.58, −5.70], emerged as significant mediators of the effect of political orientation of feelings towards outgroups (**Figure 3A**).

In the model for anti-immigration sentiments (**Figure 3B**), political orientation was a positive predictor of the dependent variable, $B = 0.40$, $SE = 0.05$, 95%CI [0.31, 0.50], as was homogeneity-focused collective nostalgia, $B = 0.23$, $SE = 0.01$, 95%CI [0.20, 0.26]. Openness-focused collective nostalgia emerged as a significant negative predictor of anti-immigration sentiments, $B = −0.20$, $SE = 0.02$, 95%CI [−0.23, −0.17]. Both homogeneity-focused nostalgia, $B = 0.23$, $SE = 0.03$, 95%CI [0.18, 0.28], and openness-focused nostalgia, $B = 0.25$, $SE = 0.03$, 95%CI [0.19, 0.30], were significant mediators of the effect of political orientation on anti-immigration sentiments.

Discussion

Study 3 replicated the effects of the two previous studies, using a large sample of participants recruited in a different cultural context. Political orientation significantly predicted participants' homogeneity- and openness-focused collective nostalgia. Participants who identified as right-wing showed higher levels of collective nostalgia, but only when the object of nostalgia was the homogenous society of the past. The reverse was true for openness-focused nostalgia—it was left-wing participants who displayed significantly stronger nostalgia of this type, as compared to right-wing participants. Both types of collective nostalgia mediated the effect of right-wing (vs. left-wing) political orientation on more negative feelings towards outgroups and anti-immigration sentiments.

GENERAL DISCUSSION

In line with our general hypothesis, across three studies in three national contexts (the United States, Canada, and England), we demonstrated that people who identify as conservatives (right-wing) and liberals (left-wing) report experiencing different types of collective nostalgia. Across all studies, conservatives scored significantly higher than liberals on a measure of collective
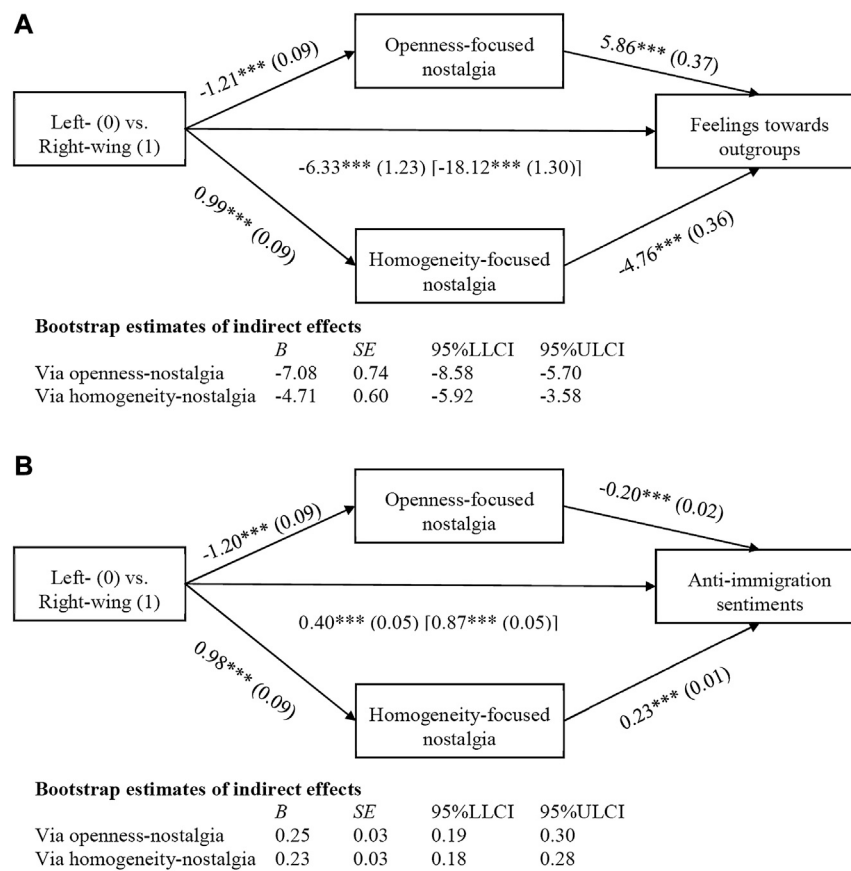
FIGURE 3 | Mediation of the effect of participants' political orientation on **(A)** feelings towards outgroups and **(B)** social distance towards outgroups in study 1 (British participants, Qualtries panel). Unstandradized coefficients are presented, total effects is in square brackets.

nostalgia for a more homogenous society. However, liberals reported experiencing significantly more collective nostalgia for an open society of the past compared to conservatives. Greater nostalgia for a homogenous society and decreased nostalgia for an open society, partially explained the relation between participants' conservative (vs. liberal) political orientation and their negative intergroup attitudes, which we measured with a feeling thermometer (Studies 1–3), social distance scale (Study 1), and an anti-immigration sentiments item (Studies 2 and 3).

This work contributes to the literature in several ways. First and foremost, it provides evidence for the existence of "liberal" collective nostalgia. In this way, the work extends previous research that suggested collective nostalgia is an intrinsically conservative emotion—an emotion responsible for increased support for right-wing populism worldwide (Kenny, 2017; Lammers and Baldwin, 2018). Granted, when we collapsed across different types of collective nostalgia, we found equivalent levels of collective nostalgia among conservatives and liberals in two out of three studies (in Study 2, conservatives scored marginally higher than liberals, but the study was underpowered and the observed difference small). Importantly, though, we showed that people who identify as liberals reported more collective nostalgia than conservatives

when the measure of collective nostalgia was oriented to a past that resonates with liberal-oriented sentiments (i.e., openness to other cultures and traditions).

Second, our findings contribute to a growing literature that provides a more nuanced understanding of emotions by focusing on their specific experience and contents. For instance, a distinction between benign and malicious envy allowed for a better understanding of positive (a desire to improve) and negative (a desire to pull down those who are better) outcomes of envy (Lange and Crusius, 2015). Similarly, a meta-analysis on the effects of shame showed that, whereas this emotion is typically associated with avoidance orientation (e.g., avoiding the domain in which one failed), sometimes it is also associated with approach orientation (e.g., self-improvement). Whether one or the other prevailed depended on people's perception of their failure as repairable or not (Leach and Cidam, 2015). In a similar vein, our findings suggest that, once the content of collective nostalgia is taken into account, we can better understand the link between people's political orientation and their nostalgic experiences. Conservatives are not necessarily the only ones to experience collective nostalgia. Rather, they seemed more nostalgic, because most measures of collective nostalgia employed in the literature did not differentiate

the content of this emotion. Replicating previous findings (Kenny, 2017; Wohl et al., 2020c), the two types of collective nostalgia investigated herein were also differentially related to intergroup outcomes. Whereas collective nostalgia for a homogenous society was a negative predictor of warm feelings towards and acceptance of outgroups, collective nostalgia for an open society showed the reverse pattern of associations.

Third, our work reframes traditional understanding about conservative compared to liberal philosophy. In particular, results across the three studies suggest that positioning conservative thought as being primarily backward-looking and liberal thought as being primarily forward thinking may be simplistic (see also Robinson, 2016; Kenny, 2017). Both conservatives and liberals may experience the changes occurring in the modern world as negative or threatening (Wohl et al., 2020a). The key difference between them is not that conservatives seek refuge from negatively evaluated present by looking to the past, whereas liberals look to the future, but that they focus on different elements of the past (and likely the future). A group's history constitutes a reservoir of different elements (events, social trends, characters) that can be selectively brought to mind as a function of group members' current needs and goals (Sammut et al., 2015). Political ideology, understood as a set of beliefs about how society should be organized and how the proper organization may be achieved (Erikson and Tedin, 2003; Jost et al., 2008), is an important factor shaping the ways in which people perceive their group's present and the elements of the group's past that inspire their nostalgia.

Limitations and Future Directions

The presented research is not without limitations. First, all three studies are correlational, thus precluding causal inferences. Past research shows that it is possible to manipulate collective nostalgia (Wildschut et al., 2014; Wohl et al., 2020b; Lammers and Baldwin, 2020). Thus, we hope that future studies will experimentally manipulate collective nostalgia that resonates (vs. not) with people's political orientation and investigate its effects on intergroup attitudes but also other outcomes, such as political candidate support, policy support, and political behavior.

Second, as research on collective nostalgia contents is in its infancy, we focused on just two distinct types of collective nostalgia. This does not mean that these are the only two types of nostalgia that exists. Arguments from liberal politicians (e.g., Bernie Sanders) as well as political scientists (e.g., Mudde, 2017) point to nostalgia for the welfare state and stronger working class of the past. In times of economic crisis, such as the current pandemic-related downturn, people may feel nostalgic for times of relative prosperity, while members of currently dominant racial groups may feel nostalgic for their greater power in times of racial demographic shift. Future research should address the additional types of nostalgic content, as well as their correlates and consequences for present day political attitudes and behavior.

Third, we acknowledge some methodological shortcomings. Due to space and resource constraints, we used short, and even one-item, measures to tap into concepts of interest (e.g., the one-item measure of anti-immigration sentiments in Studies 2 and 3). Ideally, future

research would use longer and multifaceted measures to assess more comprehensively these constructs. Our studies were conducted with convenience samples, not representative of their respective populations. However, the external validity of the presented results is somewhat strengthened by results reported by Clifford et al. (2015) who showed that liberals and conservatives on MTurk closely resemble their offline counterparts. Additionally, Study 2's sample was also smaller than intended (due to recruitment difficulties), which resulted in low power to detect the mediation effects and providing somewhat weaker evidence than the other two studies. Despite that, all studies were sufficiently powered to detect the interaction of political orientation and the type of nostalgia reported.

CONCLUSION

Across three studies, we showed that collective nostalgia is not the sole domain of conservatism. Although it is true that conservatives are apt to nostalgize, so too are liberals; they simply long for a different (perceived) time in their group's history. Conservatives nostalgize about a time when the group was more homogeneous, whereas liberals nostalgize about a time when the group was more open to the culture and traditions of other groups. These results are in contrast to established schools of political thought that frame conservatism as focused on maintaining the status quo (i.e., adherence to the values of the past), and liberalism as focused on moving the group forward (i.e., advancing and reformation of group values). For a fuller understanding of why conservatives (compared to liberals) are less accepting of outgroup members, it is important to take into account the stories conservatives and liberals tell about their group's past. The stories are not told for mere entertainment. They are functional in that they convey group values and the group's essence. When group members believe that essence is under threat, they will look to the past—a past when the ingroup was on more solid ground. For conservatives, solid ground is represented by a time when diversity was less prevalent. A consequence is the desire to shield the ingroup from outgroups. For liberals, solid ground is represented by a time when acceptance of other cultures was more prevalent, which motivates the desire to embrace outgroups. In short, emotional ties to the group's past matter for understanding present-day political divides.

DATA AVAILABILITY STATEMENT

The datasets presented in this study can be found in online repositories. The names of the repository/repositories and accession numbers can be found below: Center for Open Science. Study 1: https://osf.io/vutyq/ Study 2: https://osf.io/vga8c/ Study 3: https://osf.io/u8hxv/.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Carleton University Office of Research Ethics.

Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

All authors were involved in designing the theoretical framework of this work. ASt and MW designed and conducted Studies 1 and 2, all authors were involved in the design and data collection of Study 3. ASt analyzed the results, ASt and MW wrote the manuscript, all authors contributed to the revision.

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The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpos.2021.633688/full#supplementary-material.

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Authoritarianism and Attitudes Toward Welfare Recipients Under Covid-19 Shock

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This paper has looked at the evolution of attitudes toward welfare recipients and the impact of authoritarian dispositions on these attitudes in the context of the Covid-19 health crisis. We used two representative surveys, the first ($n = 2,054$) conducted in the summer of 2019 and the second ($n = 2,060$) in Quebec in June 2020, near the end of the first wave of the Covid-19 pandemic in the province. One thousand one hundred and seventy eight participants in the second survey had also participated in the first, allowing to analyze potential movement among many of the same individuals. Overall, while our results clearly indicated that authoritarian dispositions were associated with more negative views of welfare recipients, the pandemic does not appear to have affected the relationship between these attitudes and authoritarian traits. Additionally, we found no evidence that a direct measure of perceived threat moderated the relation between authoritarianism and attitude toward welfare recipients. Yet, we did find that, in the context of the pandemic, authoritarianism was associated with the attribution of lower deservingness scores to welfare recipients who were fit for work, suggesting that authoritarianism interacts with an important deservingness heuristic when evaluating who deserves to be helped.

Keywords: authoritarianism, welfare recipients, perceived threat, deservingness heuristic, attitude change, Covid-19

1. INTRODUCTION

Research about authoritarian personality traits has seen growing interest in the past few years as various mostly right-leaning political movements have captured political scientists' attention. Although authoritarianism is indeed frequently linked to attitudes that directly challenge the foundations of liberal democracies, the trait may also be related to more mundane opinions about a variety of political issues that can impact public policy and the concrete lives of many groups of people. As part of a larger project studying attitudes toward welfare recipients, this paper examines the impacts of authoritarian personality traits on opinions about people in need of social and economic assistance.

The year 2020 was marked by a pandemic of a magnitude not seen in a hundred years and necessitated containment measures to stop the spread of Covid-19. Most industrialized countries have also put in place a variety of programs to support their populations severely affected by a health crisis with significant social and economic repercussions. Many people have had to receive various types of support in order to enable them to get through this crisis and most of those who

needed help are not the ones who usually require government assistance. The shock produced by the health crisis is therefore likely to have altered perceptions of those who need public supports. However, while the crisis has certainly affected them as well, people on social assistance are not the ones targeted by most of the support programs put in place as a result of the pandemic. This is because although they may be affected in a variety of ways, their occupation and source of income cannot have been directly affected by the crisis because they were not at work before the pandemic, and their income was already dependent on governmental assistance. Furthermore, we will see that there are several elements that can lead us to believe that these people are very likely to be perceived as less deserving and that this affects opinions about the help they should receive. We also have reasons to believe that authoritarian dispositions could play a role in shaping these perceptions.

The political psychology literature generally conceptualizes authoritarianism as a disposition that can be activated or muted depending on the context, and especially the presence of a threat to the social order (Feldman, 2003; Stenner, 2005). To that effect, the Covid-19 pandemic, along with its economic and social consequences, introduced a contextual shock that is susceptible to have impacted the activation of authoritarian traits among citizens, and consequently the attitudes that are likely affected by the trait. Moreover, opinions about policies aiming to provide help to various groups are very likely to be influenced by deservingness heuristics (Gilens, 2000), which may impact how authoritarianism affects opinions about who should be helped and by how much.

This paper aims to explore these questions by using a two waves panel data collected in Quebec to investigate citizens' attitudes toward welfare recipients before and during the Covid-19 pandemic. After reviewing the relevant literature, we will first examine whether thermometer ratings received by welfare recipients differed before and during the first wave of the pandemic in Quebec. We will also investigate whether authoritarianism was associated with change in opinions between the two waves. We will then look at respondents' generosity toward various types of welfare recipients, analyze whether any change occurred between the two waves, and look at the potential impact of authoritarianism on these attitudes. Finally, we will turn to more direct opinions about which groups deserve help in the context of the Covid-19 pandemic, how welfare recipients are positioned in this context, and how authoritarianism affects opinions about how deserving they are perceived to be. Overall, we find that although authoritarianism is related to more negative views about welfare recipients, it was not related to change in perceptions before and during the pandemic.

This paper contributes to the growing literature on authoritarian dispositions and examines their impact in the unique context of the shock associated with the Covid-19 health crisis, which is likely to have significantly affected perceptions of social threat among many individuals. Our results allow us to better understand and circumscribe the contexts in which different types of threats can activate authoritarian dispositions.

2. AUTHORITARIANISM IN POLITICAL PSYCHOLOGY

Authoritarianism has a rich and controversial research tradition in political science. Adorno et al. (1950) first conceptualized the trait and argued that it is a "personality syndrome" composed of nine separate dimensions such as conventionalism, authoritarian submission, authoritarian aggression, or anti-intellectualism. In order to measure this trait, Adorno et al. produced the Fascist Scale (F-Scale), which has been both influential and severely criticized for its methodological shortcomings (see Altemeyer, 1981; Duckitt, 1992; Feldman, 2003; Brown, 2004).

Altemeyer (1996) later proposed that submission, conventionalism, and authoritarian aggression were the three general dimensions of authoritarianism and proposed the "Right-Wing Authoritarianism" (RWA) scale to measure the trait. Although largely considered as an improvement over the original conceptualization, Altemeyer's RWA measure has also been criticized for including several items that confuse authoritarianism for many of its potential outcomes. In short, the main criticism is that the RWA measure is partly tautological since it directly measures political attitudes. It is therefore not surprising that the scale is then highly correlated with these attitudes (Feldman, 2003; Stenner, 2005; Hetherington and Weiler, 2009).

Feldman (2003) proposed to conceptualize authoritarianism as a disposition emanating from the tension between the values of social conformity and personal autonomy, which are thought as trade-offs inherent to being part of a society. In the tension between the two values, individuals who tend to favor social conformity over personal autonomy are thought to be more authoritarian. Seeking to establish a scale that adequately captures the tension between individual autonomy and social conformity without evoking political attitudes or political objects, Feldman (2003) proposed a strategy based on measuring attitudes about the best qualities to instill in children. Respondents are presented with a set of four of the pairs of qualities directly related to the tension between autonomy and conformity, and are asked to choose the quality they consider most important. The pairs are whether it is more important that a child to be "independent or respectful of his/her parents," to have "an enquiring mind or be well-mannered," to be "well-behaved or creative," and to be "obedient or autonomous." Measuring preferences and attitudes toward parenting styles, especially in relation with themes associated with obedience and authority, is now the most common method used in political science for measuring authoritarian personality traits (see Feldman and Stenner, 1997; Feldman, 2003; Stenner, 2005; Hetherington and Weiler, 2009; Federico et al., 2011; Henry, 2011; Hetherington and Suhay, 2011; Brandt and Henry, 2012; Brandt and Reyna, 2014).

Generally speaking, it has been shown that authoritarians are much less supportive of groups that seem to deviate from established norms. For instance, Barker and Tinnick (2006) have shown that authoritarianism decreases support for gay rights, and Altemeyer (1996) finds that authoritarians are much more sympathetic to harsh treatments of groups perceived to

be deviating from the norm. These tendencies also extend to racial minorities and ethnic groups, as authoritarianism has been shown to increase negative stereotypes of these groups (Sniderman and Piazza, 1993; Stenner, 2005; Parker and Towler, 2019). In Europe, authoritarianism has been shown to be positively related to voting for far-right parties in Austria, Belgium, Denmark, the Netherlands, and Switzerland (Dunn, 2015; Aichholzer and Zandonella, 2016). Studying the French electorate, Vasilopoulos and Lachat (2018) also find that authoritarianism is related to intolerance, economic conservatism, likelihood to support both the far-right Front-National and the far-left parties.

Some scholars are arguing that authoritarianism is too unstable to qualify as a personality trait (see for instance: Asendorpf and Van Aken, 2003; Van Hiel et al., 2004; McAdams and Pals, 2006; Sibley et al., 2007). Others find that the trait is highly inherited and stable over time (see McCourt et al., 1999; Ludeke and Krueger, 2013). Although Adorno et al. (1950) initially conceptualized the trait as deeply rooted in individuals' personality, Altemeyer (1981) argued that it was mostly a predisposition acquired through childhood experiences. Feldman (2003) and Stenner (2005) have mostly argued that authoritarianism is a general disposition, and the literature remains generally unsure about the exact nature of the characteristic (Hetherington and Weiler, 2009).

Additionally, the literature suggests that authoritarianism is highly related to perceptions of threat (Feldman, 2003; Stenner, 2005), as multiple studies have found that perceived threat interact with authoritarianism when it comes to opinions and behaviors regarding marginalized groups (Duckitt, 1989, 2001; Doty et al., 1991; Feldman and Stenner, 1997; Rickert, 1998; Lavine et al., 1999, 2005; Feldman, 2003). Interestingly, Arikan and Sekercioglu (2019) have shown that this is the case for opinions about distributive policies as well. Authoritarianism now tends to be viewed as a latent disposition that can be activated or muted depending on the context, and more specifically depending on perceived threat.

3. AUTHORITARIANISM, ATTITUDES TOWARD PEOPLE IN NEED, AND THE COVID-19 CRISIS

When it comes to opinions about people receiving welfare benefits, the literature points to the importance of a heuristic based on the perception of the "unlucky" or "lazy" nature of the person or group targeted for support. In the early 1980s, Coughlin (1980) reported that in most Western countries, citizens are largely supportive of policies aiming to provide financial support for the elderly, the sick and infirm, and families with children in need. Almost everywhere, the people for whom citizens are least supportive are those on social assistance. These results have also been replicated more recently in Europe (Oorschot, 2006). The implication is that in all countries, the groups toward whom citizens are most generous are those who are in a situation of dependency for reasons deemed beyond their control.

In a seminal book studying public opinion on welfare policies in the United States, Gilens (2000) demonstrates that Americans generally support welfare policies when recipients are judged to be "deserving" as opposed to those who would be "undeserving." He also shows that the American public is uninformed about who receives assistance, that media representations of recipients tend to over-represent the proportion of African–American people among welfare recipients, and that the American public is largely inclined to view welfare policies as primarily a program to support black people. He shows that racial attitudes are the most important factor structuring white Americans' views about welfare. Among three important stereotypes that often affect the perceptions of African Americans (that they are lazy, unintelligent, and violent), Gilens finds that laziness is the only one that is associated with opposition to welfare policies.

Important work mobilizing the evolutionary biology framework also sheds new light on the psychological mechanisms underlying deservingness heuristics. According to Petersen et al. (2011), deservingness heuristics are the result of an evolutionary adaptation process, in which those who offer help are doing something risky in that they are providing effort and resources that might not produce a reciprocal act if the need arose. As a result, the individual acts underlying collective supports generate a strong need to quickly distinguish between "cheaters" and those who reciprocate. Those who are perceived as merely profiteers from collective support and who are perceived as unlikely to contribute to its establishment will be considered undeserving of support, while those who are seen as potential contributors will be considered deserving. The level of effort displayed by individuals is the simplest heuristic for making quick and efficient judgments about who deserves help and who does not. Those in need who are judged to be lazy will be seen as cheating, while those who are more likely to be considered unlucky will be seen as possibly capable of reciprocity, and therefore deserving of support. Petersen (2012) shows that individuals do use heuristics related to the perception of effort and that these psychological processes are effective at both small and large collective scales. Petersen et al. (2011) also argue that merit heuristics are so central to collective action that they are automatically activated without individuals even realizing it and that factors as physical as the level of hunger affect opinions about policies related to resource sharing (Petersen et al., 2014). From this general perspective, Petersen et al. (2012) also show that the perceived level of effort to find work on the part of welfare recipients affects the emotions of compassion and anger felt by individuals and that these emotions in turn affect their opinions about welfare policies.

An activation of authoritarian traits does not imply that one should expect higher scores on the authoritarian scales themselves. Authoritarianism is not an attitude; it is a general disposition that affects attitudes and the level of influence on them can vary according to its activation. For example, Knuckey and Hassan (2020) have recently used data from the American National Election Study since 1992 to assess the impact of authoritarianism on support for Donald Trump in the 2016 election. The authors find that the trait had more influence among whites in 2016 than in any other presidential election

since 1992. However, the authors do not report significant movements in the authoritarianism scores obtained in each of the elections. Authoritarianism scores were not higher in 2016, but they were more strongly linked to support for Trump than they have been for any candidate since 1992[1].

The questions used to measure the trait are related to values about to child rearing, which has the benefit of avoiding explicit associations with political objects and remaining relatively stable over time. As mentioned above, the exact nature of authoritarian traits remains a matter of debate in political psychology. Some scholars argue that the disposition is not stable enough to be considered a personality trait (see Asendorpf and Van Aken, 2003; Van Hiel et al., 2004; McAdams and Pals, 2006; Sibley et al., 2007). However, the fact remains that the trait is widely considered to be causally antecedent to political attitudes.

An activation of authoritarian traits should therefore not be expected in the simple increase of the authoritarianism scores themselves, but should be assessed by analyzing the influence exerted by the trait on attitudes. In this article, we will therefore evaluate the influence of authoritarian dispositions on three measures related to the perceptions of welfare recipients. Starting from a simple thermometric measure, we will provide a depiction of public generosity toward welfare recipients before demonstrating how various groups are perceived to be deserving of financial help in the specific context of the Covid-19 crisis. The first two measures are longitudinal and therefore allow us to assess whether the link between these measures and authoritarian traits has changed between the two waves. The third measure is more specifically associated with the Covid-19 crisis and aims to evaluate the effect of authoritarianism in this context when it is more clearly highlighted.

As we have already discussed, authoritarianism is related to negative opinions of marginalized groups. Since welfare recipients are indeed marginalized, we would expect authoritarianism to be related to more negative opinions about them. We would also expect these negative opinions to be even stronger for welfare recipients who are deemed undeserving. Being considered fit for work, as opposed to being considered medically unfit, should provide an important deservingness heuristic influencing perceptions. Given that welfare recipients who are deemed fit for work may be viewed as cheaters, we would expect individuals with higher authoritarianism dispositions to hold very negative opinions about them.

The COVID-19 crisis is simultaneously an unprecedented shock and an unusual economic and health threat to hundreds of millions of people. In the context where the recent literature clearly establishes the links between the activation of authoritarian traits and perceived threat, studying the impact of the Covid-19 health crisis on the activation of authoritarianism is of obvious interest. This crisis also raises important issues related to social solidarity, as an activation of authoritarian traits produced by the pandemic is highly likely to have

affected the link between authoritarianism and attitudes toward welfare recipients.

The pandemic is particularly likely to have affected more directly the attitudes associated with distributive policies because their importance acquires a salience that they did not have until then. The circumstances surrounding the Covid-19 crisis have thus brought to the forefront the crucial role played by states in building and organizing social supports that directly affect the well-being and security of individuals. The health crisis also undoubtedly placed many citizens in situations of vulnerability they had never before experienced. While many may have developed empathy for people finding themselves in vulnerable situations through no fault of their own, others may have seen new pressures on limited collective resources and developed even more negative views of welfare recipients seen as consumers and never contributors to collective resources.

Moreover, the Covid-19 pandemic has been an important external shock that may have shifted people's perceptions about the stability of the social order. As most governments implemented expensive measures aiming to provide economic and social support to their populations, we can hypothesize that many citizens perceived higher levels of threat, and that individuals who receive welfare support while being perceived as "non reciprocators" (i.e., "cheaters") could be viewed more negatively than they typically would. It is reasonable to expect that this new environment of increased threat activates authoritarian dispositions, and leads to harsher views about welfare recipients deemed undeserving.

4. DATA AND CONTEXT

On March 13, 2020, the Quebec government declared a health emergency and announced the closure of schools and daycares. The Quebec government then implemented increasingly restrictive health measures that began to be phased out on May 4 outside the Montreal area, and on May 25 in Montreal. Schools and daycares were reopened on May 11 outside the Montreal area, and on June 1 in Montreal. Restaurants were reopened on June 15 outside the Montreal area, and later on June 25 in Montreal. Mandatory masking in closed public places was introduced on July 18 and new health measures were implemented again starting in the fall of 2020, as a second wave of Covid-19 cases hit the province.

Significant economic assistance measures were deployed by the federal government as part of the emergency economic plan. The most visible measure was the Canada Emergency Response Benefit (CERP), which made a taxable benefit of $2,000 per month quickly available to all Canadians citizens who earned $5,000 or more during the year and were left without a salary due to the health crisis. The measure was extended to seasonal workers and students over the summer, providing them with a benefit of $1,250 per month. Other important measures were put in place to support businesses affected by the pandemic to help them maintain employment ties with their employees. The Canada Emergency Wage Subsidy provided compagnies that had experienced sufficient drops in revenue with a subsidy

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[1]Exploratory analyses show that authoritarian dispositions influence the electoral choices of Quebecers, but that their influence remained stable between the two waves.

equivalent to 75% of their employees' wages. Other measures to help businesses ensure that they had sufficient liquidity to meet their obligations were also put in place.

As part of a project on Quebeckers' attitudes toward welfare recipients, a representative sample of 2,054 adults from Quebec (Canada) was first interviewed using an online questionnaire fielded in August 2019. In this first stage of research, respondents were asked various questions related to their opinions about welfare recipients and welfare programs. In the first two weeks of June 2020, as the lockdown measures were starting to be lifted, a representative sample of 2,060 respondents filled an online survey asking various questions about welfare recipients, and the Covid-19 pandemic. One thousand one hundred and seventy eight respondents in this second survey had previously participated in the first stage conducted in 2019, allowing us to compare their attitudes at both time points and examine whether or not any change occurred.

This design allows to compare two representative samples of Quebec's population and track a fair amount of the same individuals before and right after the shock of the first wave of the Covid-19 pandemic in Quebec. Although the data only permit descriptive analysis and cannot lead to firm conclusions about the potential causal impacts of the Covid-19 crisis on authoritarianism activation levels, this descriptive work remains highly relevant. While it is indeed possible that other unobserved factors drive any differences that we may observe in opinions between the two waves, it has to be acknowledged that the pandemic situation and the various confinement measures that were implemented to control the spread of the virus were the most important external shock potentially impacting citizens' opinions. Hence, while we do not claim that our design allows for straightforward causal inference, we nonetheless argue that the general context in which the two waves of the surveys were held leads to descriptive analysis of very high relevance for understanding the potential impacts of the Covid-19 pandemic on citizens' opinions.

Although European studies are progressively more numerous, research on authoritarian dispositions still remains predominantly American. Our data therefore shed new light by focusing on authoritarian traits in a context in which it has been little studied overall. Social assistance policies are adopted at the provincial level in Canada. They are embedded in the cultures, history and political debates of each province (Béland and Daigneault, 2015). A large body of literature presents the specificity of Quebec's welfare system (Vaillancourt, 2012; van den Berg et al., 2017). Our results enrich this work and open avenues for research in other contexts on the links between the activation of authoritarian traits, large-scale crises, and attitudes toward welfare recipients.

In both waves, authoritarianism was measured using three items tapping respondents' preferences about parenting styles. Respondents were asked the following : "Here are some qualities that children can be encouraged to learn. Which one do you think is more important?" The first set of options was "Independence" or "Respect for authority"; the second questions asked to choose among "Obedience" or "Self-reliance"; and the last questions asked to choose either "Curiosity" or "Good manners." For each

item, the authoritarian options were coded as 1, and the non-authoritarian options as 0. We then used the standard approach and computed the sum of the three items to calculate each respondents' authoritarianism score (see Feldman and Stenner, 1997; Feldman, 2003). Authoritarianism scores did not appear to have significantly moved between the two waves. Focusing only on respondents who participated in both waves, the mean authoritarianism score in wave one was 1.36 (sd = 0.96) compared to 1.24 (sd = 1), a non-significant difference.
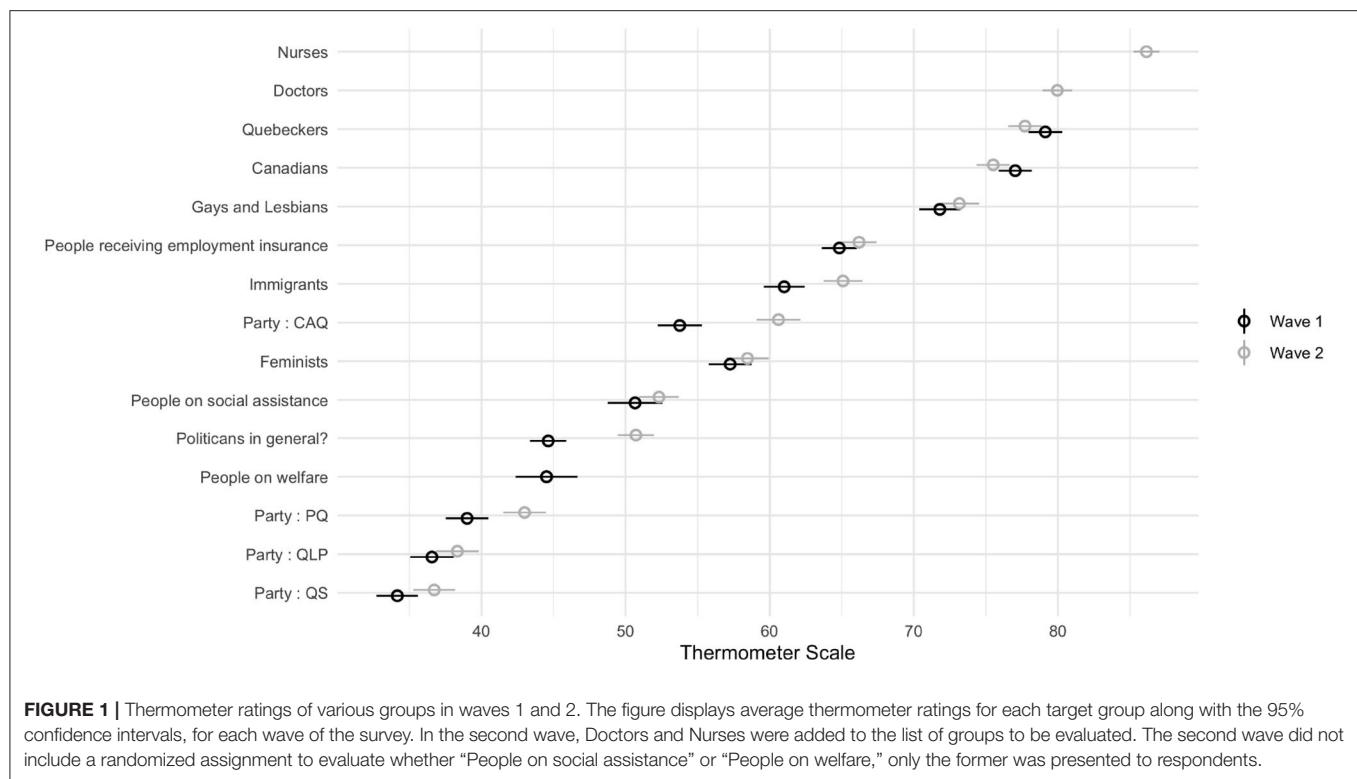
First, we will analyze how authoritarian traits are associated with simple thermometric scores for welfare recipients. Although these measurements are very useful, they remain limited, and can hardly on their own provide a detailed understanding of the perceptions of a social group. In order to assess the impact of authoritarian traits using a more specific measure, we will turn to a variable measuring the monthly assistance respondents attributed to various types of welfare recipients. This measure, which is particularly well suited to the situation of monetary assistance granted to welfare recipients, makes it possible to quantify on a commonly interpretable scale the level of assistance deemed appropriate, while simultaneously providing the tools to evaluate the links between generosity and authoritarian traits. Finally, we will turn to a measure that evokes more explicitly the deservingness of people receiving social assistance in the specific context of the Covid crisis. This will be used to evaluate the role of authoritarianism in the prioritization of groups deemed deserving of assistance during the crisis. Descriptive statistics of all the main variables used in this article are reported in **Supplementary Table 1**.

5. THERMOMETER RATINGS IN 2019 AND IN THE SUMMER OF 2020

In order to get a first grasp of the data, **Figure 1** displays the mean thermometer rating along with the 95% confidence intervals for each group that respondents were asked to evaluate. Doctors and nurses were added to the list in the second wave because these professions have quite obviously been brought to the forefront during the pandemic. Additionally, in wave 1 we wanted to test whether the labeling of people receiving social assistance affected their average thermometer rating. Hence, wave 1 respondents were randomly assigned to give a thermometer score for either "people on social assistance" or "people on welfare"[2]. No such experiment was included in the second wave and all respondents were asked to rate "people on social assistance."

Finally, a few words about the provincial political parties depicted in the figure. The Coalition Avenir Quebec (CAQ) is the party currently in power, having won office for the first time in 2018. It is a center-right party that has newly emerged as a party capable of rallying enough voters to produce a majority government. The Quebec Liberal Party (QLP) is a center party

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[2]In French, the exact wording was, respectively, "Les personnes assistées sociales," and "Les gens sur le bien-être social (les «BS»)?," which is arguably much more evocative than what is possible in English. The expression "BS" is a well-known slur used in Quebec to express lack of respect or consideration for people receiving welfare support.

FIGURE 1 | Thermometer ratings of various groups in waves 1 and 2. The figure displays average thermometer ratings for each target group along with the 95% confidence intervals, for each wave of the survey. In the second wave, Doctors and Nurses were added to the list of groups to be evaluated. The second wave did not include a randomized assignment to evaluate whether "People on social assistance" or "People on welfare," only the former was presented to respondents.

(moving left from a more center-right position in the past) and has been in power for most of the past two decades, except for a brief 18-month hiatus in 2012 and 2013 when power was held by a minority government of the Parti Québécois (PQ). The PQ is a historically important party in Quebec, since it has been advocating Quebec's independence from the rest of Canada for the last five decades. It has held power on several occasions in recent history, but has lost a great deal of support in the last 10 years. The PQ is typically seen as center-left coalition, but the party has recently also taken more conservative positions on identity issues, coming closer to the CAQ on these matters. Finally, Québec solidaire (QS) is a left-wing party that is officially sovereigntist and takes positions that are generally considered more favorable to cultural diversity.

A few interesting results emerge. First, doctors and nurses were unsurprisingly the two most appreciated groups in wave 2. Second, apart from the various political parties, people on social assistance were among the least appreciated group, scoring slightly above "politicians in general" in wave 1, and receiving about the same score as politicians in wave 2, in which the latter increased their ratings from the first wave. Third, we did not observe a substantial difference in the average thermometer ratings received by people on social assistance between the two waves. With the exception of the four political parties for which movement was to be expected, most of the groups assessed in the two waves remained relatively stable. Yet, we nonetheless observed significant increases in the appreciation of politicians in general, and of immigrants; possibly as a result of the importance of both of these groups in the pandemic response. Politicians, of

course, have been at the forefront of the public response to the crisis, but many television news stories, newspaper articles, and public speeches by politicians themselves have acknowledged and expressed gratitude for the important role played by immigrants and refugees who have worked as orderlies, bringing them into direct contact with patients. In any case, these univariate distributions indicate that movement between waves 1 and 2 was indeed detectable for some groups, but no such movement occurred for thermometer scores of people on social assistance.

Now turning to multivariate analysis, **Figure 2** displays the results of a linear model regressing the thermometer score obtained by people on social assistance on a standardized authoritarianism scale, a wave two dichotomous indicator, and the interaction between the two. We also conditioned the model on sex, age, respondents' mother tongue, as well as income and education levels. Since wave 1 included a randomly assigned wording to designate the group, the model is specified with a dichotomous indicator capturing the specific effect of that treatment on respondents' scores.

The results indicate that, conditioned on the other variables in the model, authoritarianism was negatively related to the thermometer appreciation received by welfare recipients. Converting the standardized scale back to the original raw score, a one-point increase on the authoritarianism scale was associated with a significant decrease of the thermometer score of about 3.3 points. The coefficient for the second wave indicator suggests that, conditioned on other variables, the thermometer scores were higher by about 2.8 points in the summer 2020 compared to 2019. Finally, the interactive term between authoritarianism and
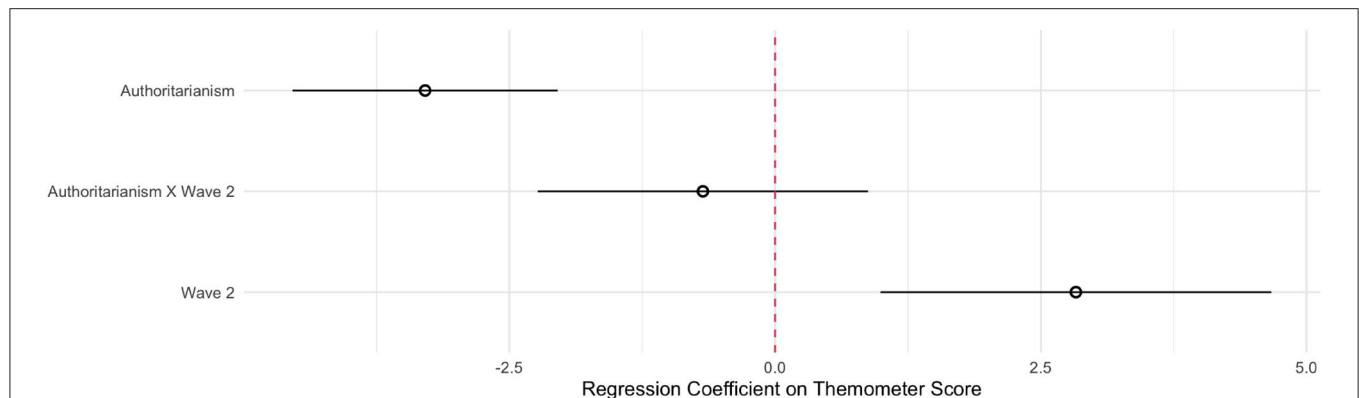
FIGURE 2 | Thermometer ratings of people on social assistance—OLS regression. The figure displays the three coefficients of interest along with the 95% confidence intervals. The model conditions on sex, age, respondents' mother tongue, income and education levels, and includes a dichotomous indicator capturing the randomly assigned wording for "people on welfare" or "people on social assistance" in wave 1. Clustered standard errors are used to account for the fact that some respondents participated both in waves 1 and 2. The full results are available on **Supplementary Table 2** (model 1).

the second wave indicator clearly indicates that authoritarianism was not related to additional change in thermometer scores received by people on social assistance between waves one and two. This suggests that authoritarianism did not have more or less of an impact on thermometer ratings in wave two than it did in wave one. Hence, individuals who scored higher on the authoritarianism scale did tend to have more negative views of people on social assistance, but apparently their opinion had not been impacted by the pandemic.

In order to more directly test whether potential perceived threat resulting from the pandemic affected opinions, we asked all respondents in the second wave to indicate how affected they had been by the pandemic compared to others around them[3]. Respondents had to choose whether they had been affected much more (coded 2), a little more (coded 1), about as much (coded 0), a little less (coded −1), or much less than others (coded −2). Arguably, those who perceived to have been the most impacted by the pandemic were also likely to feel the most threatened by the situation. This threat should in turn have increased the impact that authoritarianism had on their opinions. A similar model estimated using only the data from the second wave and interacting authoritarianism with this variable leads us to conclude that it did not (the full results are available on model 2 in **Supplementary Table 2**). Respondents who had higher authoritarianism score in the second wave and who perceived to have been more impacted than others by the pandemic did not have a significantly different thermometer appreciation of people on social assistance.

It is expected that the longitudinal modeling strategy used here will capture change both at the aggregate and at the individual levels, since a significant portion of the sample participated in both waves. Thus, unless change followed a particularly unconventional pattern, the model should adequately capture the

presence of individual change. However, we wanted to ensure that the results remained unchanged if we estimated the model using only respondents who participated in both waves and if we used the change in thermometer scores between wave 1 and wave 2 as the dependent variable. Given the random assignment of a more negative characterization of welfare recipients in Wave 1, we estimated these models separately for respondents who received the negative characterization in Wave 1 and those who were asked to give a score on a more neutral characterization. The results, which are reported in **Supplementary Table 3**, show that authoritarianism was associated with a significant change in thermometric scores between waves 1 and 2 only among respondents who received a negative characterization at wave 1. Individuals with higher authoritarianism scores in wave 1 who were attributed to the negative characterization of welfare recipients gave significantly higher thermometric scores in Wave 2 when faced with a more neutral characterization. No change was observable among those who had to give a thermometric score for the same characterization. We interpret these results as supporting that authoritarianism was not associated with any real change in the thermometric scores of welfare recipients between waves 1 and 2.

6. GENEROSITY FOR PEOPLE ON SOCIAL ASSISTANCE IN 2019 AND DURING THE COVID-19 PANDEMIC

Thermometer ratings are a valuable tool to measure and compare people's attitudes toward various groups, but when it comes to assessing perceptions of how generous society should be toward individuals in need, the amount of money that citizens think is appropriate to help those in need provides an opportunity to quantify opinions using a continuous scale that can be interpreted on a common metric. In both waves, we asked respondents to indicate how much money they thought four types of households should receive in social assistance payment

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[3]The exact question was: "Comparing yourself to people around you, how much would you say that the Covid-19 crisis affected you? Select the statement that most closely matches what you think."

every month: we asked the question for a family of two adults and two children in which the adults were deemed unfit to work; for a family of four in which the adults were able to work; for an individual living alone and fit to work, and for individual living alone and unable to work.

Additionally, in order to test other hypotheses which are not the focus of this article, these questions were preceded by a small preamble that included a randomized assignment. In wave 1, some respondents saw a preamble that included the phrase "Keep in mind that the income needed to cover basic needs in Quebec is estimated at $1,500 a month, for a single person," others did not see that information. In wave 2, all respondents received information about the estimated minimal income, but the amount was randomly varied to be either $1,000, $1,500, $2,000, or $2,500. These anchors did influence respondents' responses in both waves, and we accounted for this in the model by including dichotomous indicators capturing these effects.

Figure 3 displays the results, focusing again on the three variables of interest. The full results are available on **Supplementary Table 4**. Our interest lies in the level of generosity of respondents, rather than the variation in generosity across scenarios. Therefore, a modeling strategy that conceptualizes the various scenarios as different but related trials and that aggregates these trials into a single model has the advantage of combining the common information produced by the responses obtained from these scenarios, while allowing for a more efficient use of the data than estimating separate models for each of the scenarios (see Gelman and Hill, 2007; McElreath, 2020 for more detailed explanations of this type of strategy)[4]. The results suggest that higher levels of authoritarianism was associated with the attribution of lower amounts of money, but that this overall tendency in the summer of 2020 did not differ in a significant way from the first wave. Overall, the results indicate that a one-point increase in authoritarianism was associated with a decrease of around $90 per month attributed to welfare recipients. Additional tests allowing the authoritarianism variable to vary by type of household leads to the same conclusion: individuals with higher authoritarianism scores were less generous, but they did not become more or less generous during the first wave of Covid-19 in Quebec than they were in 2019. Moreover, we estimated other models allowing authoritarianism to interact with the fitness to work status of the welfare recipients, and we uncovered no evidence that individuals scoring higher on the authoritarianism scale were more or less generous depending on the fitness to work status of the target group (see models 2 and 3 in **Supplementary Table 4**)[5].

Comparing opinions in 2019 and in the summer of 2020 is indeed very interesting, but we have to acknowledge that perceived threat is expected to occur because of the pandemic,

but it is not directly measured. Thus, to test whether the perception of threat measured at the individual level affected the impact of authoritarian dispositions on the amounts allocated monthly to welfare recipients, the variable measuring respondents' perceptions of the level of impact that the crisis had on their lives was used. A model similar to the others was estimated using only second-wave data and including an interaction term between authoritarianism and perception of the level of impact the crisis had on one's life relative to others. The complete results are available in **Supplementary Table 4** (model 4). Once again, our results show that the feeling of having been more affected than others had no influence on the relationship between authoritarian dispositions and the monthly amounts allocated.

We again wanted to ensure that an intra-individual change did not remain undetected in the aggregate. Therefore, we estimated similar regression models using only respondents who participated in both waves and using the change in monthly amount awarded between waves 1 and 2 as the dependent variable. These models are reported in **Supplementary Table 5**. Again, the results confirm that authoritarianism was not associated with a change in attitudes toward welfare recipients.

7. OPINIONS ABOUT HOW DESERVING ARE VARIOUS GROUPS IN THE COVID CONTEXT

So far, we have looked at thermometer ratings received by welfare recipients before and during the first wave of the pandemic. We have also analyzed respondents' level of generosity toward them, and again compared that generosity before and during the crisis. Yet, we did not directly ask respondents to state their opinions using questions referring to the specific context of the Covid-19 pandemic. Hence, although it is likely that the pandemic was very much in the respondents' minds during the second wave, the questions that we have analyzed so far did not specifically elicit that specific situation to the respondents' attention.
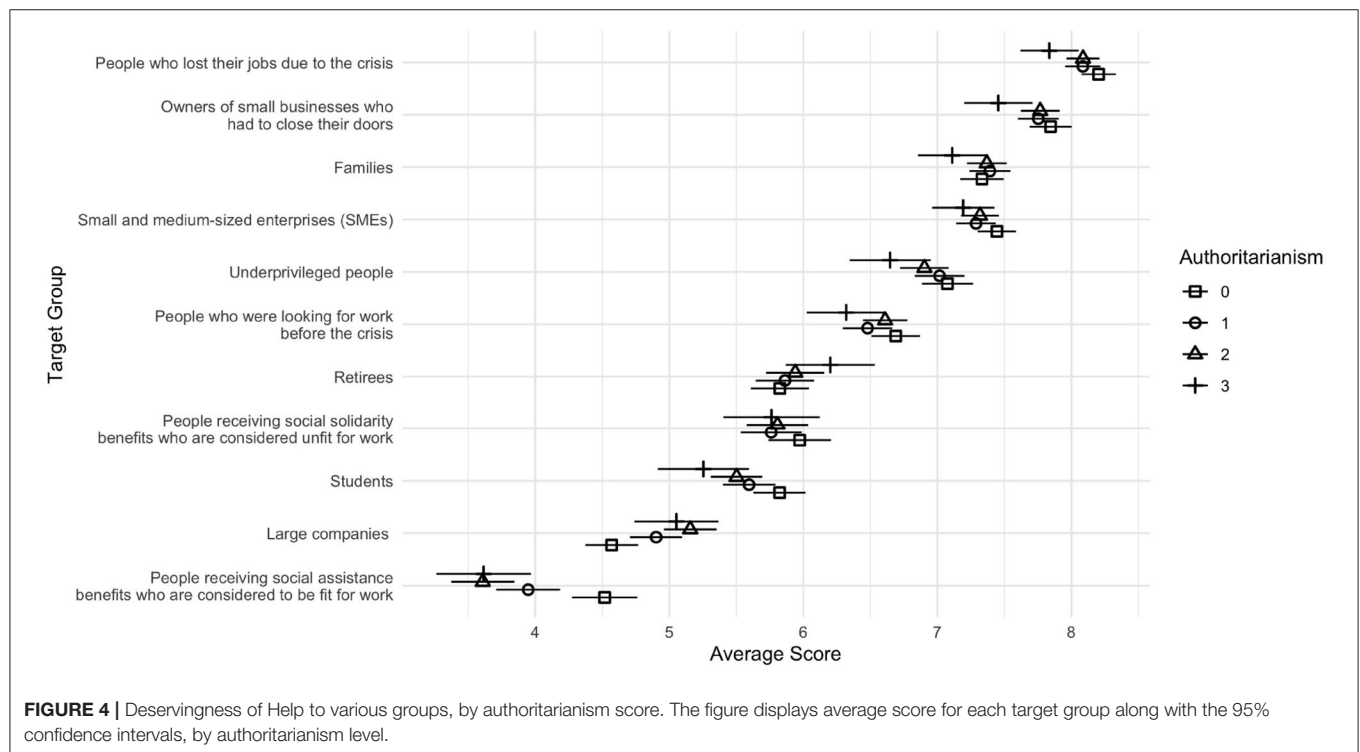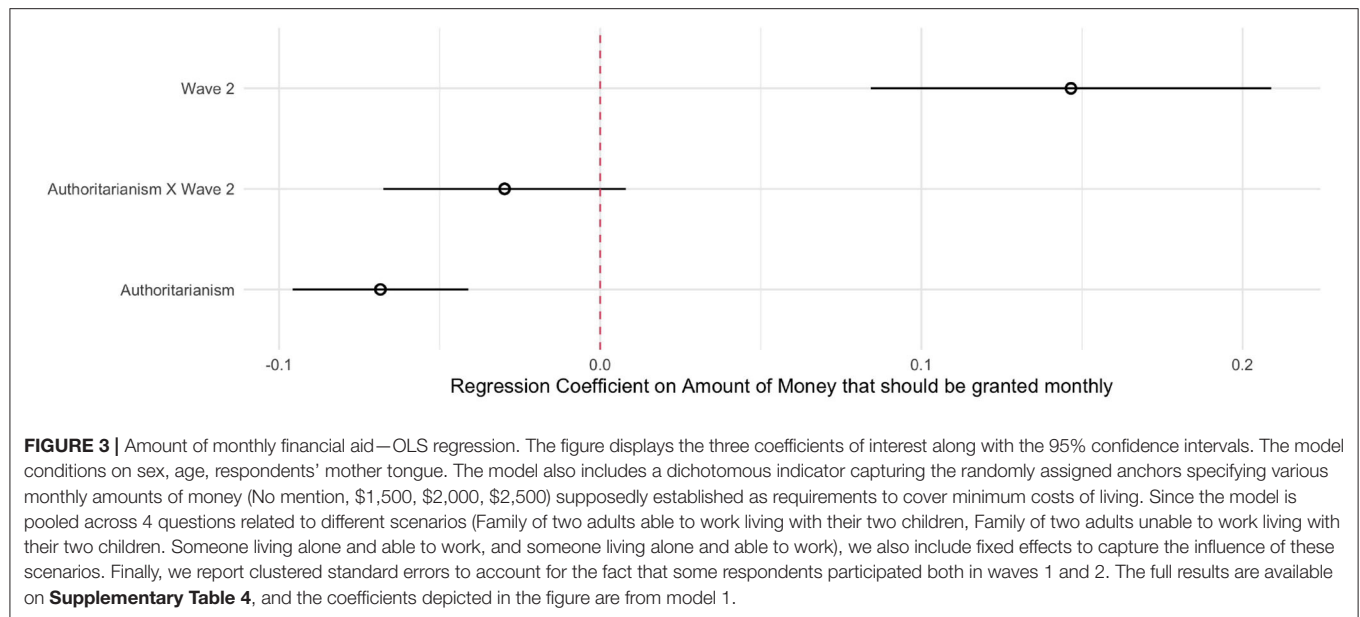
In order to test whether a more direct allusion to the pandemic affected opinions, we asked respondents in the second wave to use a scale from 0 to 10 to indicate how much additional help various groups should receive in the context of the Covid-19 pandemic[6]. **Figure 4** displays the average score obtained by each group along with 95% confidence intervals for all authoritarianism levels.

First, we notice that although respondents with high levels of authoritarianism tended to attribute lower scores and that respondents with low authoritarianism levels tended to give higher scores, there was an overall agreement among Quebeckers about the general ordering of the groups. Second, those who were deemed to be the least deserving were people receiving social assistance benefits who are fit for work. Although clearly not a top priority in the respondents' opinion, welfare recipients

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[4]Given that the model pools together responses to four different scenarios repeated in two waves, this could also have been modeled using multilevel strategy. Yet, because the number of groups remains relatively small, the benefits of using a multilevel model appeared minimal (see Gelman and Hill, 2007, p. 247).

[5]Note that these model include a triple interaction which typically has to be done with caution. We have also estimated the models separately on the four different household types rather than pooling them all together, the results lead to the same conclusions.

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[6]The exact wording was : "The Covid-19 crisis affects several groups of people. For each of the following groups, indicate how you think the group should be supported by governments during the Covid-19 crisis. Use a scale from 0 to 10, where 0 means that the group should not receive any special help and 10 means that the group should receive much help."

FIGURE 3 | Amount of monthly financial aid—OLS regression. The figure displays the three coefficients of interest along with the 95% confidence intervals. The model conditions on sex, age, respondents' mother tongue. The model also includes a dichotomous indicator capturing the randomly assigned anchors specifying various monthly amounts of money (No mention, $1,500, $2,000, $2,500) supposedly established as requirements to cover minimum costs of living. Since the model is pooled across 4 questions related to different scenarios (Family of two adults able to work living with their two children, Family of two adults unable to work living with their two children, Someone living alone and able to work, and someone living alone and able to work), we also include fixed effects to capture the influence of these scenarios. Finally, we report clustered standard errors to account for the fact that some respondents participated both in waves 1 and 2. The full results are available on **Supplementary Table 4**, and the coefficients depicted in the figure are from model 1.

FIGURE 4 | Deservingness of Help to various groups, by authoritarianism score. The figure displays average score for each target group along with the 95% confidence intervals, by authoritarianism level.

who are unfit for work received significantly higher scores. It is likely that this discrepancy between fit and unfit for work welfare recipients can be attributed to an effort based deservingess heuristic positioning those fit for work as cheaters who are benefiting from the system without contributing to it (see Petersen et al., 2012).

To evaluate whether authoritarianism was associated with a significant difference in scores given to welfare recipients who are

fit or unfit for work once we conditioned on age, sex, and mother tongue, education, and income, we pooled responses obtained by the two groups and estimated a linear regression model that included an interaction term between authoritarianism and the fitness for work status of the group evaluated (the full results are available in model 1 of **Supplementary Table 6**). Given that responses were nested within respondents, clustered standard errors were used.
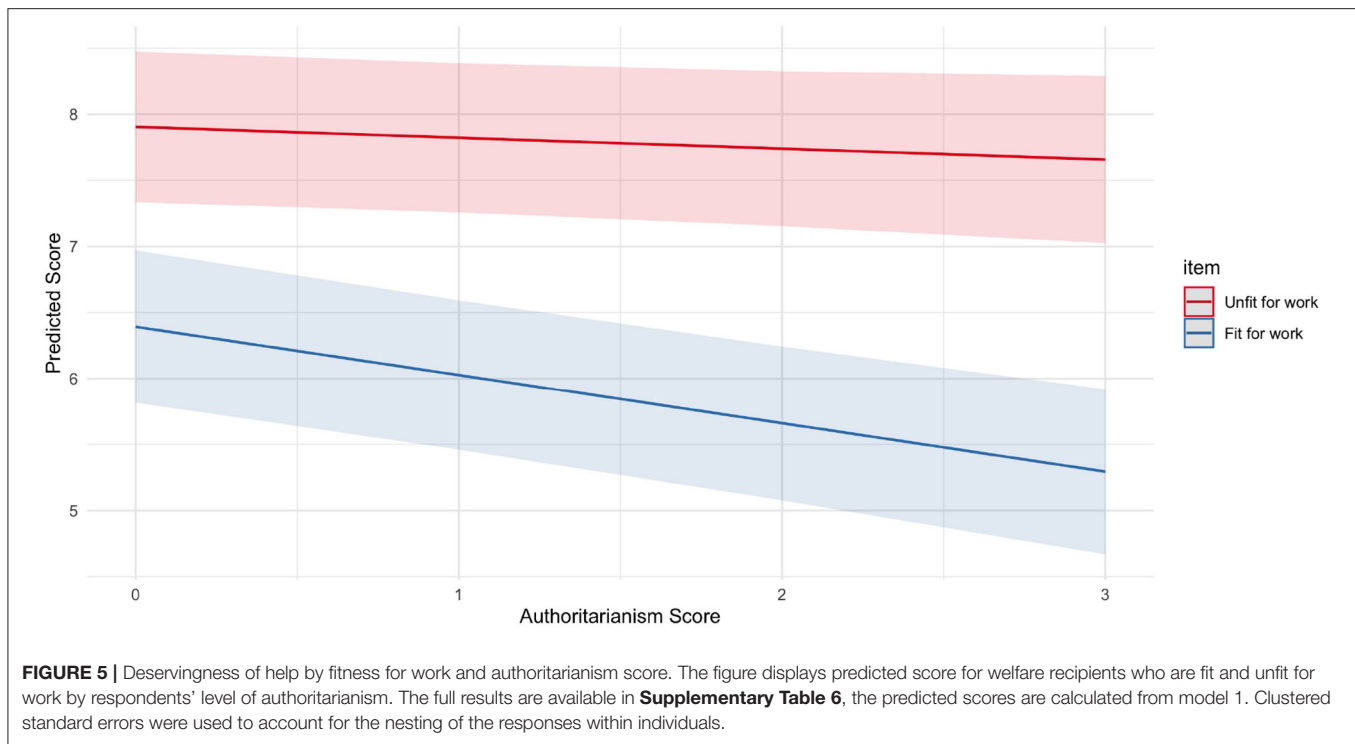
FIGURE 5 | Deservingness of help by fitness for work and authoritarianism score. The figure displays predicted score for welfare recipients who are fit and unfit for work by respondents' level of authoritarianism. The full results are available in **Supplementary Table 6**, the predicted scores are calculated from model 1. Clustered standard errors were used to account for the nesting of the responses within individuals.

Figure 5 displays the predicted scores obtained by people receiving social assistance benefits depending on their fitness for work status and by authoritarianism level. Two results are apparent. First, welfare recipients deemed unfit for work received significantly higher scores than those who were presented as fit, which was expected given what we have already seen on **Figure 4**. Second, authoritarianism was significantly related to lower deservingness scores for individuals fit for work, but not for those deemed unfit. Respondents low in authoritarianism gave an average deservingess score of about 4.9 to welfare recipients who were fit for work, this score decreased to about 4 for respondents with high authoritarianism level.

This finding suggests that in the context of Covid-19, authoritarianism was associated with less positive opinions about welfare recipients who are deemed fit for work. Yet, this finding mostly highlights that authoritarianism was related to more negative views about welfare recipients who were fit for work. That this was the case in the context of the Covid-19 pandemic is interesting, but it does not indicate that the pandemic itself was producing such an effect by activating authoritarianism. To test more directly whether perceived threat moderated the relation between authoritarianism and the opinions about welfare recipients depending on their fitness to work status, we yet again used respondents' self-evaluations of the impact that the crisis had on their lives compared to others (model 2, **Supplementary Table 6**). Estimating a similar model including a triple interaction between that perception, authoritarianism and the fitness to work dichotomous indicator, we again found no evidence that the perception of having been more affected than others moderated this relation.

8. CONCLUSIONS

This paper has looked at the evolution of attitudes toward welfare recipients and the impact of authoritarian dispositions on these attitudes in the context of the Covid-19 health crisis. We used two representative surveys, the first ($n = 2,054$) conducted in the summer of 2019 and the second ($n = 2,060$) near the end of the first wave of the Covid-19 pandemic in Quebec in June 2020. One thousand one hundred and seventy eight participants in the second survey had also participated in the first, allowing us to analyze the potential movement in many of the same individuals. Overall, while our results clearly indicate that authoritarian dispositions are associated with more negative views of welfare recipients, the shock associated with the pandemic does not appear to have affected the relationship between these attitudes and authoritarian traits.

We first looked at the comparison of the thermometric scores received by people on social assistance in 2019 and during the health crisis in 2020. The results show that authoritarianism was associated with lower appreciation scores, but it was not associated with a change in these scores between the two waves. Furthermore, a more direct measure capturing the perceived threat associated with the crisis did not allow us to conclude that authoritarianism and perceived threat had an interactive influence on the thermometric appreciation scores.

Turning to Quebecers' perception of the appropriate level of monthly assistance to be offered to people on social assistance, we again found that authoritarianism was associated with lower overall generosity, but not with a change in the levels of assistance deemed adequate between the first and second waves. Nor do our

data allow us to conclude that authoritarianism interacts with fitness for work status, which is likely to be strongly associated with deservingness heuristics, to influence the level of generosity of Quebecers. The level of perceived threat measured more directly did not, once again, prove to be a factor affecting the relationship between attitudes and authoritarianism.

Finally, by looking more directly at Quebecers' opinions regarding the different groups perceived as deserving help in the specific context of the health crisis, our results show that people on social assistance were clearly not considered a priority group. Authoritarianism was associated with perceptions that welfare recipients were less deserving of help. Our results also indicate that individuals with higher authoritarian traits judged welfare recipients who were fit for work even more harshly, suggesting that fitness for work acted as a strong deservingness heuristic among individuals with higher authoritarian dispositions. This last result also illustrates how individuals with higher scores of authoritarianism were also particularly sensitive to deservingness cues in their assessment of welfare recipients. This sensitivity makes it all the more surprising that a shock as important as that of the Covid-19 crisis did not affect their opinion of welfare recipients.

While recent research has clearly shown the importance perception of threat in the activation of authoritarian dispositions, skepticism toward the health measures put in place during the pandemic crisis seems to have been in many places associated with individuals particularly likely to have high authoritarianism scores. This apparent contradiction between the importance of perceived threats and the reactions observed in several places will no doubt allow us to better specify the links between threats and the activation of authoritarian dispositions. One could, for example, speculate that real threats that are more abstract or less directly associated with identifiable individuals or groups are less likely to activate authoritarian traits. Our results demonstrate that the shock of the pandemic crisis did not affect the relationship between authoritarian dispositions and distributive politics.

These conclusions come in a context where previous work has shown that Quebecers greatly overestimate the costs of welfare programs; that about one in two do not thin that funding for these programs should be increased even after being informed of their real costs; and that fitness for work—which is demonstrated in this article to be associated with a deservingness heuristic

in people with authoritarian traits—is understood primarily through a medial, not a social, lens. That authoritarianism is related to perceptions about welfare recipients was to be expected, but the fact that a contextual shock as important as the Covid-19 pandemic did not influence attitudes is perhaps more surprising given that it is quite clear that the situation should have heightened perceptions of threats in the population. This calls for further research to better how perceived threats and authoritarianism are related and whether this relationship actually holds for most attitudes.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Le Comité d'éthique de la Recherche, Université Téluq. Participants voluntarily agreed to participate in the study.

AUTHOR CONTRIBUTIONS

AB had the original idea, did the statistical analysis, and wrote the majority of the manuscript. NL contributed to the writing and ideas, provided funding for the data collection, and served as the principal investigator of the research project that hosted this study. Both authors contributed to the article and approved the submitted version.

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(Sympathy for) the Devil You Know: Openness, Psychological Entropy, and the Case of the Incumbency Advantage

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Why do some individuals prefer lesser-known, riskier experiences over more well-known options in life? In this paper, we focus on the case of the electoral advantage to incumbency, and the role that psychological entropy reduction can play in undermining that advantage among individuals who lack simplifying heuristics, such as party brand loyalty. We build on recent work in political psychology, applying a more general political psychology framework linking the Big Five personality trait of Openness to a compulsion to gather and process information. Using data from the 2014 and 2016 Cooperative Congressional Election Studies, we find more Open respondents are more willing to vote for more uncertain House challengers at higher rates, but only among Independent respondents who are unable to rely on partisan cues to simplify the psychological entropy presented by such challengers. This suggests Openness captures relative preferences for encountering and reducing psychological entropy rather than traditionally defined risk preferences.

Keywords: personality psychology, psychological entropy, risk, uncertainty, incumbency advantage

1. INTRODUCTION

One of the most consistent truths in American politics is that incumbent Congress members are reelected at staggering rates. Since 1982, at least 85% of incumbent representatives and 75% of incumbent Senators have won reelection each year.[1] Many reasons for this dynamic have been proffered, including fund raising advantages (Goodliffe, 2001), "scaring off" quality challengers (Jacobson and Kernell, 1983; Stone et al., 2004),[2] the emergence of mass media (Prior, 2006), casework and other office perquisites (Fenno, 1978), and so on.

These dynamics typically result in incumbents being more well-known to their constituents than their challengers, and this name recognition has its own (albeit small) independent effect (Kam and Zechmeister, 2013). However, being more well-known has other benefits. One possible benefit takes advantage of risk aversion, with risk-acceptant voters more likely to vote for challengers and policies altering the status quo (Morgenstern and Zechmeister, 2001; Kam and Simas, 2012; Eckles et al., 2014). Another possibility, thus far unexamined, is that well-known candidates present a

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[1] See https://www.opensecrets.org/overview/reelect.php.
[2] But see Hall and Snyder (2015).

simpler set of possible outcomes (and reactions) to voters who prefer simpler consideration of stimuli (Hirsh et al., 2012). However, some individuals, due to differences in cognitive function, may derive utility from encountering more complex and uncertain stimuli in order to resolve that complexity through learning (Hirsh et al., 2012).

Building on this, we draw on the case of the incumbency advantage to further develop a political psychology framework linking personality traits to political choice, particularly the relationship between Openness and preferences for risky outcomes. We do this by leveraging Ramey et al. (2017)'s framework for linking Big Five personality traits to latent behavioral, economic, and psychological traits (deemed "core cognitive constraints"); within their framework, Openness (to Experience) is associated with risk acceptance.[3] We bring in new research from personality neuroscience to refine this earlier framework and model Openness as a preference for encountering and reducing *psychological entropy*, and use this to consider voters' decisions between relatively well-known, low-entropy incumbents and relatively unknown, high-entropy challengers (Hirsh et al., 2012; DeYoung, 2013).

In this paper, we empirically examine the relationship between Openness and the willingness to vote for challengers. We show more Open respondents are more likely to vote for challengers with unknown policy preferences—even after accounting for respondents' perceptions of the ideological difference between them and the two candidates. Importantly, the effects are only apparent for self-styled political Independents. This suggests the effects of Openness on voting for incumbents only manifests in the absence of strong partisan cues, which constrain the complexity of the responses voters could experience while observing a victorious challenger in office. These findings suggest that Openness captures preferences for experiencing and subsequently reducing psychological entropy when choices are made in a political context. Before showing these results however, we review recent research in neuropsychology in order to establish a more precise relationship between measured Openness and observed uncertainty-seeking behavior.

2. THEORY

2.1. Openness and Psychological Entropy

The Big Five personality traits have gained popularity among trait psychologists over the past three decades as five factors, which capture the most important persistent individual differences in human interactions (Costa and McCrae, 1989; Goldberg, 1990). The importance of the Big Five in predicting human behavior in numerous contexts as varied as educational outcomes, romantic satisfaction, and mortality suggests that integrating these persistent individual differences into traditional formal models would provide a useful tool in the development of behavioral models (Roberts et al., 2007). Within Ramey et al. (2017)'s

personality modeling framework, salient biological divergences in cognitive functioning are said to manifest as variations in Big Five personality traits, which are then linked to "core cognitive constraints" —or abilities—representable as modelable parameters of interest (thus enabling their incorporation into economic models of social phenomena). Since this framework links Openness to the compulsion to gather and process information, the authors argue it is representable as a tendency toward lower risk aversion (p. 50):

> "…[S]ituations with multiple possible outcomes require individuals to devote costly cognitive resources to the imagination (and retention) of alternative scenarios, such as [policy] outcomes, and Open individuals pay a lower net cost for the collection and retention of this information. Thus, Openness is associated with relatively higher utilities for convex combinations of outcomes, and reduced risk aversion by implication.…"

Several prevailing theories of risk preference base the concave utility functions, which define risk aversion in underlying loss aversion (Kahneman and Tversky, 1979; Kahneman and Thaler, 1986). Interestingly, while Open individuals might be associated with high levels of observed risk-loving behavior—in that they seem to take risky gambles over unknown outcomes—they may not be particularly loss averse. Instead, Openness may influence preferences for risky-loving behavior by enhancing the utility individuals experience from some other psychological phenomenon related to complexity or uncertainty, but unrelated to loss aversion. This other, unrelated source of utility could be added to concave utility functions implied by loss aversion.

For example, consider classical Expected Utility Theory (EUT), where individuals evaluate gambles on the basis of the gamble g's expected utility $EU(g) = \sum U(x_i)p_i$, where x_i and p_i, respectively, denote the payoff and probability of outcome i. This approach contrasts with one in which individuals evaluate choices on the basis of a gamble's expected payoff $\hat{x} = \sum x_i p_i$, since individuals with convex utility functions will prefer to take a gamble with expected payoff $\hat{x}$ instead of a sure payment of $\hat{x}$, whereas individuals with concave utility functions will choose the sure payment instead of the gamble (Machina, 1992; Starmer, 2000).

However, if an individual's utility function includes an additive component increasing in the complexity of the choice set—for example, $U(g) = U(\hat{x}) + \beta$, where β is the additive component in question—then the link between traditional risk aversion (having a concave utility function) and observed risky behavior (e.g., choosing a gamble instead of a sure outcome) is weakened, if not broken. Notably, this concept of an additive component is consistent with the concept of *psychological entropy*, which Hirsh et al. (2012) defines as "the experience of conflicting perceptual and behavioral affordances," where affordances are potential scenarios which demand action (p. 304).

More simply put, every time an individual encounters an uncertain situation, they must consider each potential outcome and their optimal response to each of those outcomes. As individuals must expend cognitive effort to think about a given

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[3]Throughout the paper, we refer to the factor of Openness to Experience, sometimes called Openness/Intellect, as Openness (Costa and McCrae, 1992; DeYoung and Gray, 2009). This label is not used in this paper to refer to the underlying aspect of Openness in DeYoung and Gray (2009).

outcome and decide on what they would do if that outcome were realized, individuals expend less effort considering less likely situations, and effectively ignore highly improbable scenarios. Psychological entropy is low in uncertain situations in which one option is highly likely and the alternatives are relatively unlikely, and high when there are many options which are all equally likely. As an example from everyday life, suppose one must choose between two restaurants for dinner, each with a prix fixe menu. One restaurant is very familiar, with the aging but perfectionist owner/chef working nearly every day offering only Columbian rice and chicken, while his apprentice takes over on a random day each week, offering a dish from among his own known repertoire of five options. The other restaurant opened today, and the menu is totally unknown. Visiting the first restaurant requires consideration of a single very likely scenario (chicken and rice) and five other less likely outcomes, while visiting the second restaurant requires consideration of a nearly uncountable number of equally likely scenarios, including, but certainly not limited to, getting food poisoning from undercooked fried chicken, enjoying Ramen worthy of a Michelin star, or even simply eating mediocre "artisanal" macaroni and cheese. As such, the experience of visiting the second restaurant would present much more psychological entropy than dining at the first.

Resolving psychological entropy is essential for survival, and Hirsh et al. (2012) argue that uncertainty "poses a critical adaptive challenge" (p. 305) to organisms. This challenge creates an evolutionary motivation for organisms to develop nervous systems, which may seek experiences and information that serve to integrate perceptual frames and reduce the subjectively plausible number of "conflicting actions and perceptions that can be potentially brought to bear on a given situation" (p. 306). In light of this proposed evolutionary drive to confront uncertainty, gain information, and improve neurological adaptation to uncertainty, individuals ought to vary in their biological tolerance of (and preferences for) psychological entropy.

While psychological entropy is detrimental to fitness over the long term, in the short term, biological drives to encounter psychological entropy in order that it be resolved may increase fitness. In fact, it has been suggested that some of the biochemical foundations of Openness can be found in the parts of the brain, which respond to psychological entropy (DeYoung, 2013). For example, several cognitive functions linked to Openness are caused by variation in the brain's salience coding dopaminergic system, where salience coding neurons "respond to incentive cues for the value of information that can potentially be obtained following any increase in psychological entropy" (p. 763). This suggests measures of Openness capture variation in the activity of several dopamine-related cognitive functions rewarding experiencing and resolving abstract and experiential uncertainty, and that more Open individuals possess more active reward systems directed toward experiencing and resolving psychological entropy than others (DeYoung, 2013).

Notably, this theory is supported by a wide body of evidence connecting Openness with cognitive functions providing individuals with increased abilities and motivations to engage with complexity (DeYoung et al., 2011). First of all, Openness has been linked to resting state functional connectivity (RSFC) within areas of the prefrontal cortex (PFC) associated with working memory (e.g., Allen and DeYoung, 2017). In addition, through its subsummation of intellect, Openness has been associated with higher levels of cognitive engagement, thus allowing individuals to allocate more cognitive resources to abstract cognitive tasks (Smillie et al., 2016). Additionally, Openness has been linked with cognitive processes allowing the brain to engage with complex sensory information, such as implicit learning and lower levels of latent inhibition—that block irrelevant stimuli from consciousness (e.g., Peterson et al., 2002; Kaufman, 2013). These processes allow more Open individuals to allocate attention to wider ranges of experiential stimuli and retain complex information gained through experience. In sum, each of the aforementioned cognitive functions associated with Openness serve to increase the abilities of individuals to process complex information or the motivation to collect complex information, increasing encounters with high entropy stimuli. Hence, Ramey et al. (2017)'s characterization of Openness as a "compulsion to gather and process information" (p. 40), which is consistent with DeYoung (2015)'s recent characterization of Openness as "cognitive exploration and engagement with information" (p. 42), as well as his claim Openness reflects variation in reward for abstract and experiential uncertainty (DeYoung, 2013).

Overall, the implications of the relationship between Openness and psychological entropy for expected utility formulations of choice under uncertainty are profound. Of particular note to scholars seeking to formalize models of personality, the foundational literature on psychological entropy included mathematical expressions of the concept (Hirsh et al., 2012). As psychological entropy captures the entropy present in the number of affordances, which must be made in a given context weighted by the probability of those affordances, Hirsh et al. (2012) adapt the mathematical expression of entropy [built around $p(x_i)$, the probability of outcome x_i] developed by Shannon (1948):

$$N = -\sum_{i=1}^{n} p(x_i) \log_2 p(x_i)$$

Following from this expression, Hirsh et al. (2012) describes how uncertainty in the possible perceptions and behavioral outcomes from a given situation/gamble generates psychological entropy (p. 307):

"Entropy increases as the number of possible outcomes increases and the probability of any particular outcome, $p(x_i)$, decreases...Low psychological entropy occurs during situations in which there is a high probability of employing a particular action or perceptual frame, x_i...High psychological entropy occurs during situations in which there are multiple competing frames and behavioral options...none of which is clearly more strongly activated than the others."

Indeed, it suggests a preference for the additive form of the expected utility function for a gamble, $U(g) = U(\hat{x}) + \beta$, where the additive component β can be decomposed into a multiplicative term χN; in this context, N is the

psychological entropy utility of the gamble, which is a function of the probabilities of the potential outcomes, and χ is the preference for psychological entropy, manifested as an individual's Openness. As individuals compare gambles with their certain equivalents, more Open individuals will derive more utility from experiencing and resolving gambles with high psychological entropy.[4] Given sufficient Openness and the potential for sufficient psychological entropy, even individuals with concave utility functions—derived from loss aversion and diminishing marginal returns—will accept the gamble over the certain equivalent, thus appearing to be "risk-loving" or "risk-acceptant."

Under these conditions, individual preferences for resolving gambles with high psychological entropy serve as a complement to Kahneman-style preferences for risk based on loss aversion in explaining individual preferences for accepting gambles. In other words, a person can be highly loss-averse but entropy-loving, and their entropy utility from the gamble will be dependent on both their Openness and the number of subjectively plausible affordances present in the gamble, while their loss-aversion utility from the gamble will be based on the curvature of their utility function. Thus, instruments measuring the risk preferences of individuals should observe more Open people being more willing to accept gambles when the sure payment is less than the corresponding lottery's expected value, which is consistent with existing research (Barsky et al., 1997; Dohmen et al., 2010). Though we do not argue Openness influences the curvature of utility functions, the role of psychological entropy in evaluating gambles should lead more Open people to be more willing to take risky gambles over certain equivalents—in part due to their increased utility from psychological entropy. It is in this sense (i.e., greater willingness to take risky gambles) that we discuss the connection between Openness and risk in the rest of this paper.

2.2. Psychological Entropy in the Voting Booth

We now move from the biochemical relationship between Openness and risky behavior and focus on the inherent uncertainty of politics, as many decisions entail delegating authority to another actor who is more willing or able to affect policy. This question of moral hazard permeates nearly every decision at the elite level, and the decisions made inside the voting booth are no different, since voters must collectively decide which individual(s) will be responsible for legislating on their behalf, which is often done in an environment bereft of information (Delli Carpini and Keeter, 1996) and therefore rife with uncertainty. Moreover, this uncertainty is often asymmetric, as voters are often asked to choose between a safe option maintaining the status quo (e.g., voting for the incumbent) or a risky option promising to upend the status quo (e.g., voting for a challenger), with uncertain outcomes thereafter. The victory of personally familiar incumbents should also be considered to

be low psychological entropy outcomes, as these are defined as options in which "the distributions of possible meanings and actions are heavily weighted toward a single dominant affordance" or cognitive/behavioral response (p. 307) (Hirsh et al., 2012). In general, voting for an incumbent is a vote for a low uncertainty and low psychological entropy outcome.

However, not all challengers pose equal uncertainty. Some are well-known figures whose policy preferences are widely known, and others are virtual unknowns. Challengers in the latter category should be perceived as more uncertain, since their possible effects on future policy outcomes are more likely to be unknown at the time of the vote. Thus, if Openness captures loss aversion-driven risk preferences, it should play a stronger role in voters' decisions when faced with these riskier challengers.[5] Conversely, when challengers' preferences are well-known, the uncertainty is minimal compared to that inherent in voting for the incumbent, and Openness should play little—if any— role in these cases, if Openness captures risk preferences. Thus, Hypotheses 1 and 2 are derived:

Hypothesis 1. *More Open respondents should be more likely to vote for uncertain, risky challengers.*

Hypothesis 2. *Openness should play no role when challengers are not perceived as uncertain and risky.*

Challenger uncertainty is not the sole—or even main—factor driving vote choice in Congressional elections. Instead, that role arguably belongs to partisanship, especially given increased partisan polarization in recent years (Bafumi and Shapiro, 2009). Therefore, we should expect, in any given contest, members of the incumbent's party ("inpartisans") will be more likely to vote for him or her, and members of the major party challenger's party ("outpartisans") should be more likely to vote for the challenger, *ceteris paribus*.[6]

In the face of a highly uncertain, high entropy challenger, individuals will likely utilize cognitive shortcuts to simplify their consideration of that outcome. The availability of these heuristics determines the potential psychological entropy reduction, which can be experienced from observing the challenger in office. Importantly, a challenger's nomination by a major party should provide just that simplifying heuristic to voters who are members of the two major parties. These partisans have been sorted into

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[4]Although several cognitive functions linked to Openness and the salience coding dopaminergic system reduce the costs or provide benefits for engaging with psychological entropy, psychological entropy still poses a challenge to organisms, and it is likely χ is negative for individuals with sufficiently low Openness.

[5]While Eckles et al. (2014) did not find the effect of risk aversion (though they did not operationalize it using Openness) was modulated by whether a challenger was a "quality challenger" (i.e., those that have previously held elected office), this is a somewhat different dynamic than the one discussed here. Quality challengers, while perhaps having higher valence attributes than challengers of lower quality, are not necessarily less "risky" in the sense that their effects on eventual policy outcomes are well-known. Rather, being unsure of the policy preferences of challengers—and therefore their possible effects on policy outcomes—is arguably a better measure of the perceived "riskiness" of a challenger. This is especially true given the emergence of more extreme primary challengers in recent years. Those candidates who are so little-known that partisan cues cannot provide reliable indications of their policy preferences are likely to be perceived as presenting particularly high potential reduction of psychological entropy if they can be observed in office.

[6]This assumes no third-party or independent incumbents, which has been true for the House since the 2006 midterms.

similar "bins" or through negative partisanship, these have been filtered into dissimilar "bins." A major party voter can choose to support/defend the behavior of a victorious copartisan challenger by default, or oppose the behavior of a victorious challenger in the other party by default. This serves to reduce the subjectively plausible reactions to an uncertain challenger for partisans, while Independents must leave themselves open to a wider variety of reactions should the uncertain challenger win, as they are nominally committed to processing all of the possible behaviors of the challenger as potentially worthy of support or opposition. Independents should not only experience a much wider scope of anticipated responses to the candidate than inpartisans or outpartisans, but a larger potential reduction in psychological entropy if the challenger is observed in office.

Regardless of the potential reduction in psychological entropy, which could be enjoyed by observing a candidate in office, the potential utility from that reduction is a function of the observer's Openness. This leads us to expect that changes in Openness should have a stronger effect for Independents than for partisans in determining vote choice for a high entropy, poorly known challenger.[7] We therefore derive our final hypothesis, and provide an outline of the hypothesized decision-making process in **Figure 1**:

Hypothesis 3. *Openness should play a stronger role in the decisions of Independent voters.*

3. DATA AND METHODS

We examine our hypotheses using the 2014 and 2016 Cooperative Congressional Election Studies (CCESes), focusing on House incumbents (Schaffner and Ansolabehere, 2017; Ansolabehere and Schaffner, 2018). In both years, we asked respondents to take the Ten-Item Personality Inventory ("TIPI") to estimate their Big Five personality traits on a 1–7 scale, which we subsequently rescale to a 0–1 scale (*Openness*: mean $\approx$ 0.657, s.d. $\approx$ 0.189; *Conscientiousness*: mean $\approx$ 0.760, s.d. $\approx$ 0.196; *Extraversion*: mean $\approx$ 0.470, s.d. $\approx$ 0.237; *Agreeableness*: mean $\approx$ 0.676, s.d. $\approx$ 0.193; *Neuroticism*: mean $\approx$ 0.352, s.d. $\approx$ 0.219).[8] In 2014, 1,000 respondents were asked, and 3,000 were asked in 2016. Additionally, respondents were asked to place their representatives and major-party challengers on an seven-point ideological scale, ranging from "Very Liberal" to "Very Conservative" (*Incumbents*: mean $\approx$

4.330, s.d. $\approx$ 1.915; *Challengers*: mean $\approx$ 3.946, s.d. $\approx$ 1.778). Respondents were also asked their own party registrations, and these were used to determine whether the respondent was an *Inpartisan* (having the same party affiliation as the incumbent Representative; mean $\approx$ 0.380, s.d. $\approx$ 0.485), an *Outpartisan* (having the same major-party affiliation as the major-party challenger; mean $\approx$ 0.249, s.d. $\approx$ 0.433), or an *Independent* (not having a major-party affiliation; mean $\approx$ 0.371, s.d. $\approx$ 0.483).[9]

Along with the variables derived from the Big Five and ideology, we include as covariates respondents' age (*Age*/100: mean $\approx$ 0.489, s.d. $\approx$ 0.168), race (*Non-white*: mean $\approx$ 0.267, s.d. $\approx$ 0.442), gender (*Male*: mean $\approx$ 0.470, s.d. $\approx$ 0.499), income (*Income [1 =< 10 k; 12 => 150 k; 13 = Refused]*: mean $\approx$ 7.040, s.d. $\approx$ 3.669; *Income Refused*: mean $\approx$ 0.109, s.d. $\approx$ 0.312), education (*Education [1 = No HS; 6 = Post-graduate]*: mean $\approx$ 3.677, s.d. $\approx$ 1.479), marital status (*Married*: mean $\approx$ 0.439, s.d. $\approx$ 0.496), feelings about the economy (*State of National Economy [1 = Gotten much better; 5 = Gotten much worse]*: mean $\approx$ 3.080, s.d. $\approx$ 1.040), and a political knowledge variable equaling one if the respondent knew the party in control of the House (Republicans in both years) and zero otherwise (*Knowledge of House Control*: mean $\approx$ 0.616, s.d. $\approx$ 0.486). We also include contest-level variables including the extent of the race's competition (*Competitive Election*: mean $\approx$ 0.610, s.d. $\approx$ 0.291), which ranges from 0 (meaning one major-party candidate received 100% of the vote in the previous election) to 1 (the hypothetical maximum where both major-party candidates were tied), whether the incumbent is a freshman (*Freshman Representative*: mean $\approx$ 0.181, s.d. $\approx$ 0.385), whether or not the challenger had previously held elected office (*Quality Challenger*: mean $\approx$ 0.142, s.d. $\approx$ 0.349), and whether the race is a midterm election (*Midterm Election*: mean $\approx$ 0.201, s.d. $\approx$ 0.401).

We operationalize the riskiness of challengers in two ways. First, we create an indicator variable (*Unknown Challenger Ideology*: mean $\approx$ 0.662, s.d. $\approx$ 0.473) equaling one if the respondent was unable to place the challenger on the ideological scale, and zero otherwise; at the individual voter level, a "risky" challenger will be one they are unable to place on the ideological scale, since the resulting effect on policy outcomes will be unknown.[10] Combined with the aforementioned Big Five traits (focusing on Openness in particular), these will be our key covariates of interest. Additionally, we interact *Unknown Challenger Ideology* with the Big Five traits to account for the dynamics suggested by Hypothesis 3.

Additionally, we consider a more theoretically grounded approach accounting for the role of ideological uncertainty for those who were able to provide candidate placements (but leaves us with fewer observations as not everyone was able to place the candidates on the ideological scale). Suppose respondent

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[7]This is in line with the findings of Eckles et al. (2014), who found the influence of risk aversion on incumbent voting was strongest among Independents. We do note that Eckles et al. (2014) uses the risk tolerance measure of Barsky et al. (1997), which was validated against risky behaviors that should also be high psychological entropy behaviors. Furthermore, Eckles et al. (2014) uses a version of the measure that compares a current job with a new job, allowing "status quo bias" to enter into the measure according to Barsky et al. (1997), which we hold is an implication of aversion to psychological entropy.

[8]While the TIPI is shorter than standard instruments, it is well-suited to time-limited tasks like the CCES, and results from the TIPI tend to be highly correlated with the results one would get from longer batteries of questions (Gosling et al., 2003; Ehrhart et al., 2009). The question wording is given in the Appendix in **Supplementary Material**.

[9]We drop those districts without major-party challengers or incumbents running for reelection.

[10]There were no cases in which a respondent was unable to place the incumbent on the ideological scale but able to place the challenger on the ideological scale. Thus, challengers are always weakly riskier than incumbents by this measure.
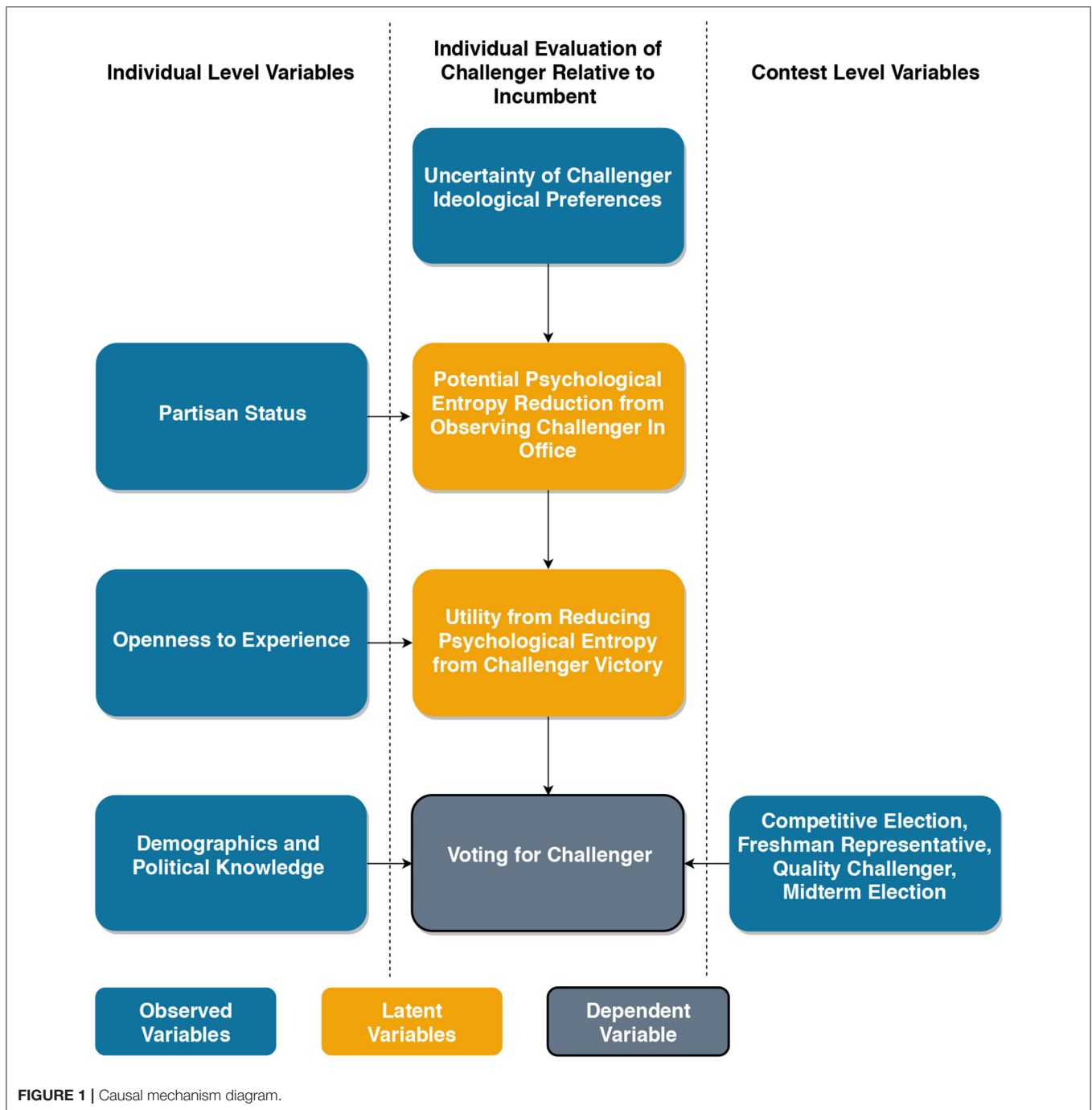
FIGURE 1 | Causal mechanism diagram.

i has self-reported ideology θ_i. While respondent i does not know the ideologies of either the incumbent or the challenger, i does possess a prior belief regarding candidate j's ideology, ϕ_j. Specifically, i believes ϕ_j is drawn from a Normal distribution with known mean and variance, i.e., $\phi_j \sim N(\mu_j, \sigma_j^2)$. If i's utility for candidate j is given by the standard quadratic form,

$$u_i(\phi_j) = -(\theta_i - \phi_j)^2, \qquad (1)$$

it is straightforward to show i's expected utility—given the uncertainty in ϕ_j—is

$$\mathbb{E}[u_i(\phi_j)] = -(\theta_i - \mu_j)^2 - \sigma_j^2. \qquad (2)$$

We can compute the above the equation for each candidate (incumbent, I, and challenger, C) and then calculate the

difference in utilities:

$$\mathbb{E}[u_i(\phi_I)] - \mathbb{E}[u_i(\phi_C)] = \underbrace{(\theta_i - \mu_C)^2 - (\theta_i - \mu_I)^2}_{\text{Mean dissimilarity between } I \text{ and } C}$$
$$+ \underbrace{(\sigma_C^2 - \sigma_I^2)}_{\text{Variance difference}} \quad . \qquad (3)$$

In other words, if I is closer (in expectation) to i than C, the respondent gets more utility from the incumbent. However, if I is perceived as more variable than C, this proximity advantage can be mitigated. Our estimates of this difference are denoted as *Relative Ideological Difference*.

In the spirit of Somer-Topcu (2015) and Rogowski and Tucker (2018), we assume (μ_I, μ_C) and (σ_I^2, σ_C^2) are, respectively, given by the means and variances of the ideological scale placements of incumbents and challengers among all respondents in a given congressional district in the *Common Content* of the CCES. Since our personality-related questions are only available for the 4,000 respondents in our samples, we use the Common Content data (which pools respondents across all teams participating in the CCES) to gauge the prior means and variances of candidate positions. This gives us about 100 respondents per district in 2014 and 140 per district in 2016, which is sufficient to estimate these positions.[11] Thus, we use the estimates of the differences in variances—denoted as *Relative Variance Difference* ($\mu \approx 0.307$, $\sigma \approx 0.654$)—as our second measure of challenger riskiness.[12]

Our dependent variable in all analyses is a binary variable equaling one if the respondent voted for the incumbent, and zero otherwise (*Incumbent Vote*: $\mu \approx 0.624$, $\sigma \approx 0.484$); as we are estimating a binary-dependent variable model, we estimate four probit models—one including all *"True" Independents* (i.e., those who initially responded as having no partisan affiliation and did not indicate they "leaned" toward one particular party), one including *"Self-Described" Independents* (i.e., those who initially responded as having no partisan affiliation but did indicate they "leaned" toward one particular party upon further probing), one including only *Inpartisans*, one including only *Outpartisans*, and an *All Respondents* model.[13] We estimate separate models because the effects of Openness likely vary depending on the partisan relationship between respondents and incumbents, as per Hypothesis 3.
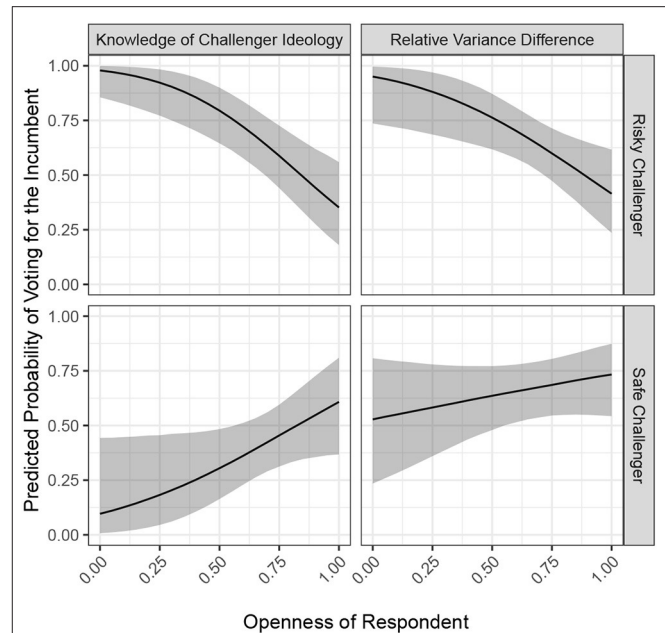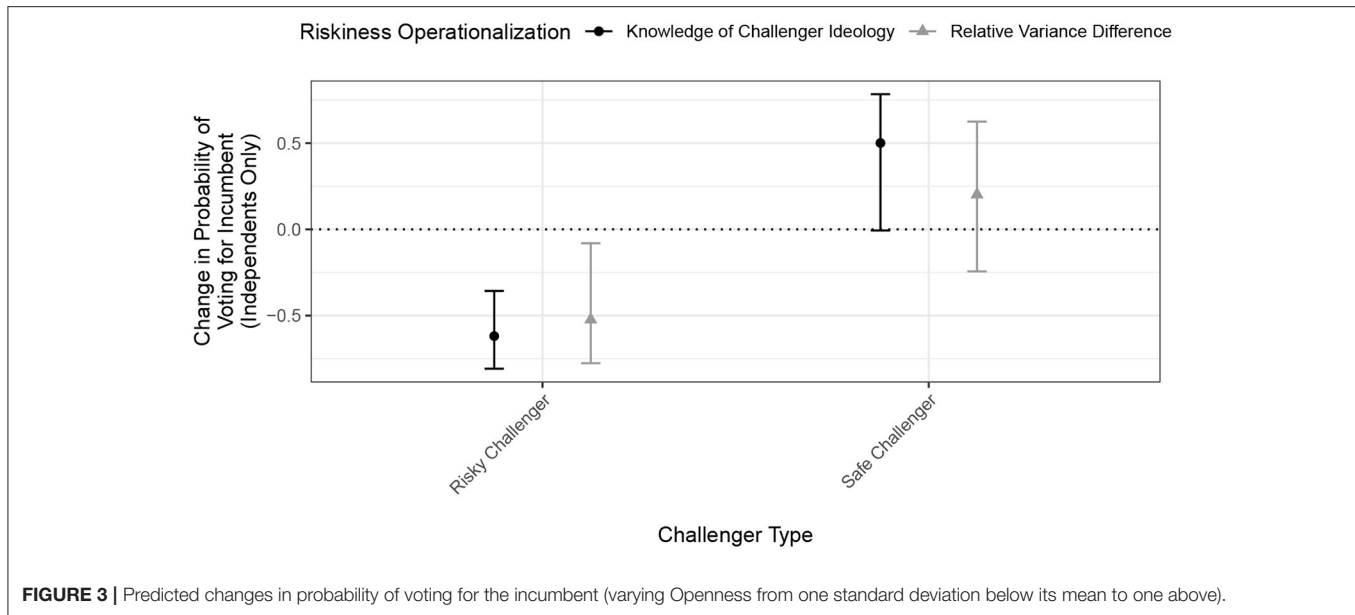
4. RESULTS AND DISCUSSION

FIGURE 2 | Predicted probabilities of voting for the incumbent.

Using these measures, we estimate a series of probit models, with results in Tables B-1 (where *Relative Variance Difference* is used) and B-2 (where *Unknown Challenger Ideology* is used), both of which are in the Appendix in **Supplementary Material**. The results align with our expectations; namely, Openness strongly mitigates the role of perceived ideological uncertainty in Independents' propensity to vote for incumbents, who cannot rely on partisan cues to reduce the psychological entropy posed by uncertain challengers. More specifically, neither *Openness* nor *Relative Variance Difference* are significant at conventional levels in the partisan models.[14] Thus, it suggests the results in the pooled model might be driven entirely by independents, in line with Hypothesis 3. Thus, we focus on independents for the rest of this paper, with a particular focus on the "Self-Described" Independents model.[15]

For ease of interpretation, we present predicted probabilities of voting for the incumbent as a function of Openness (shown in **Figure 2**), as well as the marginal effects of Openness (shown in **Figure 3**). In both **Figures 2**, **3**, we fix the mean ideological

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[11] Ramey (2016) suggests samples as small as 50 respondents per district are sufficient for assessing positions.

[12] In the event that the challenger's variance is smaller than the incumbent's variance (suggesting that the incumbent is riskier than the challenger), the *Relative Variance Difference* will have a negative value. If the incumbent is riskier than the challenger, observing the incumbent in office will offer greater potential psychological entropy reduction. More Open respondents will gain more psychological entropy reduction utility from voting for the incumbent, so we should expect the coefficient for the interaction between *Openness* and *Relative Variance Difference* to remain negative for this subset.

[13] We use survey weights constructed to match the demographics of the American Community Survey.

[14] Results (see Appendix in **Supplementary Material**) are substantively similar if we estimate models without any variables aside from our measures of personality and psychological entropy. Additionally, to account for the possibility that more Open respondents are more liberal, on average, we estimate models where we include *Ideological Self-Placement* ($\mu \approx 4.106$, $\sigma \approx 1.788$)—which we define as the respondent's self-placement on the seven-point ideological scale—as an additional control variable; results, which are in the Appendix in **Supplementary Material**, are substantively similar to those presented here.

[15] Our results for "Self-Described" Independents and "True" Independents are substantively similar when *Relative Variance Difference* is used, though the results for "True" Independents are substantially weaker than those for "Self-Described Independents" when *Unknown Challenger Ideology* is used (though the point estimates for the relevant coefficients are in the same direction).

FIGURE 3 | Predicted changes in probability of voting for the incumbent (varying Openness from one standard deviation below its mean to one above).

proximity at 0 (for the *Relative Variance Difference* measure) and vary both Openness and the differences in relative ideological variances. When there is no difference in variance, or when the respondent is able to place the challenger on the ideological scale, Openness does not affect the probability of voting for an incumbent, as per **Figure 2**; indeed, the 95% confidence intervals about the expected percentage changes in the probability of voting for the incumbent both contain zero (see **Figure 3**). However, when the challenger is one standard deviation more variable than the incumbent, or when the respondent is unable to place the challenger, the least Open respondents nearly all vote for the incumbent, whereas the most Open have under a 50% probability of doing so (per **Figure 2**); for these challengers, as shown in **Figure 3**, the effect of moving Openness from its minimum to the maximum decreases the probability of voting for the incumbent by ∼50% points, regardless of how uncertainty is operationalized. Both results are consistent with Hypotheses 1 and 2.

5. CONCLUSIONS

This project uses the case of the electoral advantage to incumbency to examine the role that preferences for encountering and reducing psychological entropy can play in guiding choice under uncertainty. We find that more Open voters are more likely to vote for uncertain challengers, but only among Independent voters who cannot rely on partisan cues to simplify the set of possible reactions to viewing the uncertain challenger in office. This is in line with DeYoung (2013)'s argument that Openness represents variation in reward for engaging psychological entropy, and Ramey et al. (2017)'s argument that Openness represents a compulsion to gather and process information.

An underlying assumption of Hypothesis 1 is that challengers who are virtual unknowns should be perceived as more uncertain and generate a wider variety of subjectively plausible reactions to their election. The lack of empirical support for Hypothesis 1 and finding of support for Hypothesis 3 suggests that partisan voters may not in fact perceive unknown challengers as presenting a wider variety of plausible reactions if they are elected. We suggest that partisanship fully simplifies partisan voters' reactions to the election of an uncertain challenger and leaves little variation in the potential reduction in psychological entropy from observing known or unknown challengers. As a result, Openness only is associated with a preference for unknown challengers among individuals who cannot rely on partisan heuristics to simplify their consideration of the election of a virtual unknown candidate.

These findings do not provide evidence that Openness generally represents a general preference for uncertainty or risk, as the relationship between Openness, challenger ideological uncertainty, and vote choice did not hold for partisans. Since we find a significant relationship only among those voters for whom partisan attachments (and thus the psychological entropy-reducing power of partisan heuristics) are weakest, the evidence supports a refinement of that framework of Openness as a preference for encountering and reducing psychological entropy. For partisan voters, the party brand label attached to a candidate appears to simplify potential responses to uncertain agreement or disagreement with candidate policy preferences to the point where the difference in psychological entropy is low and Openness has little influence. These findings further highlight the importance of context in understanding the broad impact of personality traits on choice under uncertainty, and the role of partisan heuristics in not only conveying information but reducing the psychological entropy experienced by partisan voters.

There are several opportunities for future researchers to build upon this study. First, while the TIPI is a widely used measure of personality due to its brevity and ease of administration, using a more detailed personality inventory, such as the NEO-PI-R or the IPIP to measure voters' personality traits could potentially increase confidence in the findings and also allow for examination of the role individual facets of Openness play in driving preferences for uncertain challengers. Second, including multi-item measures of political knowledge, evaluations of government performance, and candidate quality could provide additional confirmatory evidence for the overall result. Finally, expanding upon the results of this observational study with experimental designs that could prime and vary probable outcomes associated with the election of different candidates, along with the partisanship and incumbency of those candidates, would allow the causal effects of candidate psychological entropy to be investigated directly.

Finally, while our results are only apparent for Independent voters, and especially self-described Independent voters, it should be noted that such voters comprise one of the largest—if not the single largest—voting blocs in the United States, and have done so for some time. For example, a Pew study conducted in 2019 found that 38% of voters were self-described Independents, with 31% identifying as Democrats, 26% as Republicans, and the rest either refusing to answer the question, not knowing, or identifying with a third party; these figures are comparable to those in our sample (Pew Research Center, 2019). Even then, most self-described Independents are partisan "leaners" who generally prefer one major party to the other (Keith et al., 1992; Hajnal and Lee, 2011); this is evident in the Pew sample as well as our own. While our results for this subset of "true" Independents are somewhat weaker (as previously mentioned, see Appendix in **Supplementary Material** for full results for this subsample), they are generally consistent with the results for self-described Independents. Depending on how Independents are defined, our results speak to the voting behavior of between one-quarter and one-third of American voters and provide further evidence of the importance of personality traits in the process.[16]

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by New York University and University of Notre Dame IRBs. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct and intellectual contribution to the work, and approved it for publication.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpos.2021.636874/full#supplementary-material

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[16]However, it is unclear how much our results might generalize to contexts outside the United States. For example, party membership in Europe is extremely low relative to the United States, below 5% of the electorate on average and below 2% in a few countries (Mair and Van Biezen, 2001). Additionally, a recent study of Latin American party membership suggested that, on average, about 30% of the electorate across 12 different countries were members of formal political parties (Došek, 2016). As such, while there are more "independent" voters on paper in many countries outside of the United States, it seems unlikely that the dynamics uncovered here would manifest in the exact same way, given the different voting systems and party dynamics present elsewhere. Future research is needed to fully establish the generalizability of our findings.

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The Dark is Rising: Contrasting the Dark Triad and Light Triad on Measures of Political Ambition and Participation

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A growing body of research suggests a significant relationship between dark personality traits and political behavior. While the personality characteristics of Machiavellianism, narcissism, and psychopathy (labeled the Dark Triad) are associated with a range of political attitudes, research has not tested the Dark Triad in combination with the emerging use of the comparable Light Triad of personality. This paper sets up an exploration of the competing influences of light and dark personality traits on political participation and ambition. Our analyses corroborate that Dark Triad traits are significantly related to ambition and political participation. Consistent with prior research, the dark personality traits remain predominant. However, there are significant effects for some Light Triad traits as well. Our findings have implications for a deeper understanding of the mix of personality traits that drive political behavior and expand upon the normative discussion of who is, in fact, political.

Keywords: political ambition, participation, personality, dark triad, light triad

INTRODUCTION

The study of personality and politics spans decades from the Freudian approaches adapted to politics by Harold Lasswell (1948) to the modern exploration of the Big 5 and its political correlates Mondak (2010). While the Big 5 remains the dominant framework for understanding personality in politics, emergent research pushes beyond the broad traits and measurement of the Big 5 to explore the influence of more individualized personality types. The Dark Triad (consisting of Machiavellianism, narcissism, and psychopathy) has proven especially fruitful in studies examining a variety of political attitudes and behaviors (Hodson, et al., 2009; Blais and Pruysers 2017; Peterson and Palmer 2019; Pruysers, et al., 2019; Chen, et al., 2020). Whether helping scholars unpack questions of the personality determinants of nascent ambition (Blais and Pruysers 2017; Peterson and Palmer 2019) or understand an individuals' orientations toward politics more generally, dark personality traits lend significant explanatory power even when controlling for conventional explanations (Chen, et al., 2020). If we understand politics to be at times a dark place with competition and conflict endemic to the endeavor, it makes sense that some individuals would be drawn to politics while others might be repelled.

However, participation and ambition are driven by more than the aforementioned dark personality traits. A new paradigm dubbed the Light Triad taps positive personality traits nearly diametrically opposed to the Dark Triad. The Light Triad, a constellation of traits consisting of faith

in humanity, Kantianism, and humanism, provides a framework of positive traits that also influence individual attitudes and behaviors (Kaufman, et al., 2019). However, compared to the numerous papers on the Dark Triad (Paulhus and Williams 2002; Chabrol, et al., 2009; Jones and Paulhus 2010; Rauthmann and Kolar 2012; Muris, et al., 2017), the Light Triad is new and relatively untested in the realm of political behavior (see Neumann, et al., 2020 for an observational application of the Light and Dark Triad to U.S. Senators).

The contrast and competition between light and dark traits provide an opportunity for political psychology to test the persistence of the Dark Triad in explaining political behavior against the positive influence of the Light Triad. While politics can be a dark place, do more positive personality traits concurrently drive people to engage with politics? Can the concept of the Light Triad provide leverage to better understand why people express the desire to run for office, and perhaps, provide a more normatively palatable distillation of ambition? Broadly, is there merit to using the previously untapped concept of the Light Triad to study political behavior? To test these questions, we conducted an online survey of 800 respondents using Amazon's Mechanical Turk in the Fall of 2020.

We find, consistent with previous research, that individuals broadly higher in Dark Triad traits like Machiavellianism, psychopathy, and narcissism are likely to express greater nascent political ambition, as well as being more likely to engage in political participation. We also find significant effects for certain Light Triad traits, though these effects are less consistent and less impactful than dark traits. The results have implications for understanding the traits that drive people to politics and whether dark or light personality traits win out when studying political behavior.

Dark Traits, Personality, and Political Correlates

A sizable body of research in psychology explores the Dark Triad and its influence on attitudes and behaviors (Paulhus and Williams 2002; Vernon, et al., 2008; Jonason, et al., 2009; Jonason and Webster 2010; Jones and Paulhus 2010; Rauthmann and Kolar 2012). The Triad consists of Machiavellianism (the tendency to engage in manipulation of others for one's own ends), narcissism (an inflated sense of self-worth), and psychopathy (lack of empathy or remorse for actions) (Paulhus and Williams 2002). In social life, these subclinical dark personality traits are associated with a host of negative behaviors and attitudes. Machiavellians exhibit highly selfish behavior, seeking to maximize the accomplishment of their own end goals at the expense of those around them as well as being comfortable using lies or deception to achieve goals (Jones and Paulhus 2009). Narcissism is a complicated collection of characteristics, including an exaggerated sense of self-worth and individual importance (Raskin and Terry 1988) and self-love (Vernon, et al., 2008). Finally, psychopathy consists of a number of antisocial behaviors, including low levels of

empathy and higher levels of impulsiveness (Cleckley 1955; Bishop and Hare 2008).

Politics is social, yet also requires different interests, and perhaps even a different skillset than everyday life. The dimensions of politics that repel some people (conflict, strategizing, competition, and exposure to the public eye) are features that propel others into politics: from social behaviors like attending rallies to the costliest form of participation—running for office. When exploring ambition in particular, a healthy research agenda examines how gender influences nascent ambition and why women are less likely to be politically ambitious than men (Fox and Lawless 2011; Lawless and Fox 2015; Preece, et al., 2016; Schneider, et al., 2016; Crowder-Meyer 2018; Pruysers and Blais 2018). Other scholars investigate how variation in personality traits like the Big 5 and social background beyond gender affects nascent ambition (Allen and Cutts 2017; Blais and Pruysers 2017; Allen and Cutts 2018; Dynes, et al., 2019).

Ambitious, competitive, and dark personality traits in social life are also significant predictors of political ambition. Whether it is the desire to run or the belief that one is qualified for office, recent scholarship provides evidence that the Dark Triad is related to political ambition (Blais and Pruysers 2017; Peterson and Palmer 2019). Blais and Pruysers, 2017, in their initial study, find a significant role for Machiavellianism and narcissism in perceptions of one's qualification for and future success in a political career. A follow-up by Peterson and Palmer (2019) expands upon this, demonstrating a role for Machiavellianism not only in the considerations of a political career, but also an interest in engaging in the acts required to run for office, while narcissism was connected most consistently to the desire to run for office.

While this research is still emerging, an initial consensus of such work is that individuals higher in the Dark Triad are more likely to view themselves and qualified to run and more likely to have thought about running for office (Blais and Pruysers 2017; Peterson and Palmer 2019). Furthermore, when exploring broader participation, Chen et al. (2020) find that narcissism and psychopathy have a direct influence on political participation, and notably, narcissism is related to higher political interest but lower political knowledge (Chen, et al., 2020).

The emerging conception of the Light Triad seeks to overtly rebalance the scholarly narrative and normative dialogue around personality by emphasizing the role of positive traits in psychology (Kaufman, et al., 2019). While the Light Triad is a new conception of positive traits, psychology has frequently explored prosocial traits like self-esteem, altruism, gratitude, intellectual humility, mindfulness, morality, among others (Kaufman et al., 2019, p. 2). The Light Triad is particularly appealing as a comparison in political behavior because it is designed to capture aspects of personality that represent the opposite side of the coin to the Dark Triad. The Light Triad consists of Kantianism, or the view that individuals have a distinct purpose, rather than merely a means to an end; humanism, or the belief in the worth of everyone, as opposed to emphasizing one's own self-worth; and faith in humanity, or the idea that all persons

are fundamentally good (Kaufman, et al., 2019). In building the Light Triad, Kaufman and coauthors used the following question as motivation: "what would an everyday loving and beneficent orientation toward others look like that is in direct contrast to the everyday antagonistic orientation of those scoring high on dark traits" (2). Thus, the purpose is to overtly juxtapose the Light Triad with the dominant research paradigm of the Dark Triad. Despite the interconnected origins of the concept, Kaufman and his colleagues (2019) find that the Light Triad is distinct from the Dark Triad both conceptually and empirically.

To our knowledge, no research in political psychology broaches the direct contrast between the Dark Triad and its emergent competitor despite the archetypal allure of a light vs. dark framework.[1] Empirically, inclusion of the Light Triad provides the ability to test the extent that positive traits (rather than their negative counterparts) spur political engagement and political aspirations. Ultimately, scholarship shows that political ambition and participation are correlated with numerous aspects of an individual, including personality, demographics, social backgrounds (Fox and Lawless 2011; Schneider et al., 2016; Allen and Cutts 2017; Pruysers and Blais 2018; Dynes et al 2019). The following analysis further elaborates on the diversity of traits and motivations that connect individuals to politics by setting up a direct comparison between the Dark Triad and Light Triad.

MATERIALS AND METHODS

Our test of the political effects of the Dark Triad vis a vis the Light Triad is based upon an online survey conducted *via* Amazon MTurk in the Fall of 2020. The sample consists of 804 participants who opted in from MTurk in exchange for cash payments. Overall, the sample was 74% white, 10% African American, 6% Hispanic, 7% Asian, and 2% other race. Politically, respondents were 56% Democrat (including leaners), 34% Republican (including leaners), and 9% identifying as independents. The survey contained an initial demographic battery, and the three key modules: the measurement of personality (the Dark and Light Triad), political ambition, and political participation.

Our measure of the Dark Triad uses the "dirty dozen" battery to capture the Dark Triad (see **Supplementary Appendix** for the full question wording of the battery) (Jonason and Webster 2010; Jonason and McCain 2012).[2] The scales demonstrate strong reliability with the Machiavellianism, narcissism, and psychopathy items scaling together with alpha values of 0.95, 0.93, and 0.91, respectively. Scholars debate whether the Dark Triad should be analyzed as a global dark trait ("unification perspective") or as individual traits ("uniqueness perspective")

given the substantial correlation between Machiavellianism, narcissism, and psychopathy (Muris, et al., 2017; Rauthmann and Kolar, 2012). Research in political behavior has opted to use the individual traits in model specification, and we follow this approach by including Machiavellinism, narcissism, and psychopathy in our models. However, we also estimate models using the overall Light and Dark Triads to test the influence of the respective global constructs on our dependent variables. To measure the Light Triad we use the battery designed by Kaufman et al. (2019), which parallels the dirty dozen Dark Triad battery by using 12 total items to capture faith in humanity, humanism, and Kantianism. Much like the Dark Triad, we find the Light Triad items are quite reliable, with Faith in Humanity scaling with an alpha of 0.88, Humanism with an alpha of 0.82, and Kantianism with an alpha of 0.77.

Our dependent variables are designed to capture two dimensions related to political engagement: political ambition and participation. First, we analyze the two standard measures of nascent ambition (asking respondents whether they have thought about running for political office and how qualified they feel they are to run for office). To capture participation, we ask respondents to respond to a broad battery of 14 items tapping political participation beyond voting, measured by the respondent's frequency of engaging in each activity from never to more than five times. Each participation item is measured using a 4-point scale. Following the example of Chen et al. (2020), we separate the participation items into three categories of activity: Political, Social, and Charitable participation. Full question wording for the personality traits and participation items are in **Supplementary Appendix A**.

Our models also include a host of control variables both demographic and political that are associated with nascent ambition and participation in prior research. These control variables include: gender (coded as female "1" and male "0"), age in years (running from 18 to 70), education (less than high school to graduate/professional degree), income (measured in categories from less than $10K to more than $150K), strength of partisanship (running from leaners to strong partisans), and race (coded as nonwhite "1" and white "0"). All variables are rescaled to run from 0 to 1 for ease of comparability.

RESULTS

Broadly, given the nature of politics, we expect that Dark Triad traits will continue to be significant correlates of ambition and participation, even when introducing the Light Triad into the equation. On the light side, Faith in Humanity and Humanism might be significant in politics, but Kantianism with its focus on authenticity will likely not be a strong correlate to political action. The analysis proceeds by first presenting a correlation matrix of the Dark and Light Triad traits before moving to our multivariate analyses. The correlation matrix appears in **Table 1** below.

Among the Triad traits, we see quite strong correlations between the Dark Triad traits, as Machiavellianism correlates with narcissism at 0.85 and Psychopathy at 0.89, and Narcissism with Psychopathy at 0.81. Correspondingly, the interrelationships

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[1]Research in political science has included other positive traits, such as self-esteem (Sniderman 1975; Wolak and Stapleton 2020), as well as those utilizing the HEXACO model of personality which includes the trait of honesty-humility (Chirumbolo and Leone 2010).

[2]While used in many studies on the Dark Triad, the Dirty Dozen has been critiqued in psychology as a measure of dark traits. See Kajonius et al. (2016) for an empirical look at the strengths and limitations of the Dirty Dozen as a reduced-item measure of the Triad.

TABLE 1 | Correlations among covariates.

	1	2	3	4	5	6	7	8
1. Machiavellianism	—							
2. Narcissism	0.85**	—						
3. Psychopathy	0.89**	0.81**	—					
4. Faith in humanity	0.18**	0.23**	0.09*	—				
5. Humanism	0.04	0.12**	−0.04	0.76**	—			
6. Kantianism	−0.22**	−0.15**	−0.17**	0.46**	0.62**	—		
7. Dark triad	0.97**	0.93**	0.95**	0.17**	0.04	−0.19**	—	
8. Light triad	0.02	0.09**	−0.04	0.88**	0.92**	0.78**	0.03	—

*Cell values are Pearson correlation coefficients. **p < 0.01; *p < 0.05.*

TABLE 2 | Individual triad traits and nascent political ambition.

	Thought about running	Feel qualified to run
Machiavellianism	0.75* (0.36)	0.78* (0.37)
Narcissism	0.68* (0.28)	0.54+ (0.28)
Psychopathy	1.37** (0.35)	0.94* (0.37)
Faith in humanity	0.30 (0.31)	1.21** (0.34)
Humanism	0.20 (0.44)	−0.27 (0.47)
Kantianism	−0.40 (0.36)	−0.54 (0.38)
Female	−0.02 (0.09)	−0.20* (0.08)
Age	0.12 (0.29)	0.89** (0.26)
Education	0.33 (0.21)	0.95** (0.20)
Income	−0.28 (0.18)	−0.16 (0.17)
Strength of partisanship	0.78** (0.16)	0.46** (0.16)
Nonwhite	−0.17 (0.11)	−0.11 (0.10)
Cut 1	1.84 (0.29)	1.70 (0.26)
Cut 2	2.97 (0.30)	2.45 (0.27)
Cut 3	—	3.64 (0.29)
Wald χ^2	376.72	359.91
N	804	804

*Cell values are ordered probit coefficients with robust standard errors in parentheses. DVs scaled to run from 1 (very negative) to 3 (Thought about running) or 4 (Qualifications) (very positive). + p < 0.10; *p < 0.05; **p < 0.01.*

TABLE 3 | Global triad traits and nascent political ambition.

	Thought about running	Feel qualified to run
Dark triad	2.86** (0.18)	2.41** (0.18)
Light triad	0.13 (0.29)	0.59* (0.28)
Female	−0.04 (0.09)	−0.23** (0.08)
Age	0.11 (0.29)	0.82** (0.26)
Education	0.33 (0.21)	0.94** (0.20)
Income	−0.29 (0.18)	−0.18 (0.17)
Strength of partisanship	0.80** (0.16)	0.52** (0.16)
Nonwhite	−0.16 (0.11)	−0.07 (0.10)
Cut 1	1.93 (0.27)	2.01 (0.25)
Cut 2	3.05 (0.28)	2.75 (0.26)
Cut 3	—	3.93 (0.28)
Wald χ^2	376.01	343.14
N	804	804

*Cell values are ordered probit coefficients with robust standard errors in parentheses. DVs scaled to run from 1 (very negative) to 3 (Thought about running) or 4 (Qualifications) (very positive). +: p < 0.10; *: p < 0.05; **: p < 0.01.*

among the Light Triad traits are not quite as pronounced, with Faith in Humanity correlating with Humanism at 0.76, but only 0.46 with Kantianism, and Humanism at 0.62 with Kantianism. More interestingly, the Dark and Light Triad items are essentially uncorrelated with one another, with the strongest of the correlations between any item 0.22, similar to patterns found in Kaufman et al. (2019).

The Triads and Political Ambition

Our approach to testing the relationship between the Dark Triad, Light Triad, and nascent ambition uses two classic questions: has the respondent thought about running for office and how qualified do they see themselves to run for office. For each dependent variable in our analysis, we first include the individual Light and Dark Triad traits, as well as several demographic and political control variables. Further, we subsequently model the relationship using the global Dark and Light Triad. The findings from our ambition models are presented in **Tables 2**, **3**, where the dependent variables are whether the respondent had thought about running for office and how qualified they felt to run for office.

Beginning with the Dark Triad, we seeeach of the traits are positive and statistically significant in both models, with the slight exception of Narcissism in the "qualified" model which is nearly significant at conventional levels (p = 0.053). The more an individual reports dark traits, the more likely they are to respond as having thought about running for office and feeling qualified. These robust effects are present, even while including the competing Light Triad traits and control variables. Similar to previous studies, the Dark Triad retains its substantial relationship to nascent ambition. On the other hand, only one Light Triad trait is significant; Faith in Humanity is positive and significant in the qualified to run model. Individuals who score higher in trusting other people and believing that people are largely good are more likely to view themselves to be qualified to run for office. In contrast, the other legs of the Light Triad (Kantianism and Humanism) fail to reach statistical significance in either model.

As we noted above, considering the Triad trats individually is not the only way to examine their predictive power, and in fact, scholars have analyzed the Dark Triad as a global trait rather than as its individual constituent parts. To explore whether the global traits have predictive power, we replace the individual traits with global constructs in the ambition models. The results are presented in **Table 3**.
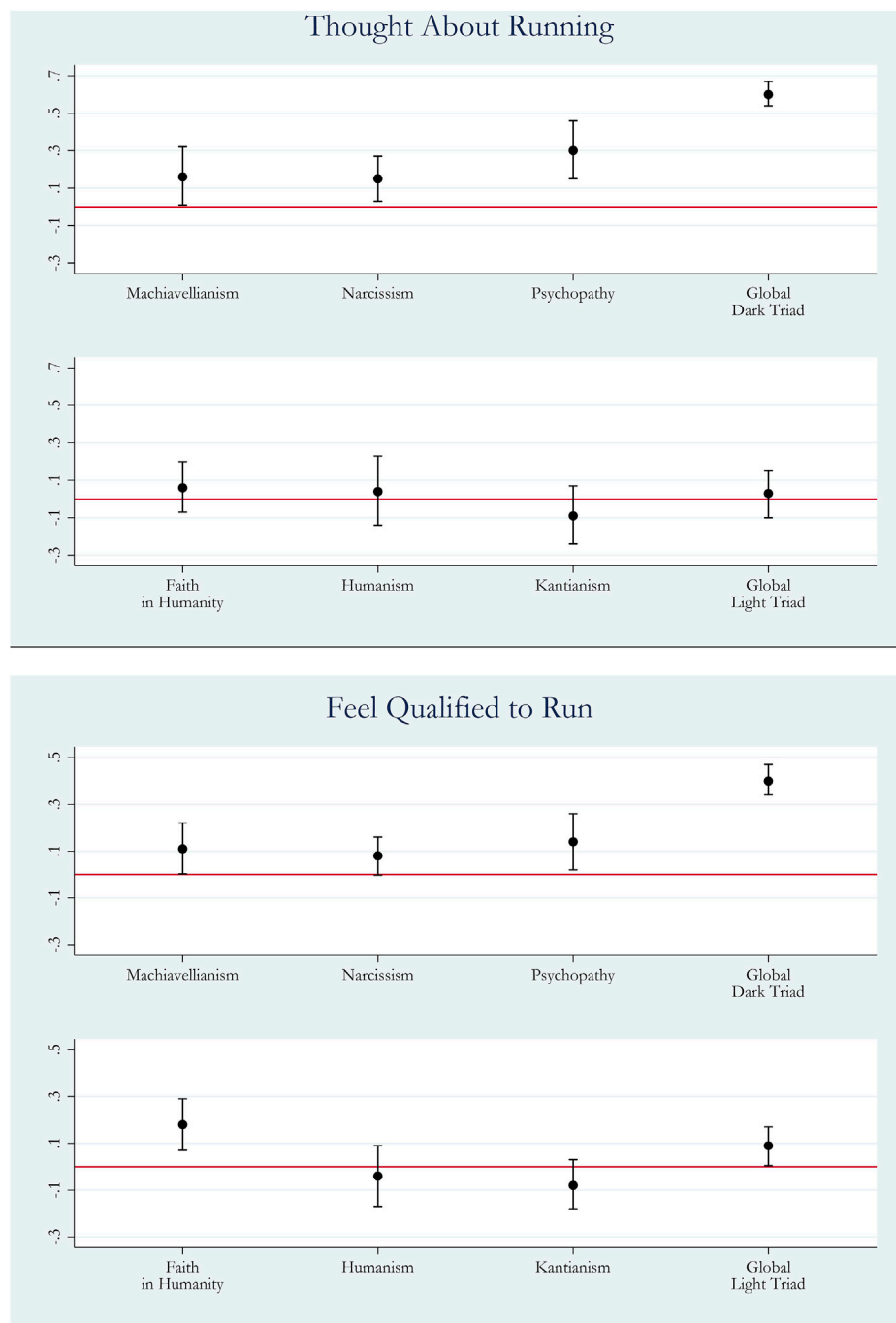
FIGURE 1 | Effects of Triad traits on nascent political ambition.

Similarly to the models that disaggregated the Triad traits, we see that among the global traits, the Dark Triad predominates, with positive and significant effects for both ambition items, while the global Light Triad is significant only for respondents' perceived qualification to run for office.

The consistency of the Dark Triad in predicting nascent political ambition at the expense of the Light Triad does not, however, address the question of the substantive impact of the

individual and global traits. While the Dark Triad is a more likely predictor, which of the individual or global traits has the largest substantive effect in shaping ambition?

To illustrate the substantive effects of the Triad traits on the likelihood of expressing the highest level of ambition (having thought about running for office many times and feeling qualified/very qualified to run for office, respectively), we generate marginal effects for the highest category of each

TABLE 4 | Individual triad traits and participation.

	Political	Social	Charitable
Machiavellianism	0.59** (0.17)	0.71** (0.20)	0.68** (0.22)
Narcissism	0.37** (0.13)	0.17 (0.17)	0.38* (0.16)
Psychopathy	0.66** (0.16)	0.10 (0.19)	−0.11 (0.21)
Faith in humanity	0.45** (0.14)	−0.25 (0.19)	0.51** (0.18)
Humanism	−0.02 (0.19)	0.85** (0.25)	0.43+ (0.24)
Kantianism	−0.08 (0.17)	0.15 (0.19)	−0.18 (0.20)
Female	0.01 (0.04)	0.01 (0.05)	−0.01 (0.05)
Age	0.16 (0.12)	0.01 (0.05)	0.67** (0.15)
Education	0.31** (0.09)	0.28* (0.11)	0.52** (0.11)
Income	−0.26** (0.07)	−0.23* (0.09)	0.05 (0.10)
Strength of partisanship	0.41** (0.07)	0.39** (0.09)	0.39** (0.08)
Nonwhite	0.04 (0.05)	0.07 (0.06)	0.08 (0.06)
Constant	0.44 (0.14)	0.71 (0.15)	0.36 (0.15)
R^2	0.54	0.27	0.33
N	804	804	804

Cell values are OLS coefficients with robust standard errors in parentheses. DVs are averages of the respective batteries, scaled to run from 1 (never for all activities) to 4 (more than five times for all activities). +$p < 0.10$; *$p < 0.05$; **$p < 0.01$.

dependent variable, holding all other variables constant at their means. Due to the scaling of the Triad items, the point estimates represent the maximal shift in the variable (the difference of being at the top vs. the bottom of the scale), and are presented with 95% confidence intervals These effects appear in **Figure 1**.

In both panels of **Figure 1**, the story is quite clear, and reinforces the empirics from **Tables 2**, **3**. Not only are the Dark Triad traits more consistent predictors of both components of political ambition, their substantive impact is larger as well. This is particularly clear when we consider the relative impact of the global traits—the global Dark Triad has an increase in the likelihood of having thought about running of approximately 0.6, while for the Light Triad the effect is indistinguishable from 0. While the effects for feeling qualified to run are more modest across the board, the Dark Triad's effects are still substantively larger (a 0.4 point increase in the likelihood as compared to only a 0.1 increase).

The Triads and Political Participation

The final analyses focus on engaging in a series of participatory acts beyond the simple act of voting across three dimensions: political participation, social participation, and charitable participation. We utilize a 14-item participation battery, where each activity is measured on a 4-point scale describing frequency of engagement (1 = never, 4 = five or more times in the last 12 months). Following the example of Chen et al. (2020), we break the 14 items into three separate scales, following their categorization: political (six items, alpha reliability of 0.91), social (five items, alpha reliability of 0.83), and charitable participation (three items, alpha reliability of 0.75)[3] (Chen, et al., 2020). These dimensions of behavior, while correlated, are theoretically distinct.[4] We again focus on models including both Dark and Light Triad items for these three outcomes in **Table 4** below.

[3]Items are broken down by category along with full question wording in **Supplementary Appendix A**.

[4]We do not examine voting behavior in these analyses as 93% of the sample self-report voting on or before election day in the 2020 election.

Respondents scoring higher in Machiavellianism are positively inclined to participate across all dimensions of participation, be it political, social, or charitable. Among the remaining Dark Triad traits, we see that Narcissism is, positive and significant with respect to political participation as well as charitable participation, but not social participation. Also, perhaps most important to note, while psychopathy has a positive and significant effect with respect to political participation, it is unrelated to both social and charitable participation. While there may be a role for psychopathy in politics, these findings would suggest its plays less of a role social and charitable participation.

When examining the Light Triad traits, we see mixed results. Faith in Humanity is positive and significantly related elements of participation for political and charitable participation, but is unrelated to social participation. Humanism, while insignificant with respect to political participation, is positive and significant in the social participation model, and approaches conventional levels of significance in the charitable participation model ($p = 0.07$). The final of the traits, Kantianism, appears to be empirically unrelated to any form of participation, whether political, social, or charitable.

To further supplement these analyses, as we did with our examination of political ambition, we consider the effects of the global Triad traits on participation in **Table 5**.

Analyzing the global Triad traits with respect to participation provides a further bookend to the pattern we have observed throughout our analyses, albiet with more consistent effects for the Light Triad. Both global Triad measures are positive and significant for all forms of participation, political, social, and charitable. This lends credence to the usefulness of considering the overall Light Triad in participation. However, what becomes more interesting is the effect sizes of the global traits. Because these models are OLS and the Triad measures are comparably scaled, the coefficients are directly comparable. It is striking how the gap between Dark and Light Triad traits shrinks across forms of participation. From politics, where the effect of the Dark is more than four times as large as the Light, to social participation, where the difference is 0.3, to charitable participation, where the differences are negligible at best. This makes sense given the differing motivations at play between political participation and social or charitable participation. One clear take away from the analysis is that Dark Triad (overall or the constituent traits) is predominant in political participation, carrying substantially larger predicted effect than the Light Triad.

DISCUSSION

Summary of Findings: In this paper, we have sought to not only replicate, but extend our understanding of the relationship between personality and political engagement. Utilizing survey data, we set the Dark and Light Triad against one another, examining the relationships between common components of political ambition and more extensive

TABLE 5 | Global triad traits and participation.

	Political participation	Social participation	Charitable participation
Dark triad	1.67** (0.08)	0.99** (0.09)	1.05** (0.10)
Light triad	0.41** (0.14)	0.69** (0.15)	0.92** (0.16)
Female	−0.004 (0.04)	0.03 (0.05)	−0.001 (0.05)
Age	0.15 (0.13)	−0.02 (0.15)	0.61** (0.15)
Education	0.31** (0.09)	0.26* (0.11)	0.51** (0.11)
Income	−0.26** (0.07)	−0.21* (0.09)	0.06 (0.10)
Strength of partisanship	0.43** (0.07)	0.37** (0.09)	0.42** (0.09)
Nonwhite	0.04 (0.05)	0.06 (0.06)	0.08 (0.06)
Constant	0.34 (0.13)	0.79 (0.14)	0.16 (0.14)
R^2	0.53	0.26	0.31
N	804	804	804

Cell values are OLS coefficients with robust standard errors in parentheses. DVs are averages of the respective batteries, scaled to run from 1 (never for all activities) to 4 (more than five times for all activities). +p < 0.10; *p < 0.05; **p < 0.01.

elements of sociopolitical participation. Building from models incorporating the Dark Triad of personality by including the newly developed counterpart the Light Triad, we find evidence that the Dark Triad is predominant in models of ambition and participation; Light traits are sporadic predictors of behavior compared to the dark traits. While the Dark Triad traits, namely Machiavellianism have the most consistent relationship to not only ambition, but also social participation outside the political realm, dark traits are not the only ones relevant for politics. We find meaningful effects for two of the Light Triad traits, Faith in Humanity and Humanism, in relation to political ambition and participation, respectively. Researchers have found leverage in political behavior by exploring dark traits. This focus is with good reason; dark traits are robust correlates of political ambition and participation even when controlling for the positive constellation of the Light Triad. While the Light Triad provides a normatively palatable approach to trait-based research, our analysis finds that the Dark Triad is the more substantial correlate of the domains of ambition and participation.

Limitations

Our findings are not without limitations. As with any personality research utilizing convenience samples, there is a concern that individuals of certain traits are attracted to opting in to surveys. While this is to some degree a valid concern, studies of online convenience sampling including MTurk has shown slight differences in traits such as extraversion as compared to more traditional representative samples (Goodman, et al., 2013), these differences are slight, and do not persist across all dimensions of personality (Holden, et al., 2013), nor do they prevent standard findings obtained from representative samples from being replicated using online convenience samples (Berinsky, et al., 2012). Another possible concern comes from brief measures to capture the Triad traits. While these batteries have been validated, albeit underutilized to date in the case of the Light Triad, there remains a question of whether a more detailed measure of these traits would tease out additional nuance in these relationships that our data cannot capture in its limited form.

Merits and Directions for Future Research: Constructing an empirical battle between light and dark traits necessitates an inevitable normative discussion on the motivations of political action. Do the robust effects of dark traits on ambition and participation paint a bleak picture for representation and political action? We are inclined to stress that many motivations (both dark and light and gray) likely orient individuals to politics. Not all politics is *House of Cards*. Personality is but one of many drivers of political participation, and there are positive motives that prime people to engage in politics. Our analysis incorporates the possibility that a "Lighter Side" of personality with positive motivations might drive people to engage in politics, but our most consistent Light Triad effects are shown in social and charitable participation. Especially when used as a global trait, the Light Triad does show signs that it could influence future research and potentially other domains of political behavior. Without further exploration and comparison of positive personality traits like honesty-humility, we are hesitant to eschew or embrace the Light Triad.

Furthermore, our paper does not broach the interplay between the Big 5 and the Light Triad. Kaufman and colleagues found significant correlation between the Light Triad and some of the Big 5 traits and in particular Agreeableness (Kaufman et al., 2019). While Big 5 traits are not inherently nor conceptually as valenced as the Light and Dark Triad, the prosocial and positive aspects like Openness to Experience, Agreeableness, and Conscientiousness are related to political behavior. In this way, lighter traits beyond the simply Light Triad can influence politics, implying that politics is not solely the realm of darkness.

Citizen engagement is a vital part of democratic governance, with citizen willingness to act on behalf of causes and policies important to them, and even to answer the call to run for office. This application of the Light Triad to political ambition and participation is only a first step, but our findings pitting the Dark and Light Triad traits against one other offer at least a modicum of hope that it is not only individuals with the dark traits who are drawn to politics. In our empirical analysis, the dark is certainly rising, but there is room for positive personality traits to

influence political life. Further research will refine the role that personality plays in the question of who chooses to engage with politics.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by the Susquehanna University IRB. The patients/participants provided their written informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

All authors listed have made a substantial, direct, and intellectual contribution to the work and approved it for publication.

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Valuing Liberty or Equality? Empathetic Personality and Political Intolerance of Harmful Speech

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Political tolerance is a core democratic value, yet a long-standing research agenda suggests that citizens are unwilling to put this value into practice when confronted by groups that they dislike. One of the most disliked groups, especially in recent times, are those promoting racist ideologies. Racist speech poses a challenge to the ideal of political tolerance because it challenges another core tenet of democratic politics – the value of equality. How do citizens deal with threats to equality when making decisions about what speech they believe should be allowed in their communities? In this article, we contribute to the rich literature on political tolerance, but focus on empathy as a key, and understudied, personality trait that should be central to how – and when – citizens reject certain types of speech. Empathy as a cognitive trait relates to one's capacity to accurately perceive the feeling state of another person. Some people are more prone to worry and care about the feelings of other people, and such empathetic people should be most likely to reject speech that causes harm. Using a comparative online survey in Canada ($n = 1,555$) and the United States ($n = 1627$) conducted in 2017, we examine whether empathetic personalities - as measured by a modified version of the Toronto Empathy Scale - predict the tolerance of political activities by "least-liked" as well as prejudicially motivated groups. Using both a standard least-liked political tolerance battery, as well as a vignette experiment that manipulates group type, we test whether higher levels of trait empathy negatively correlate with tolerance of racist speech. Our findings show that empathy powerfully moderates the ways in which citizens react to different forms of objectionable speech.

Keywords: political tolerance, empathy, hate speech, racist speech, public opinion, Canada, United States, political intolerance

INTRODUCTION

Rights of free speech and assembly are central tenets of democratic politics, intended to ensure that a diversity of opinions is possible within democratic debate. Public opinion researchers starting with Stouffer (1955) foundational work have focused on the willingness of citizens to uphold these principles. While citizens within democracies tend to largely support such democratic ideals, a half a century of empirical work suggests that when confronted with a specific group with whom they disagree, support for the value of free speech plummets.

One of the reasons that citizens have a hard time with political tolerance, or "putting up with" speech they disagree with, is because a myriad of other considerations emerge when faced with a

particularly objectionable group promoting obnoxious ideas. Will the speech promote actual violence? Does it erode other core democratic values like social tolerance and equality? Does it do real harm to other citizens? These considerations are at the core of two related literatures. Among political tolerance researchers, assessments of threat are central to understanding when citizens oppose speech. Relatedly, there is also a rich literature on the consequences of hate speech from both critical race scholars and legal scholars studying hate speech laws and court cases. Both these literatures suggest that some forms of speech do real and lasting harm, either because they directly promote violence or because they make it difficult for marginalized communities to live free of discrimination and on equal footing with their compatriots.

While we know a lot about the individual predictors of political (in)tolerance, much less work focuses on how individual dispositions may affect what types of speech are found objectionable. In this article, we focus specifically on explicitly racist groups and how they activate considerations of harm toward ethnic and racial minorities. We argue that those who have more empathetic personalities will be particularly sensitive to this type of harm and, in turn, be more likely to restrict speech by groups that promote social intolerance. To explore this question, we draw on a custom-designed online survey that was conducted in Canada (n = 1,555) and the United States (n = 1,627) in 2017. Using both a standard least-liked political tolerance battery, as well as a vignette experiment that manipulates group type, we test whether higher levels of trait empathy negatively correlate with the tolerance for racist speech. Our findings show that empathy powerfully moderates the ways in which citizens react to different forms of objectionable speech.

EMPATHETIC PERSONALITY AND TOLERANCE

There is, of course, a rich literature on political tolerance attitudes dating back to the mid-twentieth century, including Stouffer's (1955) classic studies on political tolerance [See Sullivan and Transue (1999) for review]. We know from past research that political elites, the more politically engaged (e.g., Stouffer 1955; Sullivan et al., 1982; Hinckley 2010) and the more educated (Bobo and Licari, 1989) consistently show higher levels of political tolerance. Other important predictors of intolerance include living in more rural or more Southern location in the United States., religious affiliation and religiosity, and being a woman (Stouffer 1955; Sullivan et al., 1982; Wilson, 1991; Marcus et al., 1995; Golebiowska, 1996; Cowan and Mettrick, 2002; Cowan and Khatchadourian, 2003)[1]. Yet, we know relatively little about the sources of support for hate speech restrictions, and whether support is 1) simply an expression of political intolerance (and thus explained by the traditional correlates of

intolerance) or 2) has unique predictors that can distinguish between those who favor hate speech restrictions because they are willing to restrict all speech they do not like, vs. those who see a specific, *democratic* rationale for restricting speech such as hate speech.

Social tolerance, or openness to diversity, has been argued to be directly related to political tolerance. Stenner (2005) provides a compelling account that those prone to social tolerance also tend to be more politically tolerant. Yet at the same time, we know that appeals to social equality can make politically tolerant responses more difficult (Sniderman et al., 1996; Gibson, 1998; Gross and Kinder, 1998; Druckman, 2001; Cowan et al., 2002; Dow and Lendler, 2002). Experimental survey research in the United States tends to support the view that social tolerance concerns make political tolerance judgments more difficult. For example, several studies have shown that when people are primed about equality issues before being asked to make a tolerance judgment for racist groups, they are more likely to deny such groups civil liberties (Druckman, 2001; Cowan et al., 2002). Similarly, Harell (2010a) argues that legal norms restricting hate speech mean that citizens can – and do – distinguish between speech that is within the boundaries of democratic debate and that which is not. This suggests that when issues of racial equality are raised, people are more willing to curb the civil liberties of socially intolerant groups.

There are a small number of research articles that specifically consider the correlates of attitudes toward hate speech (Cowan and Mettrick, 2002; Cowan and Khatchadourian, 2003; Lambe, 2004). In addition, Wilson (1994) documented increased aggregate levels of tolerance for left-wing groups while right-wing groups did not see a parallel increase in the United States. Chong (2006) takes this analysis one step further, positing a distinction for attitudes toward exclusionary speech in his analysis of hate speech and the university experience. His analysis documents the trend among younger, more educated individuals to be less tolerant of hate speech than prior research would suggest, which he argues reflects a changing norm environment on university campuses.

If certain types of speech, especially speech that denigrates the inclusion of particular groups within society, are increasingly seen as outside the acceptable bounds of a free and democratic society, then what are the individual level dispositions that make people likely to see the *specific* harm caused by exclusionary discourses? Harell (2010b) shows that among young people, those who have more socially diverse friendship network are least tolerant of racist speech. One of the reasons, she argues, is that those in more socially diverse networks feel a connection to those who are targeted by such speech. Even when such speech does not attack an individual directly, the incentive to think about the potential harm of such speech for others should play an important role in one's decision.

Both socially and in politics, the ability to empathize, to identify with the feelings of others, is recognized as an important behavioral catalyst (Griffin, et al., 1993; Gross, 2008; Andreoni et al., 2017). Campaigns for charitable donations attempt to induce generosity through empathic appeals based on individual need, suffering, or shared identity. In politics,

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[1]Other work e.g., Sheffer (2020) has used an intergroup approach in the Canadian political context.

interest groups often use empathetic frames such as support for the "*hard-working*" or "*disadvantaged*" to generate support for policies or reforms, and citizens in turn view the poor as more deserving of support when the poverty is viewed as outside of their control (Feldman and Zaller, 1992; Applebaum, 2001; Limbeck and Bullock, 2009). These frames are likely to be most successful among those who are prone to caring about others. For example, Feldman et al. (2020) find that people who are more empathetic tend to endorse more support for an individual welfare recipient and for government welfare policies except when it conflicts with a strong belief in individualism.

In functional terms, empathy is an adaptive characteristic designed to effectively communicate messages and to elicit social support or compliance (Redmond, 1989; Spreng et al., 2009). The ability to empathize *requires* that the receiver of the message can identify and relate to the experience, reasoning, and emotional state of the sender (Baron-Cohen and Wheelwright, 2004; Decety and Jackon, 2004; Zaki and Oschner, 2012; Zaki, 2014). Empathy is a complex and contingent process that is highly dependent on individual, environmental, and social factors; nonetheless, consistencies across these factors support an argument that empathy plays a meaningful role in the evaluation of social and political groups (Redmon, 1989; Decety, 2011; Zaki and Oschner, 2012).

For example, research shows that individuals high on trait empathy are disinclined to tolerate political groups perpetuating racist or discriminatory messages (Witenberg, 2007). Relatedly, Cowan and Khatchadourian (2003) find that empathetic personality is positively correlated with perceived harm of hate speech while analytic thinking is correlated with greater tolerance for groups whose message is associated with hate. Butrus and Witenberg (2013) investigate the personality traits predicting the tolerance of prejudicial attitudes toward different ethnic groups, and they find that empathetic concern is negatively correlated with intolerant speech and actions but not intolerant beliefs. Relatedly, Batson and colleagues (2002) find that inducing empathy toward a stigmatized group can lead to support for action to help them.

Nonetheless, an open question remains about when empathy occurs toward others who may be ethnically or racially different from oneself. This is because studies in political science and psychology consistently show that people are much more likely to empathize with members of their in-group than their out-group (Xu et al., 2009; Arceneaux, 2017) and that this tendency is intensified during social competition (Bruneau et al., 2017; Cikara, 2015; Hein et al., 2010; Cikara et al., 2011; Hackel et al., 2017)[2]. Empathy is also affected by perceptions and appraisals of an unknown other's social proximity to oneself (Xu et al., 2009; Krienen et al., 2010). Finally, while studies show that social distance often inhibits the ability to empathize with others (Weisz and Zaki,

2018, p. 68), social proximity and shared experiences can induce empathy. For example, Sirin et al. (2016) found that Blacks and Latinos were more likely to recognize and support each other's claims because of shared experiences of discrimination.

In the context of a civil liberties controversy, we suspect that those high on empathy will be more hostile to groups associated with racist speech and be more likely to empathize with the targets of such speech. This is, in part, because people are less likely to empathize with individuals or groups associated with negative affect (stress, fear, pain) (Redmond, 1989; Zaki, 2014) and because negative emotions are related to political intolerance (Halperin et al., 2014). Lab studies show that negative associations with groups' actions or expressions result in counter-mimicry and the generation of opposing emotional responses, fear in response to out-group anger and aversion in response to out-group fear (van der Schalk et al., 2011). For example, Arceneaux finds that inducing anxiety in participants reduces their willingness to assist members of a socio-political outgroups in need of public assistance (Arceneaux, 2017). By contrast, those high on empathy will be open to appeals made by groups expressing that they themselves are the target of harmful speech or activity. Generalized to the study of political tolerance, we hypothesize that individuals higher on trait empathy should be less tolerant toward actions by political groups that are strongly associated with affective emotions – fear, threat, violence – and more tolerant of groups expressing that they themselves are targets of threats and violence. Neo-Nazis, White Supremacists and other groups whose motivation is exclusion and who are often associated with histories of racial violence will be viewed as threatening. The Black Lives Matter movement, on the other hand, which calls for racial justice and inclusion, will be viewed as relatively less threatening.

In sum, we are interested in testing the relationship between empathy and political intolerance of different types of speech. We do this by relying on a survey experiment about three political groups holding a political march in one's community. The three groups manipulated were 1) White Supremacists, 2) their least-liked political group or 3) Black Lives Matter activists. We predict that for groups associated with prejudice and violence toward minorities, empathy will be negatively correlated with tolerance for their political march. Specifically, we hypothesize that:

> Hypothesis 1: In comparison to Black Lives Matter, higher levels of empathy will be *negatively correlated* with the tolerance for a political march by White Supremacist or least-liked groups.
> Hypothesis 2: In comparison to Black Lives Matter, higher levels of empathy will be positively corrected with the expectation of harm to others following the political march by White Supremacist or least-liked groups.

MATERIALS AND METHODS

The data for this paper were collected from an online survey conducted in the United States (n= 1,646) and Canada (n = 1,627). The study was in the field between January 6 and

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[2]One exception to this trend is a study on immigration and humanitarian concern by Newman et al. (2015) who finds a positive correlation between empathy and out-group support (support for immigration) when the issue is framed as a humanitarian concern.

February 7, 2017. Importantly, the data were collected before significant shifts in public opinion occurred regarding the groups evaluated by participants in our study. Public opinion in the US regarding the Black Lives Matter movement was mixed in early 2017, and high-profile protests by White supremacists in the US had not yet occurred. A number of polls suggest that public support for Black Lives Matter in the US did increase but well after our study was in the field[3].

In Canada, the questionnaire was available in both English and French. Qualtrics, an online survey research firm, administered the data collection. Respondents were selected from among those who had registered to participate in online surveys through several different organizations. The sample providers offered various incentives to participate (equivalent to $1 US). The average time to complete the survey was 22 min. During data collection responses were not forced. In our analyses we drop all participants with missing observations on our dependent or independent variables, leaving a final sample of ($n = 1,627$) in the United States and ($n = 1,555$) in Canada.

A quota system based on age, gender, and education was used to screen potential respondents, which resulted in samples that reflect these measured population parameters in each country. In addition, a language quota was applied in Canada. The final US sample, after excluding missing data, was 51% female, 75% white, a median age of "30–39", and 39% had a post-secondary education. The Canadian sample was 51% female, 81% white, median age of "40–49", and 55% had a post-secondary education. Mean ideological score on a 7-point Likert scale is 4.34 in the US and 4.06 in Canada. Among Canadians in the sample, about 65% reported English as their primary language, 30% selected French, and 5% indicated "other"[4]. The samples were reasonable representative of the geographic diversity of each country. In the US, the sample matches the regional distribution of the country (18% Northeast, 22% Midwest, 37% South, 23% West). In Canada, the sample over-represented Quebec (32%), and slightly under-represented the Western provinces (25%) and Ontario (24%). The representation in the Eastern provinces (8%) and the North (less than 1%) were similar to their population. The data were not weighted after cases with missing data were dropped as there was no relationship between missing items and any of the quota variables.

The survey was designed to explore the relationship between individual predispositions and support for civil rights and included both a traditional least-liked group battery as well as an experimental vignette about the rights of groups to protest.

Least-liked Group: Respondents were asked to evaluate on a (0–10) dislike-like scale six groups: 1) neo-Nazis; 2) Christian

fundamentalists; 3) extreme-right activists; 4) radical Muslims; 5) gay rights activists; and 6) feminists. Respondents also indicated the group, from among the six, that they *liked the least*. These six groups were selected to provide variation on left – right ideological association, as well as variation on racial, religious, and social group affiliation[5]. The group selected as least-liked among the list is used subsequently in the experimental vignette.

Experimental Vignette: Participants completed a thought experiment involving a fictional protest group looking to conduct a march in the participant's community. We utilize this approach as several studies in the political tolerance literature (e.g., Gibson 1998) have shown it useful for varying elements of context within a survey experiment[6]. The full text of the vignette was:

> Imagine a group of (least-liked group, Black Lives Matters activists, White Supremacists) are organizing a march in your community. The group expects (a handful, a thousand) protesters to travel to your area to attend. In the past, groups like this (have been accused of violent confrontations with bystanders, have been accused of shouting ugly words at bystanders, held peaceful marches in communities like this).

We randomly assigned participants into different treatments in which we manipulated the protest group's characteristics on three dimensions. First, we randomly assigned the type of group: the indicated least-liked group from a prior question in the survey, and two groups with race-based political claims, one linked to equality claims for Blacks and one linked to social intolerance and racism. In addition to the group type, we varied two potential measures of threat, the size of the gathering (a small vs. a large gathering) and level of past violence by similar groups (peaceful, verbal aggression, and physical aggression).

After reading the condition, participants were asked on a four-point scale from strongly disagree to strongly agree "Should this group be allowed to hold the march?" Higher levels of agreement indicate more political tolerance for the group, our main dependent variable in the analysis.

Participants were also asked to indicate "What is the likelihood that the march will result in" the following five outcomes: 1) more support for the group's beliefs; 2) hurt feelings in the community; 3) property damage; 4) violence; 5) more discrimination. Each of these items is assessed on a 5-point scale from very unlikely to very likely. Using four of these five items we construct a scale that measures individuals' expectation of potential harm following the political march. To construct this scale, all five items are included in an exploratory factor analysis with an oblimin rotation. Four of the five items (hurt feelings, property damage, violence, more

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[3]For instance, see https://www.pewresearch.org/fact-tank/2016/07/08/how-americans-view-the-black-lives-matter-movement/and https://www.nytimes.com/interactive/2020/06/10/upshot/black-lives-matter-attitudes.html. The authors thank an anonymous reviewer for this suggestion.

[4]According to the 2011 Canadian census, about 21% of Canadians have a maternal language other than English or French but note that 6% speak a language other than English or French as their primary home language. Statistics Canada, downloaded Mar. 24, 2017, http://www12.statcan.gc.ca/census>recensement/2011/as>sa/98>314>x/98>314>x2011001>eng.cfm.

[5]Respondents were then asked to indicate if each of the six groups should be allowed to 1) talk on television about their views and 2) hold a peaceful march in your neighborhood. We reserved these items for a separate analysis.

[6]See also Forward et al. (1976) as providing justification for the "role-enactment" approach as opposed to using deception in experimental research.

discrimination) show strong single factor loadings of greater than 0.70; these four items are retained and combined to form a single scale (0–16). The results of the factor analysis are listed in the online supplementary materials (pg. 14–15 in the Online **Supplementary Material**).

Empathy as a Trait: Our main independent variable of interest was asked prior to the experimental vignette and captures people who are prone to caring about the feelings of other people. We refer to this as having a more empathetic personality, which is measured using a subset of four questions regarding emotional empathy from the Toronto Empathy Questionnaire such as "I enjoy making other people feel better" and disagreeing with statements such as "I am not interested in how other people feel" (Spreng et al., 2009). These four questions form a scale from 0 to 12. However, to compensate for less than five percent of responses in the first five categories, corresponding to very low empathy, we collapse the bottom five categories to create a new scale which runs from 1 to 7.

It is important to note that the emotion of empathy was often treated similarly to psychological characteristics like personality. Beginning in the 1960s, a number of scales were developed which scored individuals as high or low on "trait" empathy. Since the development of the Toronto Empathy Questionnaire (TEQ) in 2009, research in psychology has distinguished between empathy as a trait-based disposition and empathy as an experience or emotional state. According to recent definitions, empathy itself is an emotional experience which is best understood in terms of "when and how not either or" (Zaki and Ochsner, 2012). Consequently, scales like the TEQ do not directly measure empathy, but instead capture important dispositional tendencies or subprocesses which influence the likelihood of empathetic experience such as cognitive reflection, perspective taking, or sympathy. As a result, we use the terminology of empathetic personality to indicate that we are measuring a dispositional tendency to feel empathy toward others, but not the emotion of empathy itself. In particular, the items we use from the TEQ are designed to measure the dispositional tendency to experience emotional empathy, and not cognitive perspective taking.

Analysis: Results of the experiment are analyzed using an Ordered Logistic Regression with robust confidence intervals where 1) political tolerance of the march and 2) the harm scale are the dependent variables for H1 and H2 respectively. We utilize ordered logistic regression because our main dependent variable has only four categories and these categories do not form a true continuous scale. For the sake of simplicity, and because the results do not change when using ordinary least squares regression, we also use ordered logistic regression to analyze the harm scale. In addition, we provide in the appendix additional models without the interaction term, as well as a model that includes additional interaction terms between Empathy and the other two treatments variables: size and level of harm of each protest group. These additional interactions control for the sensitivity of empathetic processes to threat. The inclusion of these additional control interactions does not mediate the significance of results reported in the main text. All models also include demographic controls for age, education, race, gender, and ideology (see coding in the Online Supplemental Materials).

TABLE 1 | Predicting effect of group type and empathy on support for political march (ordered logistic regression).

	Canada	United States
Empathy	0.090[a] (0.044)	0.085[a] (0.040)
Group (Ref = BLM)		
Least-liked	−0.788[b] (0.214)	−0.150 (0.197)
White supremacists	−0.511[a] (0.219)	−0.076 (0.192)
Interaction		
Least-liked*empathy	−0.192[a] (0.063)	−0.259[b] (0.056)
White supremacists*empathy	−0.217[b] (0.064)	−0.204[b] (0.056)
Size (ref = handful)		
Thousands	0.027 (0.096)	0.020 (0.090)
Violence (ref = peaceful)		
Ugly words	−0.852[b] (0.114)	−0.408[b] (0.109)
Violent	−0.976[b] (0.119)	−0.822[b] (0.113)
Age	−0.036 (0.027)	−0.034 (0.028)
Man	0.029 (0.101)	0.036 (0.098)
Non-white	0.158 (0.126)	0.083 (0.114)
Education	0.047 (0.096)	0.324[b] (0.094)
Ideology	−0.130[a] (0.045)	−0.111[b] (0.030)
N	1,555	1,627

[a]p < 0.050.
[b]p < 0.01.
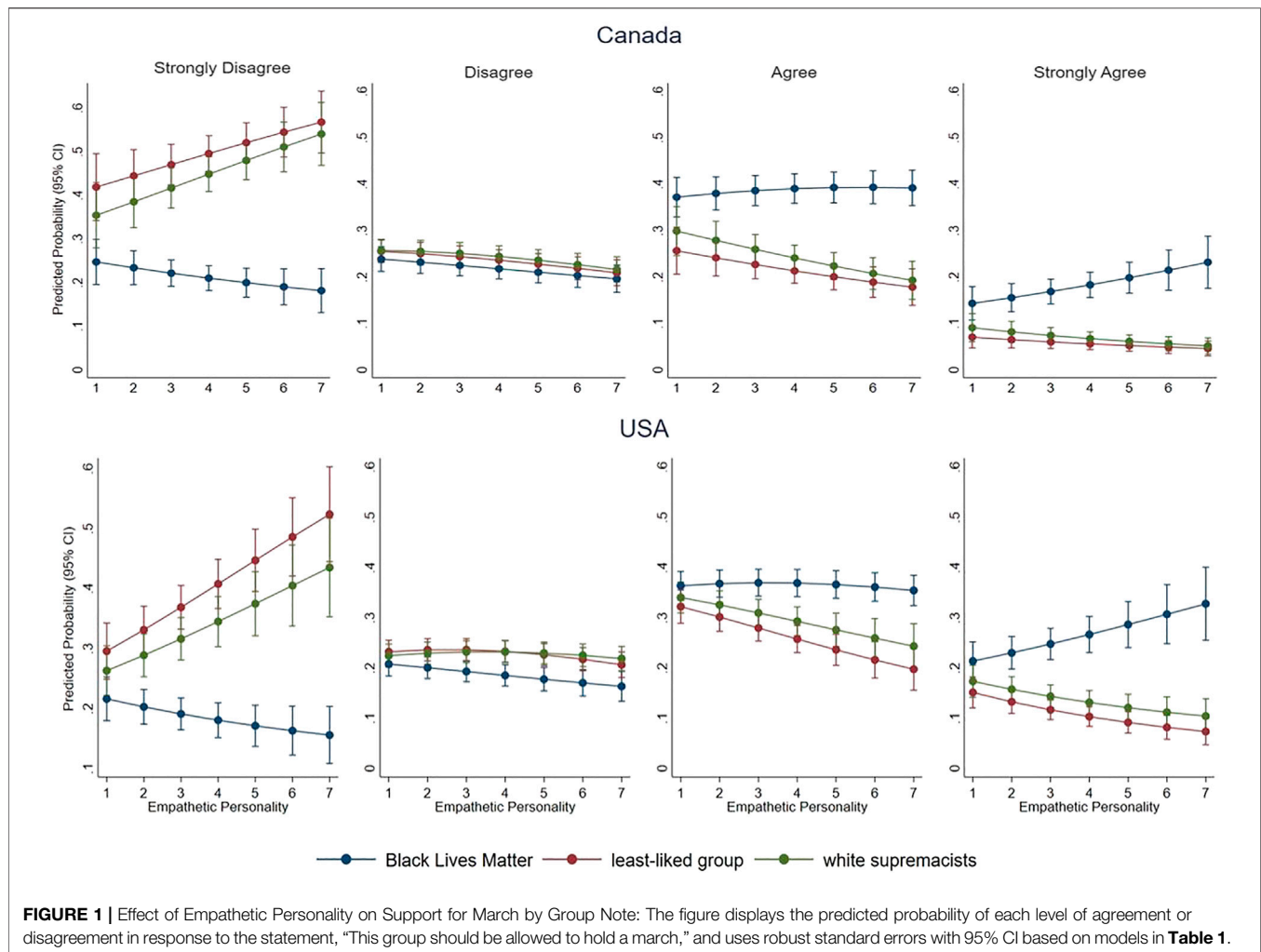Table uses robust standard errors.

Ideology is included as a control variable as previous research shows that a conservative ideological orientation may correlate with lower levels of empathetic behavior as well as greater tolerance for right-wing political groups (i.e., neo-Nazi's and White Supremacists) in the United States (Sullivan et al., 1982; Sidanus et al., 2013; Feldman et al., 2015; Hasson et al., 2018) and in Canada (e.g., Loewen et al., 2019). Finally, the statistical results are reported independently for each country.hl.

RESULTS

Table 1 presents the core test of hypothesis 1, which includes the interaction between empathetic personality and group type on support for a public march. We analyze the Canadian and US samples separately. As expected, the interaction between group type and empathetic personality is negative for White Supremacists compared to Black Lives Matter (BLM) activists. We find a similar effect for the least-liked group. In addition, we find no direct effect of protest size, but respondents did react to the level of violence treatment. When presented with both groups with histories of verbal and physical violence, the tolerance of the march is lower. These effects are very similar in both Canada and the US.

Figure 1 illustrates the impact of group type based on empathy. We show the predicted probability of opposing or supporting the march based on levels of empathy and group type. For instance, the left-most panel makes clear that empathy was related to less opposition to BLM protestors (indicated by the downward slope of the estimation), whereas for both White Supremacists and the respondent's least-liked group the slope is positive, indicating greater opposition.

Interestingly, those lowest on empathy make no real distinction when presented with different types of groups in

FIGURE 1 | Effect of Empathetic Personality on Support for March by Group Note: The figure displays the predicted probability of each level of agreement or disagreement in response to the statement, "This group should be allowed to hold a march," and uses robust standard errors with 95% CI based on models in **Table 1**.

Canada and the US, but we see an important divergence at the upper end of the empathy scale. While the patterns are similar in the two countries, it is also worth noting that overall levels of opposition are higher in Canada than in the US for two of the three group types (White Supremacists and least-liked group), which may well reflect differences in traditions toward free speech, with racist speech explicitly protected by the First Amendment in the US, whereas Canada has traditionally balanced free speech rights against other values.

The key hypothesis, then, is supported: individuals with a more empathetic personality, a disposition toward empathizing with the feelings of others, have less tolerance toward political groups engaged in exclusionary and potentially harmful speech. Yet, this also raises an additional question. Why does empathy reduce tolerance for least-liked groups? The answer in part is drawn from the group that was most commonly selected. In total, 40% of Canadians and 44% of Americans selected neo-Nazis as their least-liked group. The second most selected group was radical Muslims, and together these two groups are selected by the vast majority of respondents in each sample (81.89% of participants identify one of these two groups as their least-liked).

In **Figure 2**, we drop all respondents in the least-liked treatment who selected a group other than these two (n = 72: Canada; n = 111: US), and we estimate separate effects for each group (Full models are available in the supplemental materials.) The group type variable thus becomes a four-category discrete variable: 1) BLM, 2) Radical Muslims, 3) neo-Nazi's, 4) White Supremacists. Neo-Nazis and White Supremacists are expected to function similarly, both representing exclusionary groups with explicit racist connotations.

While not definitive, teasing out the least-liked group provides additional support for our argument that empathy interacts specifically with exclusionary groups associated with harmful speech. The interaction for neo-Nazis is significant, and **Figure 2** illustrates that the increase in the predicted probability of opposing a march by this group as empathy goes from the lowest to highest level. In both the US and Canada, the interaction term is significant and similar to the White Supremacist treatment. Radical Muslims, in contrast, are clearly not tolerated, with relatively high levels of predicted opposition in both countries. In Canada, the interaction between empathetic personality and seeing Radical Muslims
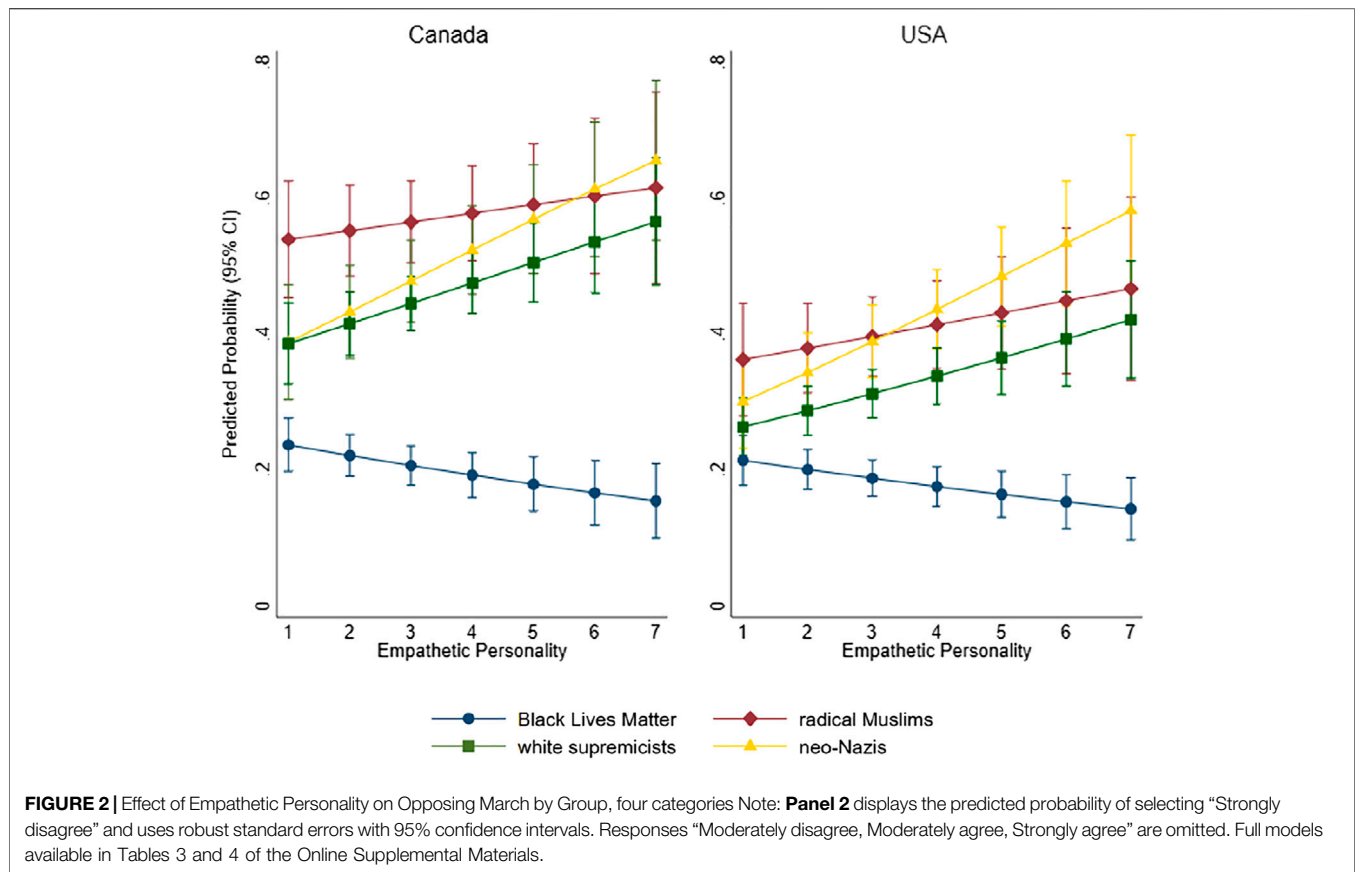
FIGURE 2 | Effect of Empathetic Personality on Opposing March by Group, four categories Note: **Panel 2** displays the predicted probability of selecting "Strongly disagree" and uses robust standard errors with 95% confidence intervals. Responses "Moderately disagree, Moderately agree, Strongly agree" are omitted. Full models available in Tables 3 and 4 of the Online Supplemental Materials.

TABLE 2 | Predicting effect of group type and empathy on perception of harm (ordered logistic regression).

	Canada	United States
Empathy	−0.088[a] (0.043)	−0.038 (0.043)
Group (Ref = BLM)		
Least-liked	0.377 (0.200)	−0.137 (0.192)
White supremacists	0.596[a] (0.225)	−0.052 (0.197)
Interaction		
Least-liked*empathy	0.290[b] (0.058)	0.242[b] (0.057)
White supremacists*empathy	0.234[b] (0.064)	0.254[b] (0.058)
Size (ref = handful)		
Thousands	0.184[b] (0.090)	0.151 (0.087)
Violence (ref = peaceful)		
Ugly words	0.793[b] (0.111)	0.463[b] (0.104)
Violent	0.840[b] (0.111)	0.596[b] (0.109)
Age	0.038 (0.027)	−0.018 (0.028)
Man	−0.066 (0.094)	−0.067 (0.117)
Non-white	0.088 (0.121)	0.016 (0.117)
Education	0.057 (0.090)	−0.168 (0.090)
Ideology	0.055 (0.041)	0.137[b] (0.029)
N	1,555	1,627

[a]$p < 0.05$.
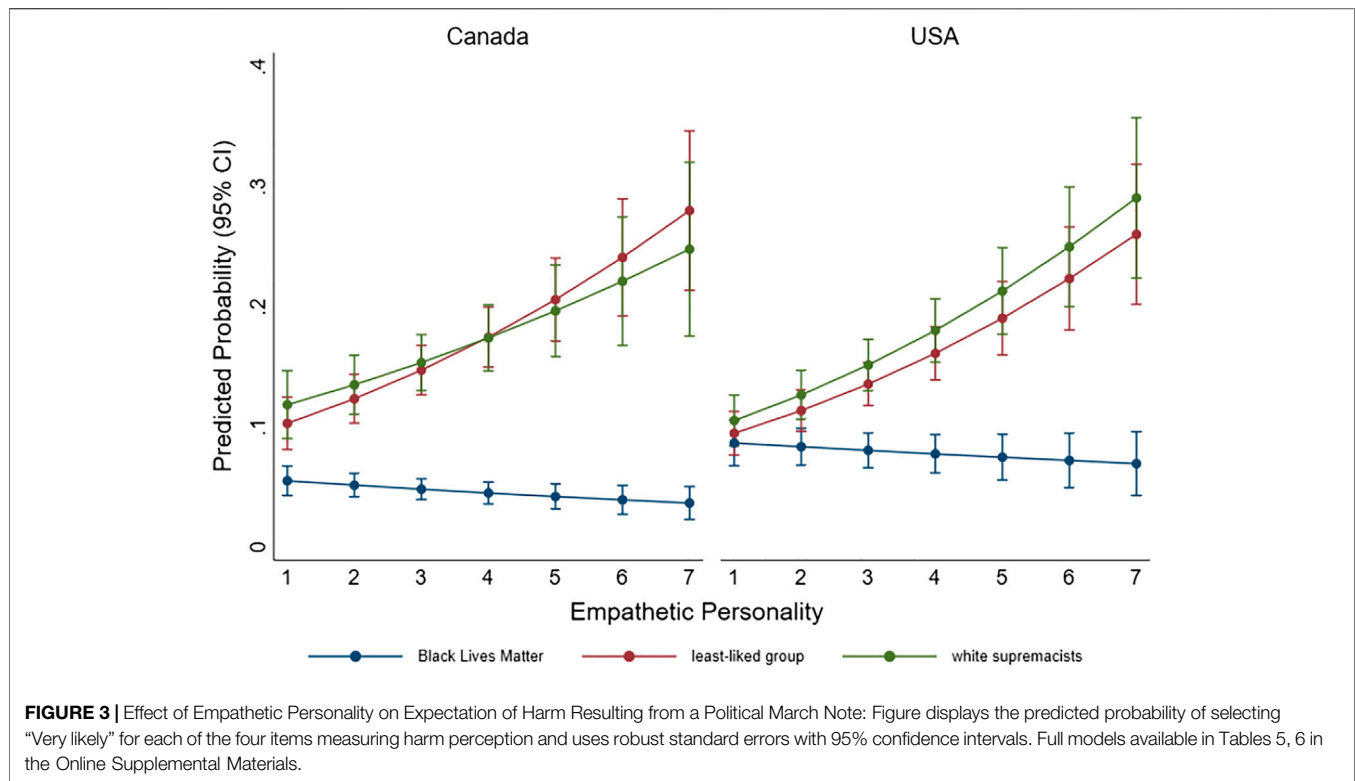[b]$p < 0.01$.
Table uses robust standard errors.

(vs. BLM) in the vignette was just above conventional levels of statistical significance. In the US, though, the interaction is statistically significant. This suggests that empathy is linked to

viewing the speech of radical Muslims as similarly harmful to that of neo-Nazis and White Supremacists within the American public.

We take this to indicate that empathetic people are particularly likely to oppose groups expected to engage in harmful speech in line with hypothesis 1. Do people predisposed toward empathy perceive more potential for harm from such groups? Our second hypothesis is that higher levels of empathy will also be related to perceptions of the potential harm caused by exclusionary speech, which we are able to measure with our four-item harm index that was asked post treatment. An exploratory factor analysis was performed to combine these items. In general, respondents were more concerned about harm when confronted with both White Supremacists and their least-liked group. In Canada and the US, the mean scores on the harm index for Black Lives Matter was 8.76 (SD = 3.92) and 9.89 (SD = 4.21) as compared to the least-liked group 11.36 (SD = 3.47) and 11.32 (SD = 3.39), and White Supremacists 11.41 (SD = 3.58) and 11.35 (SD = 3.47).

Our interest is in whether these effects are moderated by a tendency toward empathy. **Table 2** provides the base model to test the moderating impact of empathy on harm perception based on the type of group involved in the protest activity. Like our findings for hypothesis 1, empathy drives up perceptions of harm when confronted with White Supremacists or a least-liked group compared to BLM.

We illustrate these effects in **Figure 3**. These results are not meaningfully different from the result of the individual scale

FIGURE 3 | Effect of Empathetic Personality on Expectation of Harm Resulting from a Political March Note: Figure displays the predicted probability of selecting "Very likely" for each of the four items measuring harm perception and uses robust standard errors with 95% confidence intervals. Full models available in Tables 5, 6 in the Online Supplemental Materials.

items and reach significance at or above the 95% confidence level. Each individual item in the four-item harm scale is analyzed separately and presented in the supplementary materials (see Online Supplemental Materials Tables 7–14).

DISCUSSION

In this paper, we examined the relationship between empathetic personality and tolerance for political activities by exclusionary political groups. Consistent with our hypotheses, we find that higher levels of empathetic personality are negatively correlated with tolerance toward these groups. Importantly, this occurred to a similar degree in both Canada and the US, which have different legal approaches to balancing liberty and equality. On this basis, we conclude that group-based objections to political activity designed to promote violence and hatred are distinct from other considerations that limit political tolerance. This finding is consistent with previous research which finds that individuals with empathetic dispositions are more likely to oppose extending freedom of speech to attitudes or actions which discriminate based on ethnicity, gender, or sexual orientation (Battson et al., 2002; Cowan and Khatchadourian, 2003; Witenberg, 2007; Butrus and Witenberg, 2013).

This research also extends the literature on political tolerance attitudes. While prior research has shown the importance of group threat in making tolerance judgments [e.g., Petersen et al. (2010)], far less is known about the origins of threat perceptions. Our study demonstrates that those high in empathy are especially likely to perceive the public activity of racist groups as harmful to

others because of their association with violence and discrimination. Empathy was also associated with lower perceived threat when evaluating a group advocating for racial justice and inclusion. We suggest this occurs because of an emotional reaction that is distinct from the cognitive concerns typically examined in studies on threat or attitude change [e.g., Gibson (1998)]. Future research could attempt to further distinguish between the affective dimensions of empathetic responses and more typically measured threat perceptions such as group size and potential for influence.

More broadly, our findings point to the importance of empathy in the formation of political attitudes. Despite the limited and contingent nature of empathetic responses [e.g., Sirin et al. (2016); Arceneaux (2017)], we found that dispositional empathy shaped reactions to a (hypothetical) civil liberties controversy involving groups seeking to limit or expand social tolerance. In diverse democracies, in which racial, ethnic or other minorities are ascribed outsider status by exclusionary political movements, empathy may play an increasingly central role in the dynamics of public opinion. Additional research should examine the contexts in which empathy across group boundaries occurs and impacts other political attitudes, such as toward policing, language rights and religious freedoms.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Comité d'approbation éthique, Université du Québec à Montréal. Written informed consent for participation was not required for this study in accordance with the national legislation and the institutional requirements.

AUTHOR CONTRIBUTIONS

AH and RH contributed to the conception of the design of the study and collected the data. JM performed the statistical analyses. AH and JM wrote the first draft of the manuscript. All authors contributed to manuscript revision, read, and approved the submitted version.

SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpos.2021.663858/full#supplementary-material

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The Personalization of Politics in Anglo-American Democracies

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In American politics, few argue with the idea that leaders matter: in the 2020 American election, the media closely tracked the performance and activities of Joe Biden and Donald Trump, for example, suggesting to us that who they are matters. Voters indicate on their ballot which presidential candidate they prefer, marking an x next to the person's name, giving further credence to the idea that the individual matters in the process. Contemporary Anglo-Westminster-style democracies have many things in common with the United States, but operate with completely different political systems, and without a direct vote for a specific party leader. What is the relationship between voters and party leaders in these contexts? Do party leaders matter the same way in these countries? Has this relationship changed over time? Are we really seeing the personalization of parliamentary elections, as some scholars have suggested? The personalization literature provides us with mixed evidence of the increasing importance of leaders, and part of the reason for that maybe linked to the lack of comparable data. This paper assesses the role of leaders in the United States as well as four parliamentary democracies (Britain, Canada, New Zealand, and Australia) over time. Combining data from the election studies of these five countries from the 1960 s to the present, the analyses presented here suggest that leaders are not increasingly important to voters over time, but that leaders have always been important to election outcomes. What has changed over time, however, is the way partisans see the leaders of other parties. Partisans are increasingly polarized in their views of opposing party leaders, and this has the potential to change the impact of leaders in the electoral process.

Keywords: personalization, polarization, party leaders, leader effects, voters

INTRODUCTION

Much has been made in recent years about the role of leaders in the minds of voters (Mughan, 2000; Johnston, 2002; King, 2002; Poguntke and Webb, 2005; Bittner, 2011; Da Silva 2019; De Angelis and Garzia 2016; Garzia et al., 2020). The topic is of increasing interest around the world, and scholars of parliamentary democracy have taken particular notice of the penchant voters have for evaluating party leaders and considering those evaluations when they head to the ballot box (Bean, 1993; McAllister, 1996; Bittner, 2011). Many have argued that this focus on party leaders among the electorate is new, and point to the "personalization" of politics, arguing that what is normal in presidential systems has become normal in parliamentary systems.

Evidence for this personalization of politics is mixed, however. In some countries there is substantial evidence for the increasing role of leaders in the minds of voters (Rahat and Sheafer, 2007; Balmas et al., 2014), while in others research suggests that evidence of personalization is lacking

(Kaase, 1994; Bittner, 2018). The literature as a whole continues to be convinced that personalization is taking place, as observed by Karvonen (2009).

While the evidence of personalization is mixed (sometimes even scant), part of the issue may be related to available data. Quite simply, it is difficult to assess the importance of leaders, and very few studies have done so on a scale large enough to make sweeping conclusions about the role of leaders in the minds of voters. Several comparative, longitudinal analyses do exist (Aarts et al., 2011; Bittner, 2011), but most of those analyses were not necessarily looking for personalization as a "process," they were seeking to determine whether leaders matter "at all" (see, however, Garzia et al., 2020). In order to argue that increased personalization is taking place, we must have evidence that leaders are not just important, but that they are more important today than they have been in the past. This is not the kind of research that can be done with survey data obtained at a single point in time; we need information gathered over time. This is similar to the argument made by Garzia et al. (2020), who assess the role of personalization in Western European countries over time. This paper builds on their work and expands the scope, as it moves the focus to a new set of countries, concentrating on personalization in Anglo-American democracies.

In this paper I assess data from five countries, including Canada, Britain, United States, Australia, and New Zealand, and assess the role of party leaders in the minds of voters over time, beginning in 1968 (Canada) and ending in 2016 (United States and Australia).[1] I rely upon data from the national election studies of each of these five countries, which were coded in a similar fashion and then pooled together in order to assess the role of party leaders over time.[2] The data analyses presented here suggest that leaders are not increasingly important to voters over time, but that leaders have always been important to election outcomes. More research is needed to better understand the processes associated with personalization, but at first (comparative, longitudinal) glance, the argument that personalization is on the rise does not apply universally when we assess cross-national and longitudinal data.

LITERATURE REVIEW

Personalization of Politics: What Do We Know So Far?

The personalization literature is rich, diverse, and fascinating. The argument is appealing, and the lament is compelling, especially for those who would argue that other factors (such as the state of the economy, or party platforms) "should" be more important to voters than the personality traits of party leaders. The normative objection to the importance of party leaders can be likened to the constant disapproval of the preferences of

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[1]Data from subsequent elections are now available but are not integrated in the analyses presented here.

[2]Codebook and syntax available from the author upon request. In addition to collecting perceptions of leaders' personality traits and overall "feelings" towards leaders (where available), I coded partisanship, issue attitudes, ideological self-placement, and demographic variables to allow for cross-national and longitudinal analysis.

"millennials," a generation of adults who are seen by many to be frivolous, irresponsible, with a penchant for selfies and leisure rather than hard work and settling down to have families (e.g., headlines like "Millionaire to Millennials: Your avocado toast addictions is costing you a house" in United States Today (Cummings, 2017) https://www.usatoday.com/story/money/2017/05/16/millionaire-tells-millennials-your-avocado-addiction-costing-you-house/101727712/). There has been a decline in the "quality" of citizenship, the argument goes, and voters are irresponsible, lack knowledge, and focus on silly things rather than important factors.[3] This is not the view held by all. Bittner (2011), for example, suggests that voters are able to glean important information from assessing leaders that they would not be able to obtain by focusing on policies or platforms alone.

Putting aside normative objections for a moment, it is important to note that there has been a substantial body of scholarship which has assessed the personalization of politics, and which points to a number of key factors explaining the rise in importance of leaders. In their review of the literature, Costa Lobo and Curtice (2014, p. 2) point to four key factors explaining personalization. They suggest that 1) because of modernization and individualization, we have seen a decline in long-term forces that tie voters to parties; 2) the mediatization of campaigns and politics has led to an emphasis on candidates, on their personal campaign organization, and on televised debates; 3) the downsizing of the state and globalization have resulted in increased prominence of leaders as representatives of citizens on the global stage; and 4) they point to changes in party organization, suggesting that parties now conduct business in a way that makes leaders more central and visible to all. Most scholarship tends to agree that the media has changed the way leaders are covered in the contemporary era, and that over time, we have seen an increase of coverage of leaders at the expense of party or other possible focal points (Mughan, 2000; Rahat and Sheafer, 2007; Karvonen, 2009). More cross-national research is needed, but for now, I focus my attention on the decrease in the role of long-term forces and the change in social bases of political behavior.

The Changing Bases of Political Behavior

Scholars for some time have pointed to changes in the party systems of western countries leading to the decreasing importance of parties in the minds of voters (Wattenberg, 1984; Franklin, 1992), which constitutes a major change from the observations about the importance of parties that were made by early scholars of voting behavior and party systems (Campbell et al., 1960; Lipset and Rokkan, 1967). As Franklin observes in relation to understanding the foundations of electoral choice, there was a 20% drop in the variance accounted for by social cleavages between the 1960 and 1980 s. While in the 1970 s, it was clearly accepted by most scholars that "attitudes towards the parties were a better guide to voting behavior than were attitudes towards the leaders" (Butler and Stokes, 1974), in later years, this relationship began to be called into question. Garzia (2014, p. 8) notes that in recent years "...parties have

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[3]To be clear: I am not suggesting that I believe millennials are frivolous. I also do not believe that leader evaluations are frivolous and less important than evaluations of the state of economy.

undergone deep transformations that are at once cause, and consequence, of personalization," as the transformation from class-mass and denominational parties to catch-all parties in Europe has led to a change in the way that voters see and relate to political parties. He observes that both Downs (1957) and Kircheimer (1966) noted and tracked this process, which has led to a breakdown in the traditional cleavages (class, religion) that propped up and propelled party politics as observed by Lipset and Rokkan in the late 1960 s.

The literature emerging from both Europe and the United States has noted that the factors motivating the decision-making processes of voters has shifted over time, as voters note that the "man" is having an increasing influence on their vote choice than is "the party" (Dalton et al., 2000; Wattenberg, 1984, 1991). Recent work shows that partisan dealignment plays a major role in influencing personalization in Western Europe (Garzia et al., 2020) and Garzia (2014, p. 19) suggests that "partisan attachments have become increasingly connected to voters' attitudes towards party leaders" because of increased candidate-centred campaigning by catch-all parties; because of increased role of leaders in shaping party policy; and because of an increased tendency of voters to think about politics in "personal rather than partisan terms." Indeed, Garzia goes as far as to suggest that the causal arrow between partisanship and leader evaluations needs to be flipped, as leader evaluations may have a substantial influence on voters' feelings towards parties (2014, p. 21). De Angelis and Garzia (2016) refer to "reciprocal causation" between leader effects, partisanship, and voting, reinforcing the idea that the causal arrow is potentially not as clear as we once thought, and providing additional impetus for another deep and careful assessment of the relationship between these variables.

The notion that partisanship matters less to voters now than it did years ago is not new, but is also not undisputed. Indeed, in their discussion of Canadian voters, Gidengil and Blais (2007) note the conflicting evidence of decreasing ties between voters and parties, suggesting that the evidence is scant. Johnston's (2006) review essay of partisanship also suggests that the concept of Party ID remains strong, and can continue to be thought of as an "unmoved mover." Looking more closely at the impact of partisanship and perceptions of leaders in the United States and Germany, Bartels (2002) and Brettschneider and Gabriel (2002) both find that candidate effects are equal to or stronger amongst partisans compared to non-partisans, suggesting that the impact of the long-term force has not been replaced by the short-term force.

The personalization scholarship as a whole highlights the decreasing importance of long-term factors anchoring voting behavior (partisanship, class, and religion); and the increasing importance of short-term factors such as perceptions of leaders, evaluations of the economy, and other issue attitudes (Dalton et al., 1984; Wattenberg, 1984; Mughan, 2000; Poguntke and Webb, 2005; Rahat and Sheafer, 2007; Costa Lobo and Curtice, 2014). None of these scholars debates the notion that leaders matter in the minds of voters. Indeed, the wider literature points to the importance of party leaders in the minds of voters, even if not focusing on personalization as such (Kinder, 1978; Kinder et al., 1980; Kinder and Fiske, 1986; Rahn et al., 1990; Johnston, 2002; Peterson, 2004; Bittner, 2011).
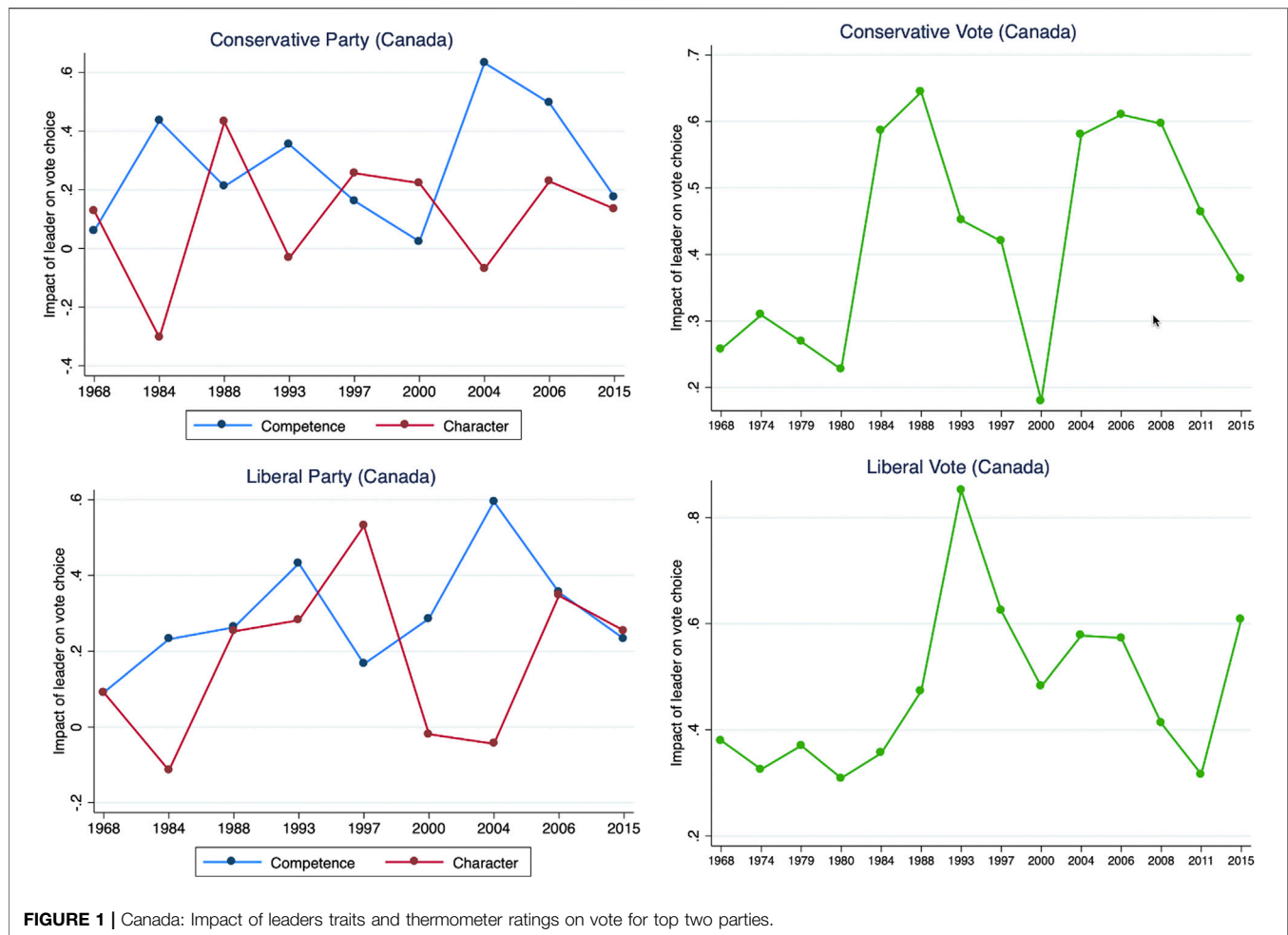
Ultimately, it is important to note that there is strong evidence in support of the notion that leaders play a prominent role in the minds

of voters and in electoral outcomes. The evidence for personalization itself, however, is less overwhelming. Perhaps most importantly, and as some scholars note, personalization assumes a process: ". . .the notion of personalization does not only imply that individual politicians matter in the political process—they are also assumed to matter more throughout time" (Garzia, 2014, p. 6 emphasis in original). As such, many scholars of personalization have made substantial effort to (where possible) assess the dynamics related to personalization on a longitudinal basis. In some cases, in a single country (e.g., Kaase, 1994; Mughan, 2000; Gidengil and Blais, 2007), in other cases, in multiple countries (e.g., Karvonen, 2009; Garzia, 2014; Garzia et al., 2020). Scholars do not agree, however, on the extent to which personalization is taking place. Some find strong evidence of an increase in the importance of party leaders over time, while others do not. More research is needed, ideally research that is both comparative and longitudinal. As Karvonen notes, evidence from several countries is necessary to eliminate the risk that the peculiarities of any single national system dictate the conclusion drawn. The alleged trend towards personalization should be present in most, if not all countries if personalization is such a pervasive phenomenon as is frequently suggested (2009, p. 69).

While we have some comparative, over-time analyses to assess, we need data from more countries, over more years, and we need them to be analyzed in a similar way. To date, some studies that have been conducted look only at a single country, and many use different sources of data: some rely upon Gallup data to inform analyses of the electoral impact of the party leaders (Mughan, 2000), while others use data from national election studies (Bartels, 2002; Brettschneider and Gabriel, 2002; Gidengil and Blais, 2007; Garzia, 2014; Garzia et al., 2020). As has been argued elsewhere (Bittner, 2011), seeking to find patterns across countries when using very different data sources and types of data is suboptimal, and some of the disagreement in the literature may be (at least partially) the result of these very different types of analyses that have been performed in the past.

DATA AND METHODS

In order to assess the role of party leaders in the minds of voters, and whether or not leaders have become more important to voters over time, I conduct a cross-national, longitudinal analysis using data from the national election studies of five countries: Canada, Britain, United States, Australia, and New Zealand. It is important to recall that four of these five countries have parliamentary systems, systems in which voters do not have an opportunity to vote directly for the head of government. According to many scholars (Karvonen, 2009; Costa Lobo and Curtice, 2014), leaders should not matter "as much" in these countries, since they do not appear on the ballot for most voters (only those voters residing in the leader's district have the opportunity to vote for the Member of Parliament who will also become Prime Minister if the party is successful). These five countries in many ways are quite similar, having similar cultures and democratic origins (as a result of colonialism and the inheritance of the British tradition). As such, assessing the role of leaders in these five countries will allow us to make important inroads into whether or not personalization of parliamentary elections has taken place over time.

FIGURE 1 | Canada: Impact of leaders traits and thermometer ratings on vote for top two parties.

Assessing Anglo-American democracies may provide additional important insights into the personalization hypothesis, as scholars have noted that institutional effects may structure the ways in which parties compete in the system, which may influence the importance of leaders. Curtice and Lisi (2014) assessed party competition and leader effects, and Bittner (2011) provides an overview of the role of political institutions in structuring vote choice. Anglo-Westminster democracies tend to have party systems with a low effective number of parties competing, which may influence the way that leaders are perceived by voters.[4] A systematic assessment of personalization in these five countries has not been done in a coordinated fashion.

This type of cross-national and longitudinal analysis is time-consuming and challenging, largely because different questions are asked in each election study across countries and over time, and assembling a usable dataset that incorporates these differences is not a simple task. The dataset that was coded and compiled for this study includes a total of 57 election studies from 1968 to 2016 (14 for Canada, 11 for United Kingdom, 13 for United States, 11 for Australia, and 9 for New Zealand) which does not represent the universe of data collected

for these countries, but incorporates all of the election studies that are available in that period of time and include questions about party leaders, either in the form of personality traits and/or feelings thermometers. Scholars have argued that thermometer ratings are not optimal for assessing attitudes towards party leaders, because they are noisy and imprecise: they contain so many "other" components—attitudes about the party and so on (Johnston, 2002; Bittner, 2011). In order to truly assess how voters feel about a given party leader, is it preferable to assess their perceptions of leaders' personality traits specifically. I concentrate my analysis on the evaluation of traits wherever possible, which is another unique contribution of this paper. Unfortunately these measures are not always available. In order to maximize the ability to track perceptions of leaders I also look at feeling thermometers across all countries and years. By looking at both traits and thermometers we are able to get a more fulsome understanding of the role of personalization in elections in these five countries.

In addition to perceptions of party leaders, I gathered and re-coded variables related to respondents' partisanship (including both PID and strength of partisanship), vote choice, party thermometers, perceptions of the economy (both the national economy and individual pocketbooks), taxation vs. spending, social liberalism (e.g., attitudes towards abortion, same sex marriage, and immigration and diversity),

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[4]I would like to thank Reviewer 2 for suggesting this consideration for why assessing Anglo-Westminster democracies is particularly fruitful.

the major election issue in a given election, as well as a series of demographic variables, including age, sex, income, education, and ethnicity. I followed similar coding patterns to that found in Bittner (2011), in order to be able to assess the attitudes of respondents from a number of countries and over time.[5]

The analysis proceeds in two stages. I begin with the most "complex" part, and show the impact of perceptions of party leaders on vote choice over time and across countries. I then explore the data and track 1) perceptions of party leaders of each country's two major parties over time; 2) rates of partisanship (and non-partisanship) over time and across countries; 3) strength of partisanship over time; and 4) left/right ideological self-placement over time.[6] By looking at these variables, we are able to get a better sense of, first, whether leaders have become more important in the minds of voters over time; and second, the extent to which changes in these other explanatory factors may have contributed to the personalization of politics.

DISCUSSION

The Impact of Party Leaders on Vote Choice Over Time

In this paper, I begin by assessing whether leaders have become more important over time. In order to be able to speak of a personalization of politics, we need to be able to establish that leaders are becoming more important to elections over time. That is, arguing that there has been a personalization of politics necessarily assumes a process by which leaders have become more influential upon voters. In order to test this hypothesis, I ran a series of regression analyses, regressing vote choice for each of the top two parties in each country/year (Conservative, Liberal, Republican, Democrat, and so on) on perceptions of party leaders, as well as a series of control variables.[7] The charts

presented in **Figures 1–5** present the plotted marginal effects of leaders' personality traits and feelings thermometers on votes for a given party.[8, 9]

In **Figures 1–5**, depicted on the left-hand side is the impact of perceptions of a given party leader's character and competence (that is, leaders' personality traits)[10] on vote for that leader's party. On the right-hand side we find the impact of "feelings" towards the leader (as measured by a thermometer rating) on vote for that leader's party. Dependent variables across all five figures are binary, where vote for the party is coded as 1, and vote for any other party is coded as 0. Independent variables include demographic and PID controls, as well as feelings towards "other" leaders in the election that year (because voters do not evaluate leaders in a vacuum, but en masse and in comparison with one another, as per Bittner 2011).[11]

Figure 1 plots the impact of perceptions of leaders of the Conservative Party and Liberal Party (in Canada) on votes for those two parties. If "personalization" were taking place, then we

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[5]A complete list of variables, and syntax, is available from the author upon request. The statistical models presented in this paper are quite minimalist, in order to maximize the number of respondents in the analyses. Once we begin to add in perceptions of the economy, attitudes about issues, and other opinion questions into our models it becomes much more difficult to conduct the research at a cross-national level, as so many questions are not asked consistently or regularly.

[6]Missing from this analysis is the role of media coverage in explaining personalization. This paper is part of a larger project (more countries, more data) assessing the role of party leaders over time, and the media portion will be assessed in a second paper. In this paper, I only assess voters' attitudes towards leaders and other attitudinal variables that may influence the importance of perceptions over time.

[7]The decision to display the impact of leaders on vote for the top two parties only is significant, as many of these countries have multiparty systems and parties outside the top two are also competitive, and by not showing the effects of leaders on vote for all parties, it is possible that we are missing part of the story. Indeed, Michel et al. (2020) suggest that voters of Right-wing Radical parties are more likely to focus on leaders, and usually these parties are not part of the top-two. It is conceivable that mainstream parties have been losing support to these other parties because of the role of party leaders, in which case, assessing a fuller set of parties is valuable. I do not disagree that a fulsome evaluation is important and valuable. A complete picture is beyond the scope of this paper (or, really, any paper), and past research shows that perceptions of party leaders have a much larger influence on vote choice for major parties (Bittner, 2011), and that personalization in particular appears to be primarily concentrated among major parties (Garzia et al., 2020).
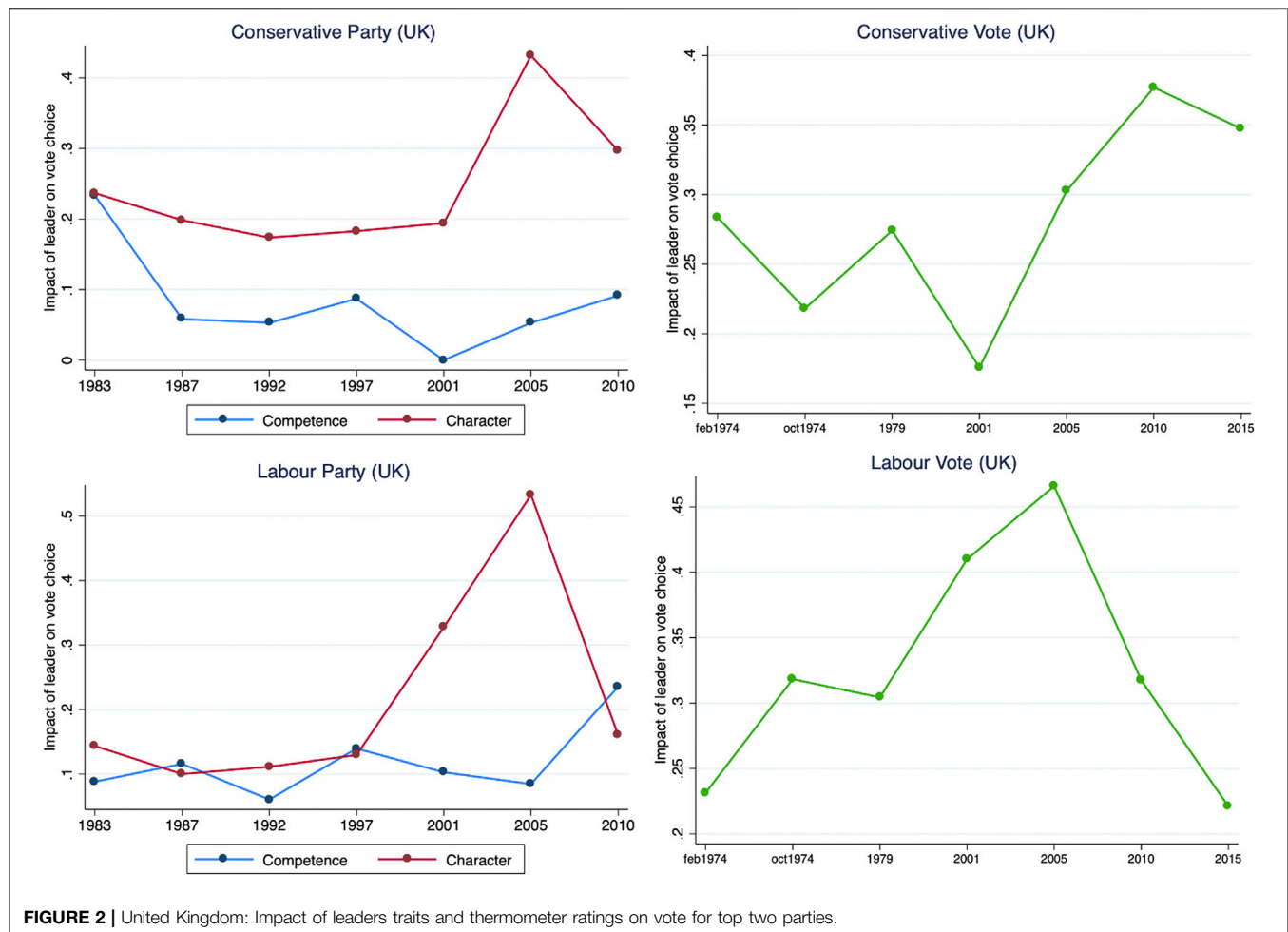
[8]Models were similar across time and space. Dependent variable is vote for the party (binary, 1 = vote for party, 0 = vote for other), and independent variables include sex, marital status, education, employment status, age, partisanship, evaluations of leaders. A model was run for each of the top two parties in each election year in each country, and marginal effects for each model were calculated and plotted. Please see supplementary material for full results of regression analyses.

[9]Because I include multiple countries and years in this analysis, I opted for a simple binary logistical model rather than running multinomial logit models with vote for multiple parties as dependent variables. Party systems and parties vary across countries and over time, making pooled comparative analysis challenging. This paper does not pool data across countries, but runs separate models for each party/ election, making analysis simpler. Most (but not all) of the election studies included in the analyses collected perceptions of leaders' personalities for the leaders of the two major parties. More frequently collected were "feelings" thermometer ratings towards party leaders, of the top two parties, but also the leaders of other major parties. Where possible, models included perceptions of multiple leaders as control variables (e.g., models for Canada and Britain include evaluations of NDP leaders' traits and Lib-Dem leaders' traits, and NZ models with thermometer ratings as independent variables include thermometer ratings for the Labour Party, National Party, Alliance/Progressive Parties, and NZ First Party) although only the models where dependent variables were the top two parties are shown.

[10]Because traits data have been collected less frequently over time and across space, here I examine the impact of thermometer ratings as well, to maximize the number of countries and years included in the analysis. They are presented separately, and in models graphed on the left side, thermometer ratings are not included and in models graphed on the right side, personality traits are not included. The year is presented on the x-axis and may be different in the traits model in comparison to the thermometer model, because these two types of questions about leaders were often found in different years. Please see supplementary material for a detailed description of inclusion of leaders traits and thermometer ratings in the election studies used in this paper.

[11]I replicated the analyses without the addition of leader evaluations of other leaders in the models. This was done to check the robustness of the models against the possibility that the ebbs and flows in the effects of leaders on vote choice are more closely linked to the idiosyncrasies of survey researchers and the questions/ parties/leaders they choose to include in the survey instrument in a given year. Although these replication tables and charts are not included in the appendix, they are available from the author upon request, and suggest that keeping the number of leaders as IVs constant across models does not substantively change the patterns seen across time and space. Further, the inclusion of other leaders in the model as independent variables appears to make the models more robust, providing further that voters assess them in relation to one another.

FIGURE 2 | United Kingdom: Impact of leaders traits and thermometer ratings on vote for top two parties.

would see a clear upward trend in the impact of leaders on vote choice. What we see, is that in some years, the leader matters more than others, both in terms of personality traits as well as thermometer ratings. In the case of vote for the Conservative Party, the impact of the Conservative leader's competence moves up and down quite a bit, and ends up close to where it began in 1968. The impact of the leader's character rating also moves up and down quite a bit, having higher or lower impacts on vote choice in different election years, also ending up close to where it began. A similar pattern emerges for the impact of leaders' traits on vote for the Liberal Party. In some years, the leader's character and competence account for an increase in likelihood of vote for the party, and in other years the effect is negligible. There is no clear upward climb, however, in the impact of leaders' traits on vote choice. Similarly, when we assess the impact of thermometer ratings, it is clear that there is no steady upward trend. Having said that, it is clear that the impact of thermometer ratings is higher, on average, in the latter half of the graph (1997–2015) than in the earlier elections. One might argue that leaders have become more important over time, but this is not a clear pattern.

Across the remaining four figures plotting the impact of leaders' traits/thermometer ratings on vote choice, there is similarly no clear upward trend. The effect of leaders on the vote is higher in some years than others across all countries, and appears to bounce around for the

most part. The one country where a clear pattern can be seen is the United States, where the effect of leaders appears to be on the decline. There is a discernible and steady downward trend in the influence of both leaders' personality traits (character and competence) as well as thermometer ratings on vote for the Republican and Democratic Parties. Controlling for partisanship, demographics, and so on, American party leaders appear to be playing a lesser role in the decision-making process of American voters on election day.

Taken as a whole, **Figures 1–5** suggest that not only do we not see an increase in the impact of leaders over time and across space, the sole country with a presidential system (United States) appears to be paying less attention to its party leaders when it heads to the ballot box, in comparison to what American voters were doing in the 1970 and 1980 s. More research is needed, but at first glance, it seems that there is not a great deal of evidence to support the idea that leaders have become more important to vote choice over time in the states examined.

Understanding the Dynamics of Leader Evaluations and Electoral Politics Over Time

Perhaps taking a closer look at evaluations of party leaders, rather than assessing their impact on vote choice will help us to better
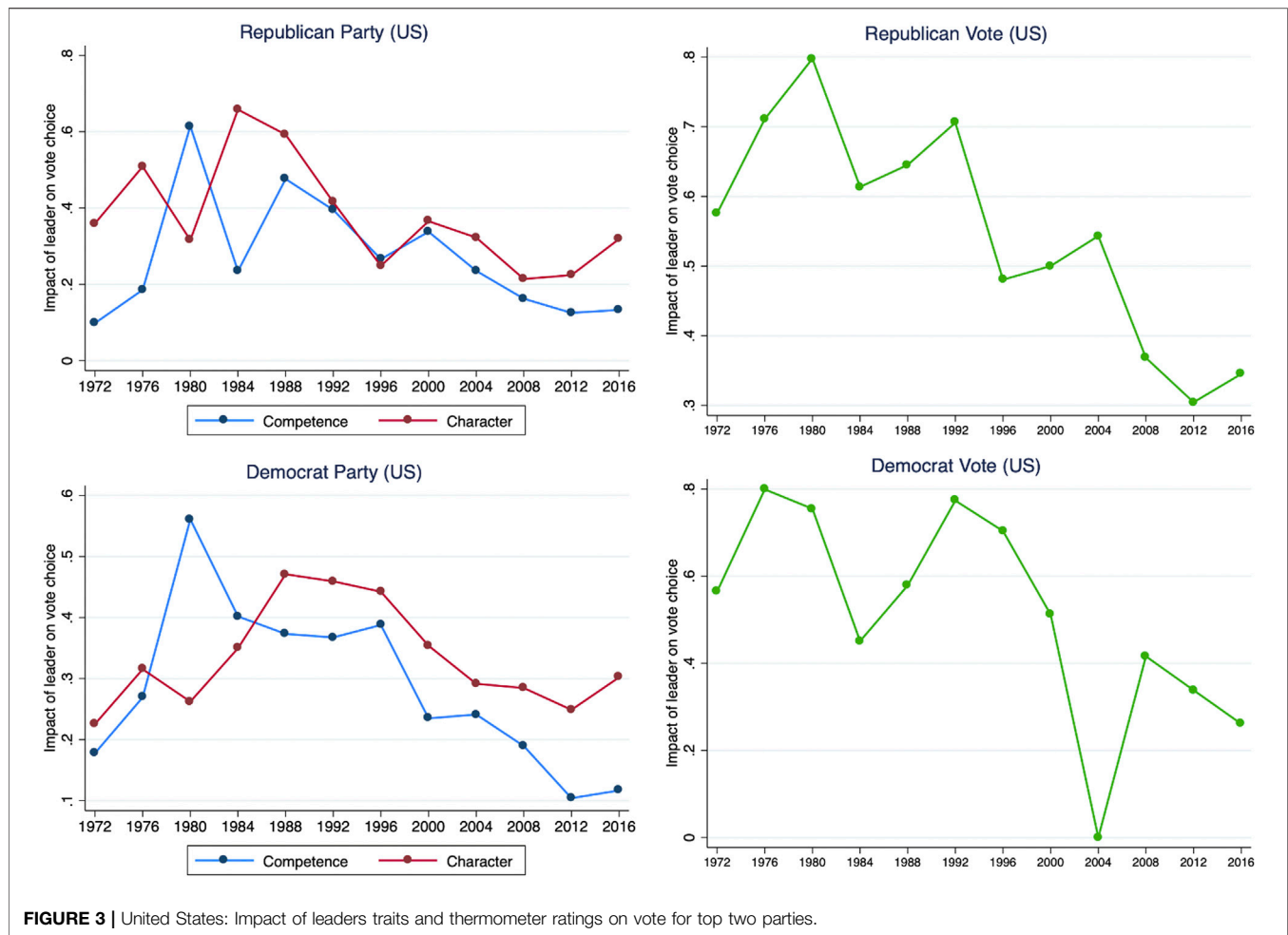
FIGURE 3 | United States: Impact of leaders traits and thermometer ratings on vote for top two parties.

understand dynamics related to perceptions of party leaders, and may shed additional light on the patterns seen in **Figures 1–5**.

Figure 6 presents 15 graphs, depicting the average rating of leaders' competence, character, and thermometer ratings across all five countries and over time, for as many as parties as possible. As mentioned earlier, more thermometer data was collected than personality trait data, and as a result, the right-most panel tracks data for the leaders of a larger number of parties (as many as six party leaders in Australia).

Figure 6 clearly illustrates the fluctuations that occur in perceptions of party leaders over time. No line is straight, and no lines are identical, all of which suggests that voters discern between the leaders of different parties over time and across space. Even in situations where the same leader contests more than a single election in a country, we see fluctuation, indicating that voters perceive the same leader differently over time. As voters become more familiar with a leader, their perceptions of that individual and his/her strengths may change, as indicated in Bittner (2013).

What is most interesting about these graphs is not that voters are able to differentiate across leaders over time, as it has been known for quite a while that it is relatively "easy" to be able to decide how we feel about candidates. What is interesting is that in the majority of these graphs, the average rating attributed to party leaders over time

is decreasing: that is, with time, voters have come to see party leaders in a less favorable light. The Canadian, British, and American graphs most clearly show a decline in evaluations over time, as leaders in 2015/2016 receive substantially lower ratings on both personality traits (character and competence) as well as overall feelings thermometers. The downward trend is less stark in Australia and New Zealand, although there is a decline present there as well, especially since the early 1990 s. These graphs present averages only: they do not control for partisanship, demographics, or anything else. More research is needed to better understand what might be happening to evaluations of party leaders over time. For now, suffice it to say that there has been substantial movement in leader ratings over time and across space: contemporary voters in these five countries view party leaders much more negatively than they did in the 1960, 1970, and 1980 s. Whether this is linked to a "personalization of politics" in these countries is unclear, but probably unlikely, given the trends found in **Figures 1–5**.

The Dynamics of Partisanship Over Time

Scholars of personalization have suggested for some time that the process is linked to a decrease in the partisan affiliation of voters (e.g., Dalton et al., 2000; Da Silva, 2019; Garzia et al., 2020). As parties have become less important in the minds of voters, they
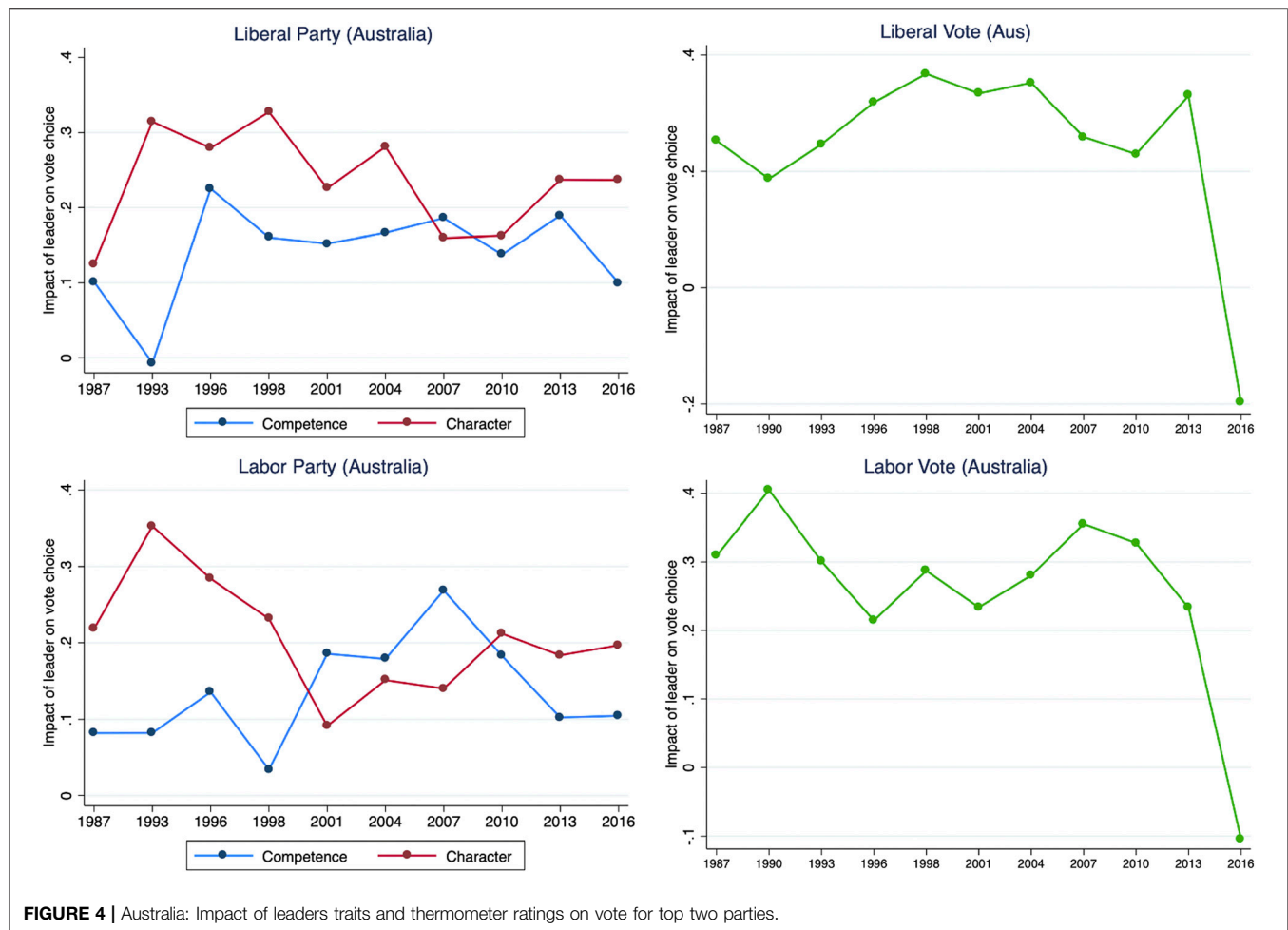
FIGURE 4 | Australia: Impact of leaders traits and thermometer ratings on vote for top two parties.

argue, leaders have come to fill the void, and increasingly anchor the outcomes of elections and the decisions made at the ballot box.

The data from these five countries puts that argument into question. **Figure 7** tracks party identification over time in Canada, Britain, United States, Australia, and New Zealand. The grey lines track the rates at which respondents claim to identify with specific (major) parties, and the bold red lines track the number of individuals claiming to have no identification to parties (or claiming to be Independents, in the case of the United States). As all of the graphs make clear, there is no massive downward trend in identification with parties, nor, conversely, is there a major upward trend in the proportion of the population claiming to be Independent or non-partisan. The largest fluctuations can be seen in Canada and Britain. In the case of Canada, increases in non-partisanship appear to coincide with party system flux in the late 1990/early 2000 s when the Conservative Party was in disarray and when we saw the emergence of the Reform Party on the right and the Bloc Quebecois (a separatist party) in the country's predominately French-speaking province. The number of non-partisans in Canada has returned closer to "normal" in the most recent two elections, as the party system has reached a new equilibrium. In Britain, we see a slight increase in non-partisans

over the last fifteen years, perhaps coinciding with fluctuations in support for the Conservative Party (when the Conservative line goes up, the no-ID line goes down, and vice versa). This pattern may also be linked to recent events taking place in Britain, namely, Brexit. It is possible that the Brexit debate has changed the nature of considerations being made by voters, who are focusing more on this one issue, rather than leaders or partisanship or anything else.[12] This relationship needs additional examination.

In the other three countries, the proportion of the population to claim to be non-partisan fluctuates from year to year, but there is no clear upward or downward trend. The proportion of New Zealanders to claim non-partisanship is highest among the citizens of these five countries, but it has not increased over time (at least not since 1990). Taken together, these graphs do not provide any support for the idea that voters are disowning parties nor that they are becoming more non-partisan than in the past.

Perhaps a better measure or indicator of the decline of partisanship is linked to "strength" of partisanship rather than

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[12]Thank you to one of my anonymous reviewers for suggesting Brexit as a possible explanation.
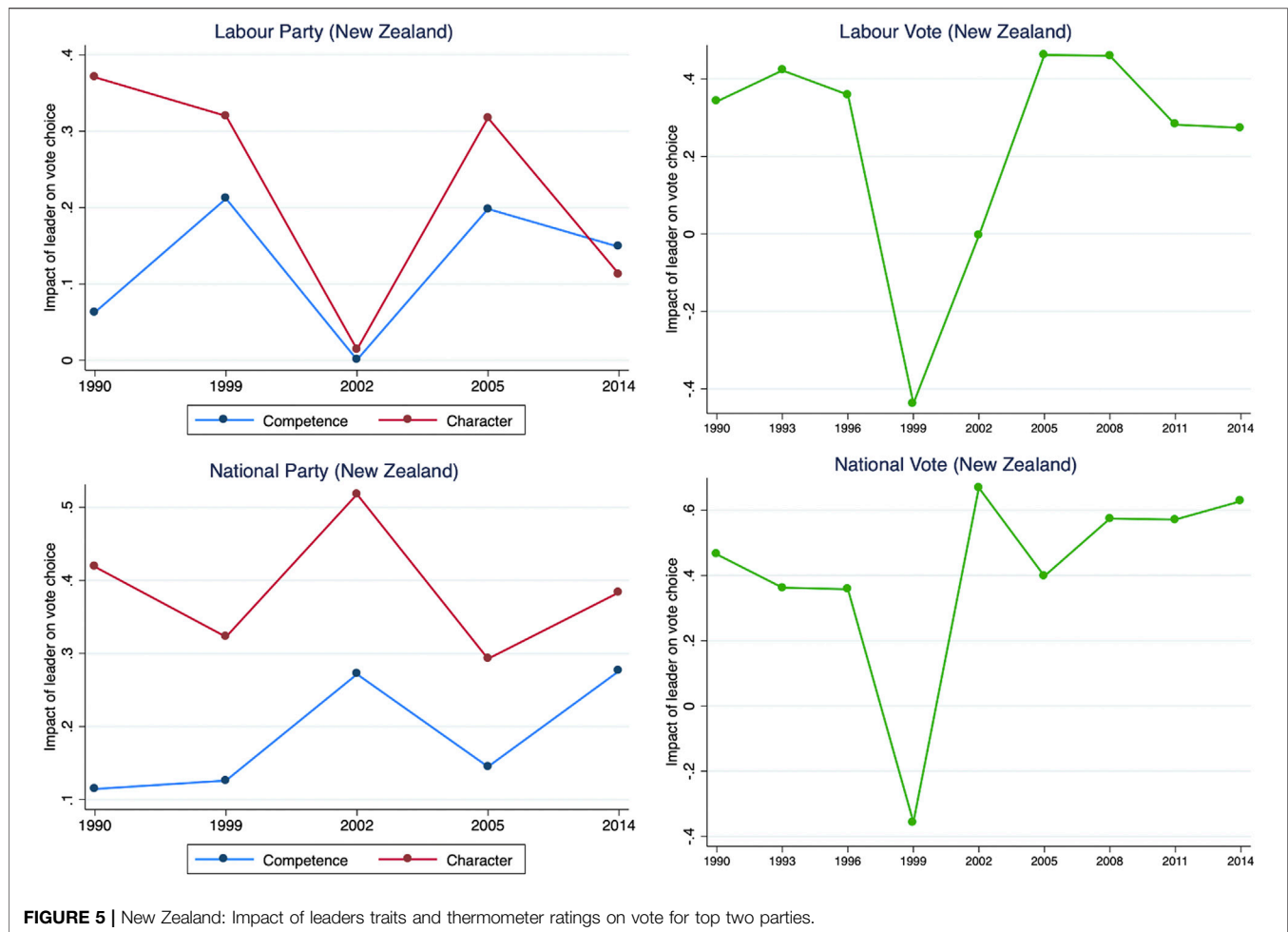
FIGURE 5 | New Zealand: Impact of leaders traits and thermometer ratings on vote for top two parties.

Party ID/non-partisanship. These data have also been collected in the election studies of these five countries, and **Figure 8** tracks average strength of party identification (PID) over time.

As **Figure 8** indicates, only one country has experienced a clear decline in the strength of partisanship over time: Britain. The other countries have maintained broadly steady rates of party ID strength, and in two cases (Australia and the United States) we even see slight increases in levels of PID strength. A picture of Britain is emerging as potentially the one place where we see an increase in the likelihood of a "personalization" of politics based on a decline of partisanship: rates of PID are going down, rates of non-partisanship are going up, and the strength of partisanship among partisans has declined since the 1970s. However, recall from **Figure 2**, the impact of party leaders on vote choice in Britain has not markedly increased over time, suggesting that voters are not moving away from parties and towards leaders as anchors of the vote. It is not clear from these analyses what is anchoring British voters in place of parties. More research is needed.

Lipset and Rokkan (1967) pointed to the social bases for party organization that grounded the parties and helped to organize voters. Some have suggested that the personalization of politics has taken place because the

traditional social bases of party organization have shifted, and long-term forces such as ideological leanings are less important to grounding voter behavior. **Figure 9** tracks left-right ideological self-placement among voters in these five countries, among two sets of partisan groups: partisans of centre-left parties (for each country, one of the two major competitors in elections) and partisans of conservative and centre-right parties (for each country, one of the other two major competitors in elections).[13]

Two trends emerge over time: first, there appears to be a gradual downward (left-ward) slope in the average left-right self-placement of centre-left partisans. This means that the partisans of centre-left parties in these five countries have moved to the left

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[13]The centre-left category includes the Liberal Party (Canada), the Labour Party (United Kingdom), the Democratic Party (United States), the Labor Party (Australia), and the Labour Party (New Zealand), while the conservative category includes the Conservative Party (Canada), the Conservative Party (United Kingdom), the Republican Party (United States), and the Liberal Party (Australia). The centre-right category includes the National Party (New Zealand). These parties are placed together in categories according to placement along two dimensions (taxes versus spending) and social liberalism, following Benoit and Laver's (2006) classification system, as employed in Bittner (2011).
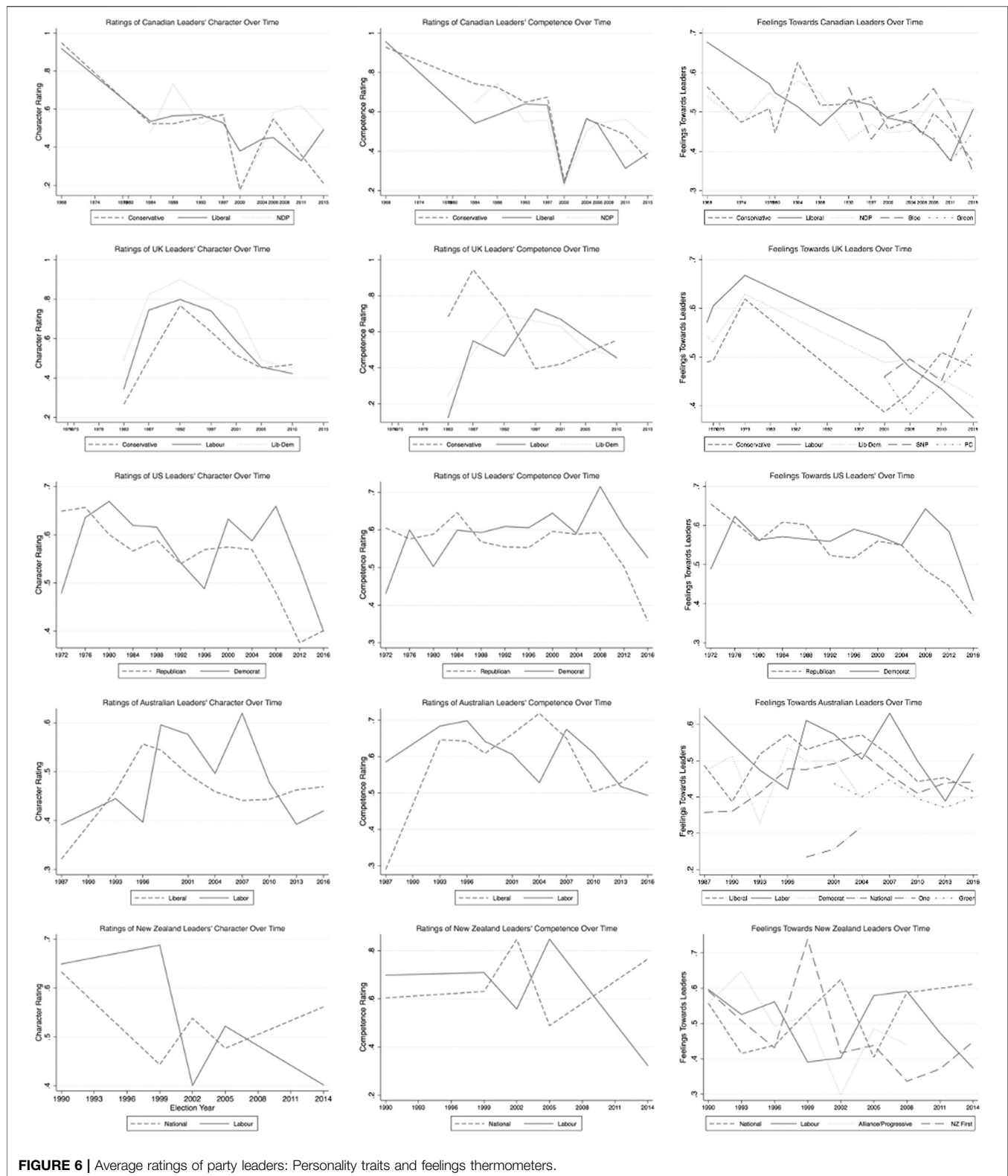
FIGURE 6 | Average ratings of party leaders: Personality traits and feelings thermometers.

over time. The movement is not entirely linear for all countries: there were a number of spikes to the right in the decade from 2000 to 2010 (in Britain, United States, and New Zealand).

For Canadians and Australians, the (red and purple lines), the move to the left was more linear, with no big spike in the 2000s.
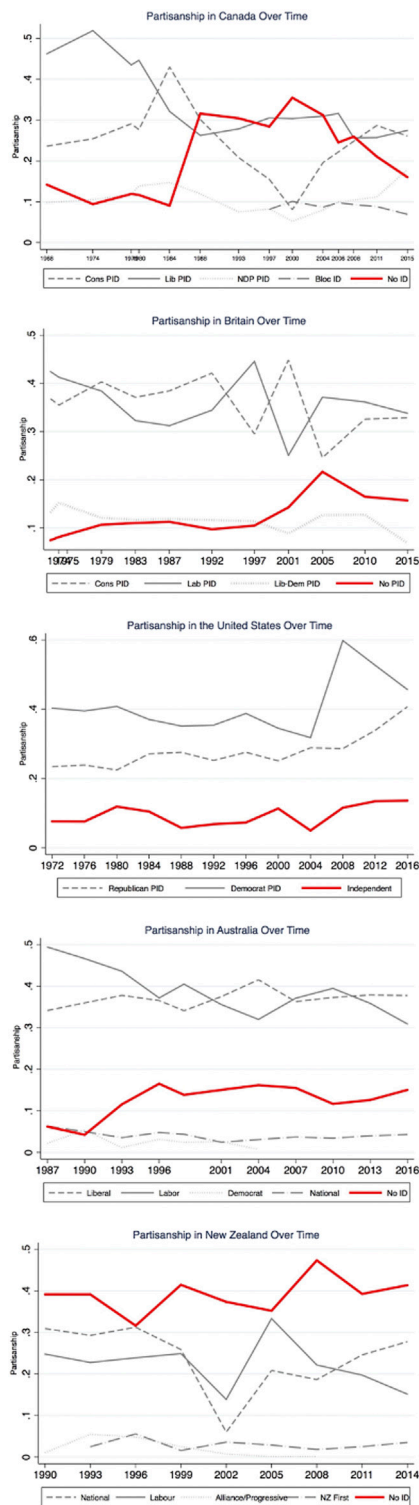
FIGURE 7 | Party identification in five countries, over time.

Amongst conservative and centre-right (New Zealand) partisans, there is a slight trend upward, indicating that
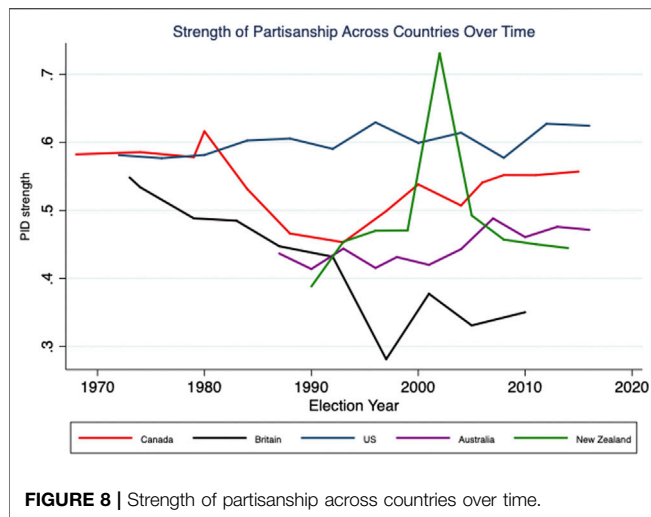
partisans have become more right-leaning over time. Again, this movement is not universal, nor is it linear for all. In Britain (black line), we see a move to the left among conservatives until the early 2000s, then a large jump to the current placement. In Canada, we see a large move to the right in 1988, before moving again to the left and then gradually moving back to the right over time. In New Zealand, there is a small drop to the left in the early 1990s before a large jump to the right among National Party partisans. Also visible is a steady gradual move to the right amongst Republicans in the United States. They begin in the early 1970s with an average left-right self-placement rating of 0.6 on a scale of 0, 1, and move to 0.7 by the 2016 election.

When we take the two panels together, and compare partisans within a single country, a pattern of ideological polarization emerges, perhaps unsurprising to scholars of elections and behavior. In Canada, Liberal partisans have moved to the left, Conservatives have moved slightly to the right. In Britain, Labour supporters have bounced around but end up in 2015 to the left of where they began in the early 1980 s. Australian Labor supporters have moved to the left, while Liberal partisans have remained fairly stable in their ideological leanings. In United States, Republicans have moved steadily to the right, while Democrat partisans have bounced around but in the 2016 election are nearly identically placed to where they were in the early 1970 s. The pattern in New Zealand is similar to that of the US: National Party supporters have moved to the right, while Labour partisans bounced around but end up where they began in 1990. This polarization in left-right self-placement across partisans may help to explain both why leaders are less important over time (**Figures 1–5**), as well as the decreasing average ratings of leaders over time. If strength of partisanship is not universally declining (**Figure 8**), and if the proportion of voters claiming to be partisans is not universally declining, but parties are becoming increasingly polarized on the left-right ideological spectrum, it is possible that the lens through which they are evaluating party leaders is also increasingly polarized. Indeed, recent work points to the potential importance of negative personalization (Garzia and Silva, 2021) and negative partisanship (Abramowitz and Webster, 2016), and provides important insights into the potential dynamics of ideological and affective polarization in influencing perceptions of leaders.

A Brief Dive Into Polarization and Leader Evaluations

In order to better assess the potential role played by party polarization, I focus on the United States and Canada in this final section, tracking average ratings of party leaders among partisans. I do not differentiate theoretically or methodologically between ideological and affective polarization in the analyses presented here, although I do think this will be important in subsequent analyses as we explore these trends in greater detail in the future. **Figure 10** presents these data for the United States, while **Figures 11–13** present more detailed results for Canada.

Figure 10 tracks ratings on the feeling thermometer for both Republican and Democrat leaders, among Republican

FIGURE 8 | Strength of partisanship across countries over time.

and Democrat partisans. The solid lines represent evaluations of party leaders made by partisans of those same parties (matching partisanship with the leader in question)—the solid black line, therefore, represents average ratings of Republican leaders, as evaluated by Republican partisans. Similarly, the solid grey line represents average ratings of Democrat leaders, as evaluated by Democrats. Almost always, Republicans are more enthusiastic about their own party leader than are Democrats, with the exception of 2008 and 2012 (when Democrats were more enthusiastic about Obama than Republicans were about both McCain and Romney, respectively). The dashed lines represent evaluations of leaders by partisans of the opposing party (black dash represents evaluations of Republican leaders by Democrat partisans, and grey dash represents evaluations of Democrat leaders by Republican partisans).
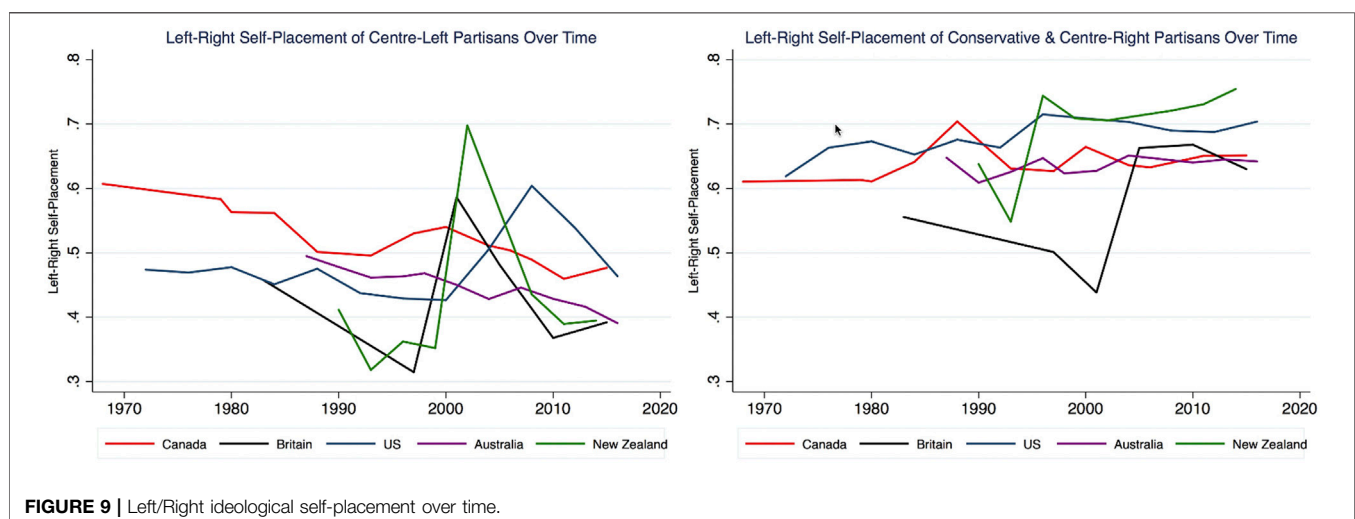
Figure 10 fairly clearly shows a decrease in average evaluations of party leaders by opposing partisans. That is, both Democrats and Republicans have become more negative in their evaluations of the opposing party's leader over time (especially among Republicans, whose average evaluations of Democratic leaders

has dropped by about 0.4 on the 0, 1 scale). There are many jumps and drops across all four trend lines, but there has been less noticeable change in the evaluations of party leaders by members of their own parties (the evaluation of Democrat leaders by Democrats has become only slightly more positive over time, especially compared to evaluations of Republican leaders by Republicans which have become more negative between 1972 and 2016).

Figure 10 shows only the trend lines for a single country, the United States. I chose to present this country because of the clear downward trend seen in **Figure 3** (impact of leaders on vote choice) as well as **Figure 7** (ratings of party leaders over time). In both of these graphs, we see that leaders matter less to vote choice over time, and we see that leaders are perceived **Figures 11–13** by voters. Similar dynamics emerge in the Canadian data as well. **Figures 11–13** depict average ratings across partisan groups for 1) leaders' competence; 2) leaders' character, and then 3) overall "feelings" as measured by the thermometer.

Identifying polarization dynamics in a multiparty system (such as Canada) is more challenging than looking at longitudinal graphs in a two-party system (like United States), but we can see fairly clearly that there are some changes over time. As of the 2004 Canadian election, partisans began to be more polarized in their evaluations of leaders' competence: partisans viewed their own leaders more favourably and became more negative about the leaders of the opposing parties (the gap between the solid lines and dashed lines increased between 2004 and 2015). A similar dynamic can be seen in perceptions of leaders' character, as seen in **Figure 12**. **Figure 12** shows a widening gap that emerges in 2004 and continues to the present: out-partisans are more negative about party leaders' personality traits, including both character and competence, in recent decades than they were in the past.

Figure 13 provides a more direct comparison with the American data presented in **Figure 10**, because it tracks thermometer ratings over time. Again, I note that it is messy to look at the ratings of leaders in a multiparty system in comparison to a two-party system. There are a lot of lines in the graph making it challenging to interpret. There is clear
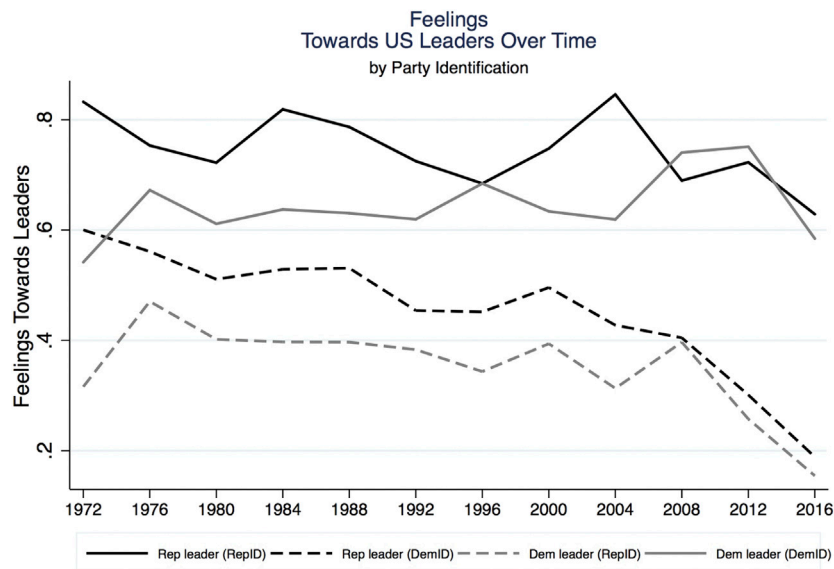

FIGURE 9 | Left/Right ideological self-placement over time.

FIGURE 10 | Thermometer ratings of Democrat and Republican leaders, by Party Identification.
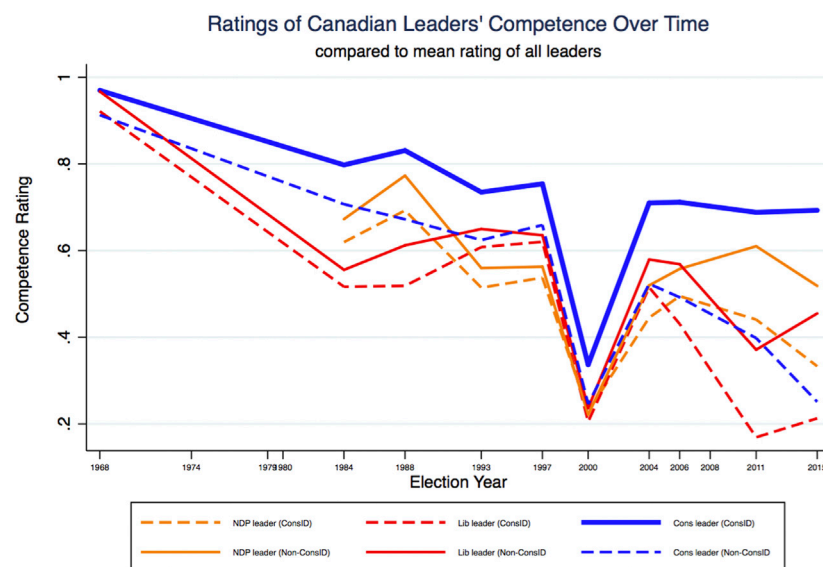

FIGURE 11 | Ratings of Canadian leaders' competence, by Party Identification.

indication, however, that voters have become more polarized over time in their assessments of party leaders. They feel more warmly towards their own leaders in general (especially when we look at Conservative partisans, who rarely change their views towards their leaders over time), while partisans of other parties evaluate those same leaders more negatively, and, over time, increasingly more negatively. The gap widens most by 2015 for feelings towards the Conservative leader (largely because Conservative partisans are so committed to viewing their leader positively), but also widens substantially for evaluations of the Liberal and NDP party leaders over time.

This is most visible for evaluations of the NDP leaders after 2004, while the polarization between in-partisans and out-partisans' evaluations of the Liberal leader was large in the 1960 and 1970s, decreased, and then increased again after 2004.

Polarization between in- and out-partisans may help to explain why we are not seeing a great deal of evidence of personalization of politics. If partisans are more protective of their own leaders and more hostile towards opposing leaders, this may have an impact on the extent to which leaders influence vote choice. More research is needed, including 1) research that looks
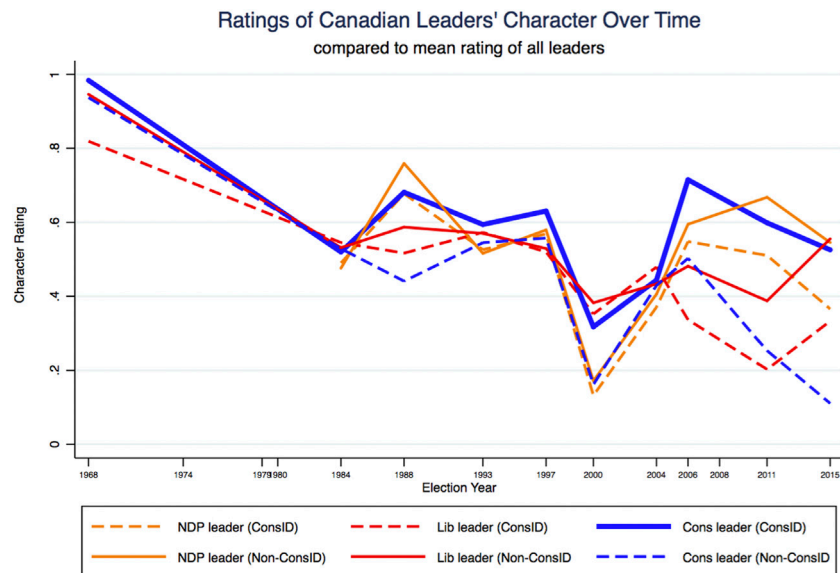
FIGURE 12 | Ratings of Canadian leaders' character, by Party Identification.
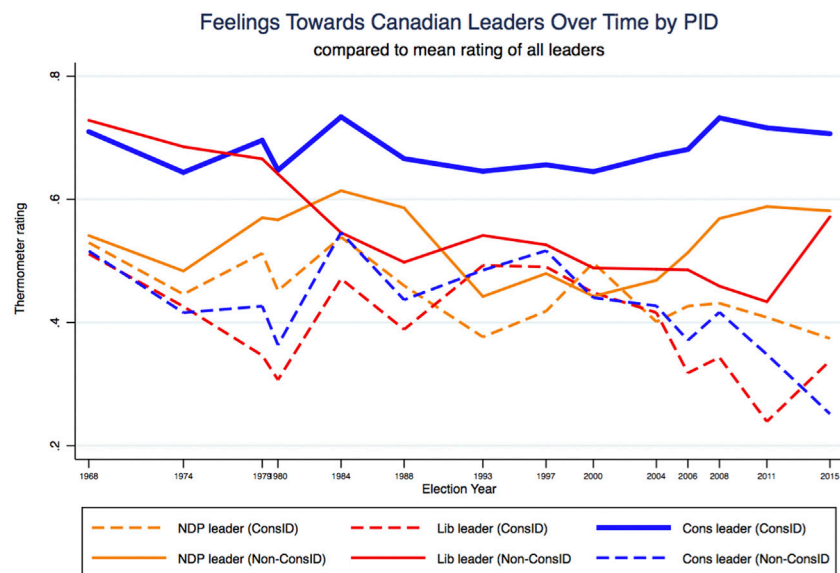

FIGURE 13 | Feelings towards Canadian leaders (thermometer ratings), by Party Identification.

at the dynamics of polarization across other countries; and 2) research that seeks to better understand the translation of perceptions of leaders to vote choice among partisan groups. This is the logical next step. Reiljan (2020) has made important inroads into understanding affective polarization in Europe, and Wagner (2021) has pushed the discussion one step further by challenging the ways in which we can measure polarization in multiparty systems. Extending their work to better assess the role of polarization in relation to personalization is likely to be quite fruitful in better understanding the dynamics of personalization.

CONCLUSION: PERSONALIZATION AND THE FACTORS CONTRIBUTING TO THE IMPORTANCE OF PARTY LEADERS

This paper provides a starting point, and it makes it clear that cross-national, longitudinal research is important (as also demonstrated in Garzia's et al. (2020) work) for determining the impact of party leaders in elections, and in particular, for determining whether or not personalization of politics is taking place. The results presented in this paper are inconclusive, but they do not uncover a great deal of

evidence in favor of the increasing importance of party leaders. In fact, the data suggest that party leaders have always been important, and that they may be becoming less important over time.

It is not entirely obvious that personalization as a process is underway on a global level, at least not based on data from these five countries over time. More research is needed, research that is comparative in scope and longitudinal in its analysis. Polarization needs to be considered seriously as a factor influencing our understanding of how voters perceive leaders and their personality traits, and we must incorporate this variable into our analyses of the impact of leaders on election results over time.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusion of this article will be made available by the authors, without undue reservation. Data and documentation for each country's election studies can be found here: Canada: http://www.ces-eec.ca/, United States, https://electionstudies.org/, New Zealand: http://www.nzes.org/, Australia: https://australianelectionstudy.org/, Britain: https://www.britishelectionstudy.com/.

ETHICS STATEMENT

Ethical review and approval was not required for the study on human participants in accordance with the local legislation and institutional requirements. Written informed consent was not provided because use of secondary data. Assuming PIs had informed consent when collecting data.

AUTHOR CONTRIBUTIONS

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

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpos.2021.660607/full#supplementary-material

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Who Complies and Who Defies? Personality and Public Health Compliance

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During the first wave of the pandemic, governments introduced public health measures in an attempt to slow the spread of the virus enough to "flatten the curve". These measures required behavioral changes among ordinary individuals for the collective good of many. We explore how personality might explain who complies with social distancing measures and who defies these directives. We also examine whether providing people with information about the expected second wave of the pandemic changes their intention to comply in the future. To do so, we draw upon a unique dataset with more than 1,700 respondents. We find honest rule-followers and careful and deliberate planners exhibit greater compliance whereas those who are entitled, callous, and antagonistic are less likely to engage in social distancing. Our experimental results show that even small differences in messaging can alter the effect of personality on compliance. For those who are more fearful and anxious, being confronted with more information about the severity of the second-wave resulted in higher levels of anticipated social distancing compliance. At the same time, we find that the same messages can have the unintended consequence of reducing social compliance among people higher in Machiavellianism.

Keywords: personality, HEXACO, dark triad, social compliance, public health messages

INTRODUCTION

In late 2019 and early 2020 the world was introduced to an outbreak of SARS-CoV-2 (COVID-19). By March 11, 2020 the rapid spread of the virus resulted in the World Health Organization (WHO) declaring it a global pandemic (World Health Organization, 2020). In the absence of a vaccine, many governments around the world introduced strict public health measures to slow the spread of the virus (Cheng et al., 2020). The terms "lockdown" and "social distancing" became part of the global vocabulary as governments closed schools, parks, and businesses, limited international travel, and mandated that individuals keep their distance from one another (working from home, restricting unnecessary travel, staying six feet of physical distance in public spaces, etc.).

The primary purpose of such efforts was not to eradicate COVID-19, but rather to slow the spread of the virus enough to "flatten the curve" and ensure that the medical system, especially intensive care units, were not overburdened while more long-term solutions such as a vaccine were pursued. While governments could act on some of these policies unilaterally (i.e., restricting international travel), many of the health measures required behavioral changes among ordinary individuals. As the White House's coronavirus coordinator explained during the first wave: "There's no magic vaccine or therapy. It's just behaviors: Each of our behaviors translating into something that changes the course of this viral pandemic" (Holland and Mason, 2020).

We know, however, that not everyone follows public health guidelines, and the current pandemic is no different (Bavel et al., 2020; Roma et al., 2020). A central question for this article, therefore, is to consider who complies? While previous work has explored standard sociodemographic factors like age, sex, education, and political factors like ideology and partisanship (Chen and Farhart, 2020; Merkley et al., 2020; Pickup et al., 2020), COVID compliance is likely rooted in individual differences in personality (see, for example, Nowak et al., 2020). The question for us is which traits and personality profiles result in greater compliance with public health guidelines for social distancing and support for government lockdown policies? To answer this question, we draw on an original dataset of more than 1,700 Canadians. The data contain a series of questions related to COVID compliance and support for the government lockdown, as well as large batteries of both general and dark personality traits.

Given the length of the pandemic, and the onset of multiple waves, encouraging continued (and even increasing) compliance and support for public policies that are aimed at slowing the spread of the virus are crucial. This, however, raises the second question addressed in this article. If compliance is rooted in relatively stable, long-term, factors like personality, how much change can we expect from individuals with regards to their level of compliance? Can greater compliance be encouraged through public health messaging? Moreover, will different traits interact differently with the same public health messages (i.e., will some be more receptive than others)? To explore this second question, we report the results of an original survey experiment where we consider whether providing participants with more information about the upcoming second wave through a series of randomly assigned vignettes would encourage greater self-reported compliance.

Overall, our results reveal that personality is a consistent predictor of both social distancing compliance and support for government lockdown policies. Personality matters even after controlling for a wide range of factors such as age, sex, income, education, employment status, efficacy, knowledge, interest, and partisanship, and while considering the potential mediating role of political ideology. As for the second-wave compliance experiment, we find that public health messaging may have unintended consequences. While those scoring higher in emotionality report greater compliance after being exposed to additional information about the second wave, individuals with higher levels of antagonism (Machiavellianism) report less compliance. As we suggest in the discussion, the fact that public health messaging may not necessarily have a universally positive effect on behavior is a serious challenge for governments seeking to contain the pandemic.

Part 1: Personality and COVID-19 Compliance

Dozens of published studies have tried to explain why some people comply with measures intended to slow the spread of COVID-19 while others flout these rules and recommendations. Outcome variables have ranged from single item measures of general compliance to identifying specific behaviors such as

hand-washing, mask wearing, and maintaining social distance. When examining different correlates, one of the more consistent findings has been political ideology; people on the right of the political spectrum tend to be less compliant (Farias and Pilati, 2020; Painter and Qiu, 2020). Other factors such as trust in science (Plohl and Musil, 2020), trust in government and their ability to implement appropriate policies (Wright et al., 2020; Götz et al., 2021), social capital (Pitas and Ehmer, 2020; Makridis and Wu, 2021; Wu, 2021), and higher levels of anxiety (Kemp et al., 2021; Mevorach et al., 2021) and fear (Brouard et al., 2020; Harper et al., 2020; Melki, 2020) have helped to explain increased compliance.

While these findings are informative, an important piece of this puzzle likely rests in individual differences in personality. Personality refers to a set of traits that are present in a given individual from an early age, are deeply rooted, and tend to be remarkably stable over time (Costa and McCrae, 1992). Personality consistently predicts a number of personal, political, and health-related outcomes such as job (Judge et al., 2002) and relationship satisfaction (Malouff et al., 2010), voter turnout (Mondak, 2010), political participation (Chen et al., 2020), subjective well-being (Friedman et al., 2010), and overall life expectancy (Bogg and Roberts, 2004). Personality interacts with the environment in influencing specific behaviors; people with different personality traits will focus on different informational cues from their environment (inputs), which will in turn create different options to consider (decision rules), leading to different behavioral choices (outputs; see Larsen et al., 2018). Moreover, the influence of personality on behavior will likely be amplified in situations marked by uncertainty or crisis, such as during a global pandemic. As Caspi and Moffitt (1993): 247 explain:

> Personality differences are likely to be revealed during transitions into unpredictable new situations, when there is a press to behave but no information about how to behave adaptively. Dispositional differences are thus accentuated as each person seeks to transform novel, ambiguous, and uncertain circumstances into familiar, clear, and expectable social encounters.

Taken together, there is good reason to expect personality to be related to COVID compliance.

Although the Five Factor Model (FFM; Costa and McCrae, 1992) has long been the predominant model in personality psychology, a separate model, called the HEXACO (Ashton and Lee, 2007), offers a competing nosology. While the traits of extraversion (gregariousness, excitement-seeking), conscientiousness (competence, self-discipline), and openness (ideas, unconventional values) remain largely unchanged, the HEXACO model redefines both agreeableness and neuroticism; agreeableness here is characterized as patience, leniency, and includes lack of anger which in the FFM is noted under neuroticism while neuroticism is renamed emotionality and describes people who are anxious, sentimental, and sensitive (Ashton et al., 2014). The HEXACO model also adds a sixth trait, honesty-humility defined as being honest, sincere, and trustworthy.

While the FFM and the HEXACO describe general personality traits, the Dark Triad describes the more antagonistic aspects of personality. The Dark Triad, as first described by Paulhus and Williams (2002) includes the three traits of subclinical psychopathy (callousness, impulsivity), narcissism (self-enhancement, antagonism), and Machiavellianism (manipulation, cynicism). While the three traits tend to be significantly correlated and share an antagonistic core, they are three distinct, and multidimensional traits (Miller et al., 2019). In this analysis, we treat them as such.

When examining general personality and COVID-19 compliance, research utilizing the FFM has found that conscientiousness is positively related to general public health compliance (Carvalho et al., 2020; Quian and Yahara, 2020; Götz et al., 2021), while extraversion is negatively related to social distancing (Carvalho et al., 2020; Clark et al., 2020; Götz et al., 2021). There is also evidence that agreeableness (Zajenkowski et al., 2020; Götz et al., 2021) and openness to experience (Clark et al., 2020; Götz et al., 2021) are also related to more compliance. The findings for emotionality are mixed with one study finding that people higher in emotionality are less likely to comply with stay-at-home orders (Clark et al., 2020) while the other finds the opposite result (Götz et al., 2021).

Several studies have also examined the more maladaptive aspects of personality including antisociality, negative affect, detachment, antagonism, and disinhibition. Here, the findings are clear: higher levels of maladaptive traits are related to less compliance with public-health measures (Miguel et al., 2020; Roma et al., 2020; O'Connell et al., 2021). Turning to the specific traits of the Dark Triad, Nowak et al. (2020) find that all three traits are related to engaging in fewer preventative measures. Zajenkowski et al. (2020) similarly find evidence that aspects of all three traits are related to less general compliance.

We add to this emerging literature by using the HEXACO, which to date has been largely omitted, by drawing on fulsome measures of personality, by considering the multidimensional nature of each Dark Triad construct, by utilizing a large representative sample, and by including a variety of theoretically informed control variables in the analysis. In addition to developing our expectations from the results of the existing literature, we further develop these expectations from a theoretical understanding of each personality trait. Three HEXACO traits are particularly relevant for understanding altruistic behavior: honesty-humility (treating others fairly; loyalty), emotionality (preventing harm to oneself and those closely aligned with the individual), and agreeableness (treating others with kindness with no expectation of reciprocity; Ashton and Lee, 2007; Lee and Ashton, 2018). Given that compliance with social measures and support for policies that essentially close public spaces require that individuals sacrifice personal liberties for the greater good, we hypothesize that these traits will be positively associated with compliance and with support for specific policies meant to slow the spread of the coronavirus. To help illustrate how these traits may result in different behaviors, imagine the person

higher in honesty-humility. Because of their beliefs in equity, this person might show more negative reactions to media stories of people suffering during the pandemic (input), which would result in more negative appraisals of social interactions that could potentially lead to more infections (decision rules), resulting in the decision to avoid unnecessary gatherings (outputs).

The other three personality traits of the HEXACO model, extraversion, conscientiousness, and openness, represent an individual's level of engagement in "social endeavors, task-related endeavors, and idea-related endeavors, respectively" (Ashton and Lee, 2007, p. 160). Given that individuals higher in extraversion would seek out social situations and opportunities to be in the presence of others, we hypothesize that this trait will be negatively related to social distancing compliance and negatively related to support for policies that essentially closed public meeting places. In this way, we expect that extraversion, a trait that is usually associated with positive outcomes (e.g., happiness, leadership success), can be detrimental in certain situations. In contrast, given that conscientiousness is related to dutifulness, rule following, and higher self-control, we expect this trait to be positively associated with all forms of compliance and support for lockdown policies. Openness, characterized by creativity and unconventionality, is consistently related to a less conservative ideology (Osborne and Sibley, 2012; Osborne et al., 2020) and given that conservative ideology has been the most consistent predictor of lower compliance during the pandemic (Gollwitzer et al., 2020; Painter and Qiu, 2020), openness will likely be associated with increased compliance and support for lockdown policies.

Turning now to the Dark Triad, psychopathy is most-often characterized by four underlying facets: interpersonal manipulation (dishonesty), affective (lack of empathy), lifestyle (impulsivity), and antisocial (rule breaking; Williams et al., 2007). People with psychopathic traits place their own needs above others, don't consider the consequences of their actions, and flout rules and regulations. We generally expect to find negative relationships between psychopathy and compliance with social distancing and support for policies. Similarly, both aspects of narcissism, grandiosity (high self-esteem, assertiveness) and vulnerability (envy, shame) are related to self-aggrandizing behavior and placing one's own interests above the interests of others (Crowe et al., 2018; Rosenthal et al., 2020). Both types of narcissism should therefore be negatively related to compliance and support for the lockdown.

While narcissism and psychopathy can be seen as generally maladaptive, the construct of Machiavellianism combines both maladaptive (being selfish and callous) and adaptive features (careful planning, goal-directed). Machiavellians are cunning planners, motivated to achieve their desired ends at any cost (Collison et al., 2018). We therefore expect the antagonistic traits to be related to less compliance and support for policies, while the more adaptive traits of planfulness and deliberation should be positively associated with these outcomes. A summary of our hypotheses is presented in **Table 1**.

TABLE 1 | Summary of the expectations for each personality construct and social compliance and support for policies to slow the spread of the coronavirus (COVID-19).

	Social compliance	Support for policies
Honesty-humility (H)	+	+
Emotionality (E)	+	+
Extraversion (X)	–	–
Agreeableness (A)	+	+
Conscientiousness (C)	+	+
Openness (O)	+	+
SRP: Facet 1 (IPM)	ns	ns
SRP: Facet 2 (AF)	–	–
SRP: Facet 3 (LS)	–	–
SRP: Facet 4 (AN)	–	–
NVS	–	–
NGS	–	–
FFMI: Antagonism	–	–
FFMI: Agency	ns	ns
FFMI: Planfulness	+	+

Note. + = positive relationship; - = negative relationship; ns = not significant; SRP = Self-Report Psychopathy Scale short form; IPM = interpersonal manipulation; AF = affective; LS = lifestyle; AN = antisocial; FFMI = Five Factor Machiavellianism scale; NVS = Narcissistic Vulnerability Scale; NGS = Narcissistic Grandiosity Scale.

METHODS

Participants

Participants were 1725 Canadian residents recruited through a series of voluntary survey panels maintained by Qualtrics.[1] Participants were sent an email invitation from Qualtrics that contained a link to our survey. Once accessed, the 25-min survey included the following sections: socio-demographics; political attitudes, behaviors, and ambition; COVID-19 attitudes and behaviors; internet usage and activities; and full measures of the HEXACO, Machiavellianism, grandiose and vulnerable narcissism, and psychopathy. Note that the personality batteries were randomly presented to participants. In order to ensure that the sample resembled the broader Canadian population, quotas were put in place for age, income, and sex. The final sample included 863 women, 854 men, and eight non-binary individuals with an average age of 49 years ($SD = 16.6$; range 19–80). The majority of participants identified as White (75.5%), followed by Asian (13.1%), Black (2.7%), other (2.2%), East Indian (2.0%), Indigenous (1.7%), Hispanic (1.3%), and Middle Eastern (1.3%). Thirty-one percent of participants had completed a Bachelor's degree followed by equal numbers that reported completing high school (27.2%), and completing technical or community college (27.3%). Median household income ranged between $50,000 and $74,999. The mean level placement on the one-dimensional measure of political ideology (0-Left to 10-Right) was 4.8 ($SD = 2.2$). Data were collected between June 29, 2020 and July 22, 2020.

Measures

Demographics and Controls

Participants were asked a series of demographic questions. This included their age, sex, income, education, and employment status. Participants were also asked a number of questions about their political attitudes and orientations. This included internal and external efficacy, political knowledge (scored out of five), party identification, political interest, and self-placement on the left/right ideology scale. Combined, these serve as controls in our multivariate analyses. Precise wording of each question is available in the **Supplementary Materials**.

Personality

Participants completed the HEXACO-60 (Ashton and Lee, 2009), a 60-item self-report scale that assesses the six personality dimensions of the HEXACO model (10 items per dimension) which includes honesty-humility, emotionality, extraversion, agreeableness, conscientiousness, and openness. Cronbach's alpha coefficients ranged from 0.73 (honesty-humility) to 0.80 (extraversion) in the current sample.

Based on criticisms that truncated measures of the Dark Triad are unable to capture the multidimensionality of each construct (e.g., Miller et al., 2019) and that they may conflate Machiavellianism and psychopathy (Miller et al., 2017; Collison et al., 2018), we used individual measures of each Dark Triad trait. Machiavellianism was measured with the Five Factor Machiavellianism Inventory (FFMI; Collison et al., 2018), a 52-item self-report measure developed from the Five Factor Model of personality. The FFMI contains three subscales: antagonism (e.g., selfishness, callousness), agency (e.g., achievement, competence), and planfulness (e.g., deliberation, order). In the current sample, Cronbach's alpha coefficients were acceptable for all three subscales (range: 0.74 to 0.87).

Two aspects of narcissism were measured using the Narcissistic Grandiosity Scale (NGS; Rosenthal et al., 2020) and the Narcissistic Vulnerability Scale (NVS; Crowe et al., 2018). In both of these scales, participants are asked to rate the extent to which a number of adjectives describes how they feel in general and on average (1-not at all to 7-extremely). Items tapping into grandiose narcissism include authoritative, dominant, and superior while items tapping into vulnerable narcissism include envious, resentful, and self-absorbed. Both the NGS and NVS showed acceptable Cronbach's alpha coefficients in the current study (0.92 and 0.90, respectively).

Psychopathy was measured using the Self-Report Psychopathy scale short form (SRP 4 SF; Paulhus et al., 2016) which contains 29 items tapping into the four underlying facets of psychopathy: interpersonal (e.g., manipulation), affective (e.g., callousness), lifestyle (e.g., irresponsible), and antisocial (e.g., delinquent and criminal behavior). The Cronbach's alpha coefficients were acceptable for all four facets in the current study (range: 0.77 to 0.82). All personality measures were standardized to a 0 to 100 scale, with 0 representing the lowest level of each personality trait and 100 representing the highest. All possible correlations between the personality scales can be found in the online supplemental materials (**Supplementary Table S1**).

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[1]The survey included two attention check questions to ensure participants were attentive. Participants who failed the attention checks, along with speedsters and straight liners, were removed from the data.

TABLE 2 | Correlations between personality variables and outcomes.

	F1	F2	F3	F4	NV	NG	M1	M2	M3	DV1	DV2
H	−0.52**	−0.47**	−0.44**	−0.39**	−0.34**	−0.41**	−0.63**	0.01	0.28**	0.24**	0.17**
E	−0.11**	−0.20**	−0.11**	−0.11**	0.26**	−0.16**	−0.19**	−0.38**	0.02	0.04	0.12**
X	−0.15**	−0.20**	−0.09**	−0.08**	−0.47**	0.28**	−0.22**	0.74**	0.15**	0.01	0.08**
A	−0.34**	−0.39**	−0.34**	−0.17**	−0.36**	−0.18**	−0.51**	0.18**	0.18**	0.06**	0.11**
C	−0.29**	−0.31**	−0.33**	−0.34**	−0.32**	−0.02	−0.32**	0.46**	0.71**	0.19**	0.18**
O	−0.06*	−0.10**	0.03	−0.08**	−0.04	0.05*	−0.16**	0.22**	0.12**	0.08**	0.08**
DV1	−0.18**	−0.21**	−0.24**	−0.25**	−0.13**	−0.18**	−0.20**	0.03	0.16**	—	—
DV2	−0.19**	−0.22**	−0.16**	−0.21**	−0.06**	−0.09**	−0.23**	0.05	0.18**	0.28**	—

Notes. H = honesty-humility; E = emotionality; X = extraversion; A = agreeableness; C = conscientiousness; O = openness; DV1 = social compliance (0–100); DV2 = support COVID-19 policies (0–100); FI = Self-Report Psychopathy Scale short form (SRP four SF; Paulhus et al., 2015) interpersonal manipulation facet; F2 = SRP affective facet; F3 = SRP lifestyle facet; F4 = SRP antisocial facet; NV = Narcissistic Vulnerability Scale (NVS; Crowe et al., 2018); NGS = Narcissistic Grandiosity Scale (NGS; Rosenthal et al., 2020); M1 = Five Factor Machiavellian Inventory (FFMI; Collison et al., 2018) antagonism facet; M2 = FFMI agency facet; M3 = FFMI planfulness facet.
$*p < .05.$
$**p < .01$ (2-tailed).

Outcomes

Participants were asked to think back to when the COVID-19 lockdown was in full effect and to indicate the extent to which they engaged in the following behaviors (0-never to 100-frequently): visit someone's else's home, have guests in their home, and gather outdoors with people who did not live with them. Items were reversed scored so that higher scores indicated more compliance with social distancing measures. We conducted a principal components analysis (PCA) with varimax rotation to assess whether the three social compliance items could be combined into one measure. A one-factor solution accounting for 79.46% of the variance was found (eigenvalue = 2.38; Cronbach's alpha = 0.87). The average rating across the three items was therefore taken as the measure of social distancing compliance, with higher scores indicating more compliance with social distancing measures.

Participants were then asked the extent to which they supported the following governmental initiatives during the lockdown (0-not at all supportive to 100-completely supportive): closing daycares, schools, and universities; closing bars and restaurants; closing parks and playgrounds; forbidding public gatherings where many people are gathered at one place (i.e., sporting, religious, and cultural events); and forbidding non-necessary travel. A PCA confirmed a one-factor solution accounting for 80.53% of the variance (eigenvalue = 4.03; Cronbach's alpha = 0.94) and the average of the five items was calculated as the measure of support for policies with higher scores indicating more support for these policies. Tables of the rotated factor loadings for each composite variable can be found in the online supplemental materials (**Supplementary Tables S2, 3**).
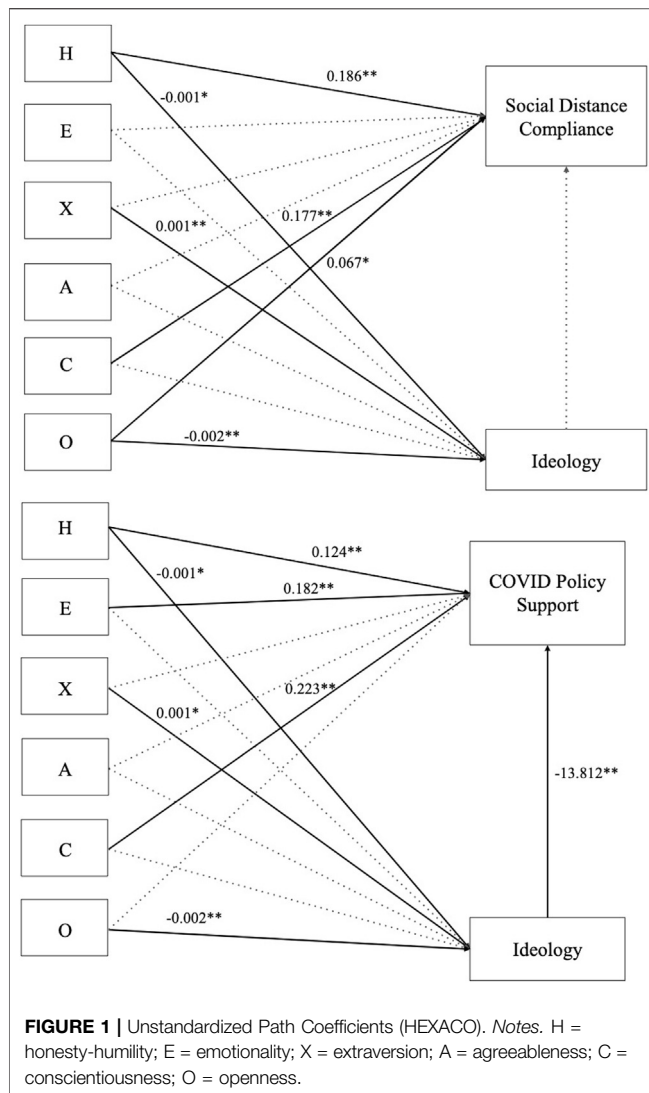
Part 1: Observational Results

We begin by exploring compliance with public health guidelines regarding social distancing.[2] **Table 2** presents the zero-order

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[2]A table of descriptive information for every control variable, personality inventory, and outcome variable is available in the **Supplementary Materials** (**Table 4S**).

correlations between the personality constructs and the two outcomes: social distancing compliance and support for lockdown policies. The bivariate associations are almost entirely consistent with the expectations outlined in **Table 1**, with the exception of extraversion which was not significantly related to social compliance and showed a small positive relationship with support for lockdown policies.

To explore these relationships further, we estimated a series of Structural Equation Models (SEM). In these models, we include the various personality traits (or facets) as observed (independent) variables, along with a robust set of controls for respondent age, sex, income, education, employment status, political efficacy (internal and external), political knowledge, political interest, and party identification. While we are primarily interested in the direct effects of personality on COVID behaviors and lockdown policy attitudes, we suspect that personality may, in fact, be mediated through other relevant factors. Given the well documented link between personality and ideological orientation (Mondak, 2010; Osborne and Sibley, 2012; Sibley et al., 2012; Osborne et al., 2020) as well as the importance of ideology for understanding COVID related outcomes (Brouard et al., 2020; Farias and Pilati, 2020; Merkley et al., 2020; Painter and Qiu, 2020), and political attitudes and behaviour more generally (Inglehart, 1997; van der Meer et al., 2009; Feldman and Johnston, 2014), our SEM models include left-right ideology as a possible mediator. We estimate these models using maximum likelihood estimation with bootstrapped standard errors. Path diagrams show significant paths with solid lines and their associated coefficients whereas insignificant paths are shown with dotted lines.

Much of the Dark Triad literature has been criticized for failing to take into account the "perils of partialing" when multivariate models are used. Here, the argument is that the residual traits produced when all Dark Triad traits are included in the same model cannot be readily interpreted because they may not resemble the original traits (Sleep et al., 2017). As Miller et al. (2019:355) note, this concern is exacerbated "when variables are substantially correlated and multidimensional as they are for the dark triad". Given that we are considering this multidimensionality and that the traits are in fact significantly

FIGURE 1 | Unstandardized Path Coefficients (HEXACO). *Notes.* H = honesty-humility; E = emotionality; X = extraversion; A = agreeableness; C = conscientiousness; O = openness.

compliance. We also find that extraversion is negatively related to self-reported social distancing, however this is only the case at the $p < 0.100$ level. Interestingly, no indirect effects of personality through ideology on social distancing were identified. On the bottom panel are the paths for lockdown support. Here we see that those scoring higher on honesty-humility, emotionality, and conscientiousness tend to be more supportive of government lockdown policies. Although not shown in the path diagram, two traits also have indirect effects on lockdown support through ideology: extraversion (-0.014; $p = 0.018$) and openness (0.031; $p = 0.000$).

Figures 2–4 contain the path diagrams for the dark traits of Machiavellianism, psychopathy, and narcissism. As was the case for the HEXACO model, we find only direct effects of personality on social distancing compliance, and both direct and indirect effects (mediated through ideology) for lockdown policy support. Beginning with **Figure 2**, we see that two facets of Machiavellianism are related to compliance with social distancing. As expected, the antagonism facet is negatively related to compliance whereas the planfulness facet is
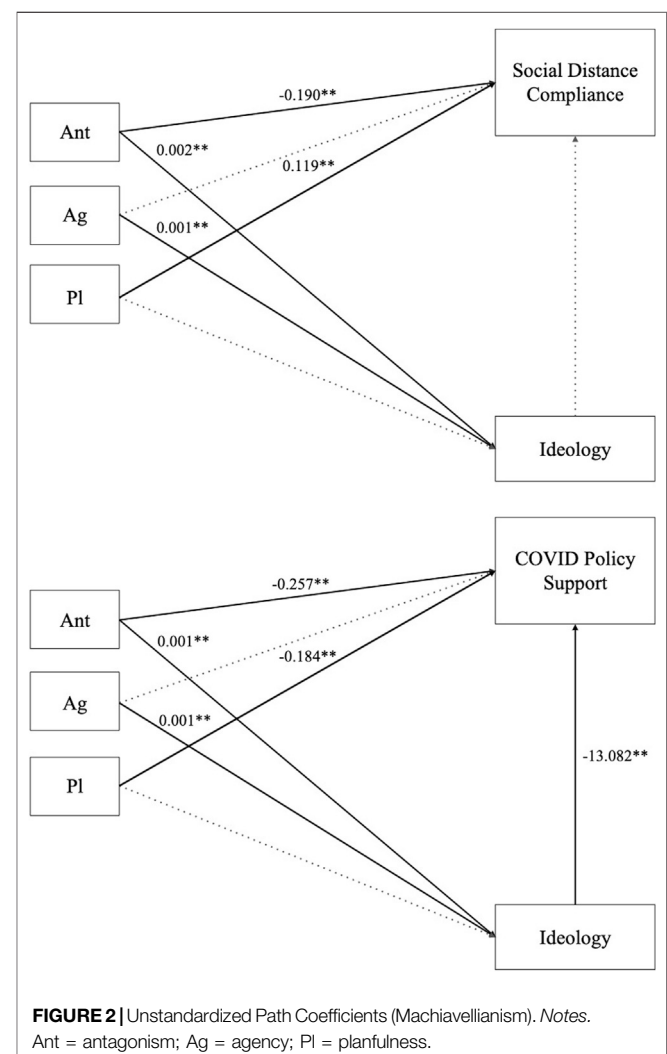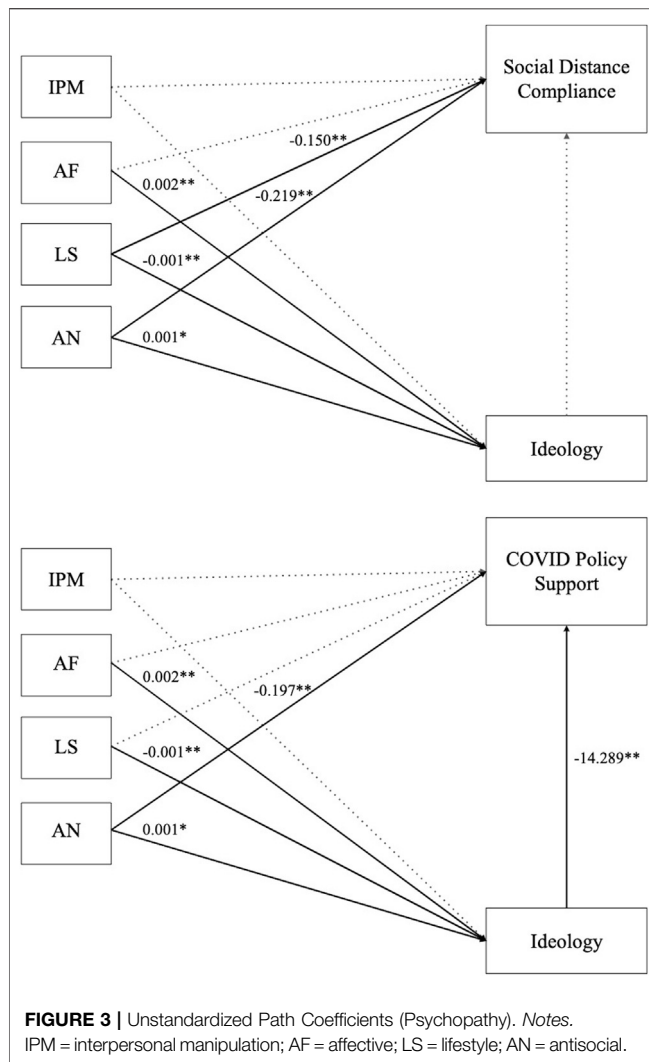
correlated (**supplementary Material Table S1**), we specify a number of separate models, one for each of the personality models under investigation (HEXACO, narcissism, psychopathy, and Machiavellianism). In total, then, we conducted eight SEM models (four for each outcome). All were deemed to fit the data well according to recommendations from Byrne (1994). The Root Mean Square Error of Approximation (RMSEA) for all models was <0.001, well under the cut-off of 0.08. The Standardized Root Mean Square Residual (SRMR) was also <0.001 for all models easily under the cut-off of 0.10. The χ^2 for the models ranged from 675.1 [33] to 815.0 [41] and all achieved p-values <0.001. The comparative fit indices for all eight models were in excess of 0.99. Taken together, the models employed fit the data well.

Figure 1 includes the SEM path diagram results regarding the relationship between the HEXACO and our two COVID outcomes. On the top panel, we see that three general personality traits, honesty-humility, conscientiousness, and openness, are positively related to social distancing

FIGURE 2 | Unstandardized Path Coefficients (Machiavellianism). *Notes.* Ant = antagonism; Ag = agency; Pl = planfulness.

FIGURE 3 | Unstandardized Path Coefficients (Psychopathy). *Notes.*
IPM = interpersonal manipulation; AF = affective; LS = lifestyle; AN = antisocial.

compliance. The path for vulnerable narcissism, by contrast, is insignificant. We find a similar pattern for lockdown support: only grandiose narcissism is significantly related to less support for the lockdown. Grandiose narcissism also has a significant indirect path (-0.019; $p = 0.003$) through political ideology.

When it comes to personality and COVID behaviors, specifically social distancing, we observe direct and unmediated effects only. When examining support for lockdown policies, however, we observe not only direct effects of personality, but also a number of indirect effects mediated through ideology. In terms of who complies, the results of these analyses provide compelling evidence that prosocial traits (honesty-humility, conscientiousness, and openness), are related to more social distancing compliance whereas antisocial traits (Machiavellianism, psychopathy, and narcissism) are related to less compliance.
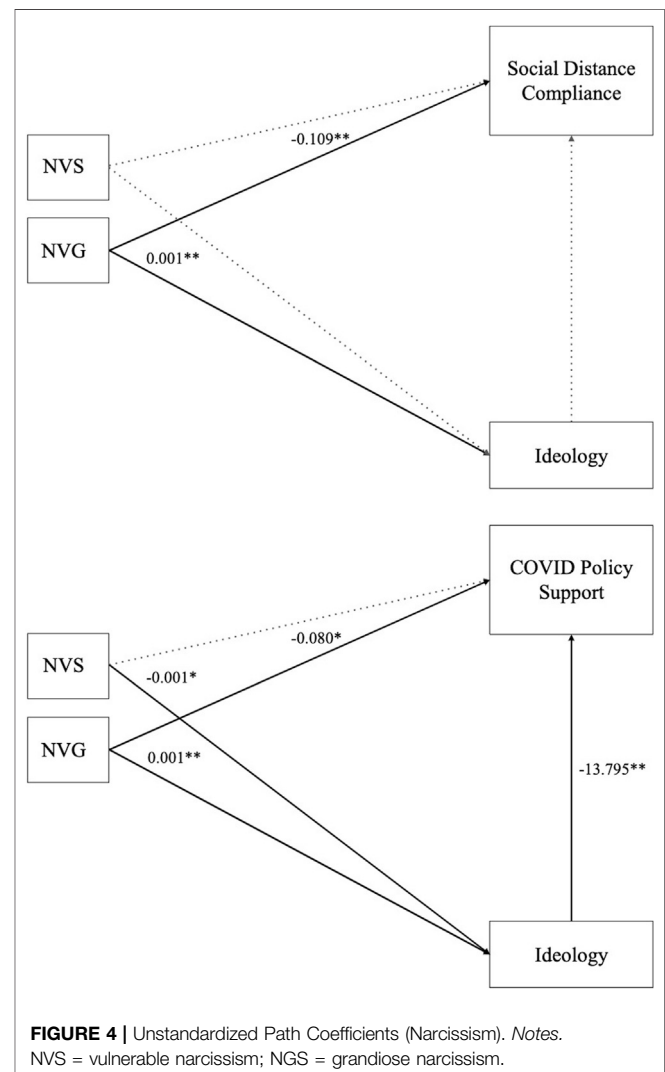
positively related to compliance. The same pattern is identified with regards to direct effects of lockdown support. Here we also find indirect effects of two Machiavellianism facets through ideology on lockdown support: antagonism (-0.019; $p = 0.014$) and agency (-0.019; $p = 0.013$).

Figure 3 reports the results for psychopathy. We find partial support for our expectations regarding this trait in so far as the behavioral and antisocial aspects of psychopathy are in fact related to less compliance (see antisocial and lifestyle paths). Surprisingly, however, the affective facet, characterized by callousness and lack of empathy was insignificant. When considering lockdown support, only those scoring higher on the antisocial facet are significantly less supportive of lockdown policies. Three facets, affective (-0.027; $p = 0.007$), lifestyle (0.020; $p = 0.018$), and antisocial (-0.016; $p = 0.030$), also have indirect effects on lockdown support which are mediated through ideology.

Finally, **Figure 4** contains the SEM results for grandiose and vulnerable narcissism. Considering social distancing, those higher in grandiose narcissism report significantly less

FIGURE 4 | Unstandardized Path Coefficients (Narcissism). *Notes.*
NVS = vulnerable narcissism; NGS = grandiose narcissism.

Part 2: Personality and Public Health Messaging

As the first part of our empirical analysis demonstrates, personality traits are important correlates of compliance with COVID-19 preventative measures and support for various COVID-19 lockdown policies. Public health compliance, however, does not occur in a vacuum. One vital component of the response to the current pandemic is public-facing messaging from a variety of sources including the government, public health officials, and the media (Ataguba and Ataguba, 2020; Banerjee and Rao, 2020; Sevi et al., 2020). There is also good reason to expect that personality traits will alter an individual's receptiveness to this political/public health messaging (Mondak, 2010; Chen, 2015). The second part of our analysis, therefore, embeds a survey experiment with varying levels of information to better understand how different personality traits affect an individual's receptiveness to public health messaging.

Literature and Expectations

Individuals are exposed to persuasive appeals on a daily basis. Whether it is governments trying to change citizen behavior, businesses trying to sell goods and services, or political actors seeking support in the form of votes and donations, persuasive appeals are everywhere (Matz et al., 2017). While only just emerging, there are already several pieces of research that explore the types of appeals and messages (i.e., norm based, moral, etc.) that could be used to encourage greater COVID-19 compliance (Bilancini et al., 2020; Everett et al., 2020; Jordan et al., 2020; Utych and Fowler, 2020). While there is not yet a consensus regarding the most effective communication strategies for COVID-19, there is a clear consensus that messaging matters. As Bilancini et al. (forthcoming) write, "the importance of finding efficient messages is clear, as they represent an easy and potentially scalable intervention: messages can be texted by phone, spread on social media, put inside postal boxes, and even voiced in the streets using cars equipped with a megaphone."

Given that persuasive communication is routine, it is not surprising that there is a large literature regarding the effectiveness of such appeals (Moon, 2002; Hirsh et al., 2012; Dubois et al., 2016). On the political science side, scholars have largely accepted the role of political communication in shaping opinion and behavior, though this is often understood through subtle effects such as framing, priming, and agenda setting (Iyengar, 1990; Miller and Krosnick, 1997). Content and source cues have also been identified as important considerations when understanding the influence of political communication, such that partisanship and credibility are often intertwined in the public's minds as they consider communication (Goren et al., 2009; Laustsen and Petersen, 2016). Reviewing the more psychological literature, research has found that tailoring messages to specific traits of the intended target appears to amplify the effect of the message (Hirsh et al., 2012; Matz et al., 2017). In this sense, different appeals are better suited for individuals with different traits.

Despite academic research on the effectiveness of tailoring, much of the work in public health communication focuses on the value of generalized public health communication without understanding how individual or situational differences influence receptiveness to these messages (Bernhardt, 2004; Freimuth and Quinn, 2004). This isn't entirely surprising. After all, Freimuth and Quinn (2004:2054) note that "health communicators often struggle to understand the audiences they seek to reach." In the Canadian case, a common theme in COVID-19 messaging has been a focus on the trajectory and spread of the disease with a near constant reporting of both current and projected rates of infections and deaths in Canada (Agius et al., 2020; Government of Canada, 2021) as well as on the global scale (CBC, 2021; Dunham, 2021). In focusing on this content, the strategy has been to broadcast information to the entire population (using government websites, press briefings, etc.) as opposed to engaging in more tailored messaging or narrowcasting.[3] Under this approach, recipient characteristics are largely taken as static or constant. While such an approach may have been effective historically, as science and public health have become more politicized, broadcasting a single message may no longer produce the desired outcome (Motta et al., 2018, 2020). We should expect personality to make some individuals more receptive to public health messaging than others. In fact, a message that increases compliance for one recipient may, in fact, decrease compliance for another (Feng and MacGeorge, 2006). Political scientists and psychologists have long understood the conditional nature of the relationship between personality and behavior (Lavine and Snyder, 1996).

Overall, we are left with the following: messages tend to be more effective when tailored to psychological factors like personality; public health messages regarding the pandemic in Canada have been largely static (untailored) and applied to the population as a whole through broadcasting; and in the absence of tailored messages, there is evidence to suggest that recipient traits will alter receptiveness to that messaging. It is this latter issue that we are particularly interested in and seek to address here. The question is whether general public health reporting that focus on the trajectory of the pandemic (as currently employed by the government and media) will have a universal effect or whether there will be differences in receptivity based on specific personality traits. While it remains plausible to design messaging for specific personality traits, we focus on the predominant messaging strategy (universal messages based on the pandemic trajectory) and investigate whether these messages are more or less persuasive for some members of the population, conditional on their personality traits.

Given the limited research examining the HEXACO and Dark Triad as they relate to receptiveness to political appeals in general and health messaging in particular, we approach this as an exploratory analysis. Our expectation is that certain traits will make individuals more or less receptive to general messages that are framed around the scale of the pandemic (infections, deaths,

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[3]This broadcasting approach to the pandemic has been criticized. Hodson (2020), for instance, writes that the Canadian "government and public health communicators are generally using old control-the-message tactics to reach people, and this is a losing proposition."

etc.) but that a universal, unidirectional, effect is unlikely. Take, for example, individuals scoring higher in the trait of emotionality. These individuals are characterized as having heightened fear of physical danger and elevated levels of anxiety and stress. These individuals are also empathetic, caring, and prosocial. Given their personality profile, those higher in emotionality may be particularly susceptible to messages that provide examples of the number of infections and deaths, leading to greater public health compliance. At the same time, individuals who are callous, unempathetic, and self-interested may react quite differently.

METHODS

The experimental analysis reported here utilizes the same dataset as described above but examines the conditional effects of a variety of public health messages on an individual's likelihood of engaging in protective health behaviors. Thus, most procedures are identical to what has already been detailed. Below, however, we document the instances where methodological procedures differ. In particular we provide details on the experimental manipulation and our dependent variable.

Manipulation and Outcome

In addition to their current level of compliance (observational results discussed above), participants were also asked to think about their future behavior and how they would act should a second wave of the pandemic occur. Before answering this second set of questions, however, participants were randomly assigned to one of three information conditions where we manipulated the specificity of the projected number of additional infections and deaths that could occur during the second wave.[4] Two experimental conditions, one focusing on Canada and the other on the World Health Organization, were adopted to reflect actual reporting practices at the time, which frequently included the scale of the pandemic in Canada and abroad (Agius et al., 2020; CBC, 2021; Dunham, 2021; Government of Canada, 2021). While the source of the information changes between the two experimental conditions (Canada vs. World Health Organization) to match the scale of the severity of the numbers being reported, recent polling data suggests that Canadians are satisfied with the COVID response by their national government as well as the World Health Organization (Mordecai, 2020). The change in the source of the information was, therefore, not expected to influence the results but to maximize external validity.

All three conditions began with the same preamble: "Health officials widely expect the coronavirus pandemic to follow a

similar pattern to previous pandemics, with a "second wave" of infections occurring in the fall. This wave is expected to be similar in size or larger than the first wave of infections." In the first condition, no further information was provided. Participants in the second condition read one additional statement that provided some Canadian-specific projections of infections and deaths for the second wave from the "Public Health Agency of Canada" (e.g., 30,000 to 40,000 additional infections) while participants in the third condition were provided with worldwide projections from the "World Health Organization" (e.g., six to seven million additional infections).

Following the vignettes, participants were asked to indicate the likelihood that they would engage in the following behaviors (0-never to 100-frequently): visit someone's else's home, have guests in their home, and gather outdoors with people who did not live with them. Items were reversed scored so that higher scores indicated more compliance with social distancing measures and, similar to part 1, scores were averaged across all three items to produce one score indicating compliance (**Supplementary Material Table S5** contains the rotated factor loadings from the PCA). We utilize these responses as a post-treatment measure of public health compliance. To generate our outcome variable, we subtract the aggregated pre-treatment responses to the public health behavior questions from the post-treatment responses. Positive numbers, therefore, represent a higher likelihood of engaging in the behaviors relative to their responses pre-treatment and negative numbers represent a lower likelihood of engaging in the behaviors relative to pre-treatment responses.

Part 2: Experimental Results

We begin our analysis by looking at the results pooled across the various information conditions, presented in **Table 3**. While these results aren't experimental per se, they allow us to see if the mere presence of public health information about a second pandemic wave would increase (or decrease) public health compliance. Since we use a pre-post difference measure, any significant effects here should indicate a change in public health compliance between an individual's stated compliance prior to reading a vignette about a second pandemic wave and their responses after the vignette. Since we pool across conditions, this table simply shows whether personality traits affected receptiveness to any public health messaging about the second wave. In other words, does being confronted with the possibility of a second wave (regardless of its scale) influence compliance?

As the results show, there is a limited effect of general personality on messaging across the pooled conditions: the trait of honesty-humility leads to less projected second-wave compliance. Interestingly, this may reflect a true tendency towards less compliance or it could demonstrate a tendency towards honest survey response answers. If agreeing to engage in social distancing in the face of a second pandemic wave is considered socially desirable, then honesty-humility may predict more honest answers but not necessarily lower

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[4]Balance tests show that age, sex, income, education, nor ideology predict condition assignment. Nonetheless, out of an abundance of caution, we include these as controls in our analyses. Results are substantively similar when the control variables are excluded.

TABLE 3 | Linear regression analysis of effect of public health messaging (pooled) on public health compliance.

	Model 1 (N = 1690)		Model 2 (N = 1681)		Model 3 (N = 1684)		Model 4 (N = 1684)		Model 5 (N = 1674)	
	B	SE	B	SE	B	SE	B	SE	B	SE
Age	−0.02	0.03	0.01	0.03	−0.02	0.03	−0.01	0.03	−0.01	0.03
Sex (Male)	−0.37	0.87	−0.27	0.97	−0.00	0.91	−0.47	0.88	−0.15	0.91
Income	−0.10	0.20	−0.09	0.21	−0.07	0.20	−0.15	0.21	−0.09	0.21
Education	−0.08	0.42	−0.22	0.43	−0.04	0.42	−0.19	0.42	0.01	0.42
Ideology	−0.52**	0.20	−0.46*	0.20	−0.48*	0.20	−0.51*	0.20	−0.51*	0.20
H			−0.08*	0.03						
E			0.03	0.03						
X			−0.04	0.03						
A			0.06	0.03						
C			0.03	0.04						
O			0.05	0.03						
SRP F1					−0.13**	0.04				
SRP F2					0.02	0.05				
SRP F3					0.02	0.04				
SRP F4					0.08	0.05				
NVS							−0.01	0.02		
NGS							0.03	0.02		
FFMI Ant									0.01	0.04
FFMI Ag									−0.04	0.04
FFMI Pl									0.04	0.03
R	0.01		0.01		0.01		0.01		0.01	

Note. H = honesty-humility; E = emotionality; X = extraversion; A = agreeableness; C = conscientiousness; O = openness; SRP F1 = interpersonal manipulation; SRP F2 = affective; SRP F3 = lifestyle; SRP F4 = antisocial; NVS = vulnerable narcissism; NGS = grandiose narcissism; M1 = Machiavellianism antagonism facet; M2 = agency facet; M3 = planfulness facet.

*p < .05.

**p < .01.

***p < .001.

responsiveness to messaging. Turning to the Dark Triad, we again see only a limited effect for personality. We do, however, see that those scoring higher on the interpersonal (manipulation) facet of psychopathy are less responsive to messaging. As a whole, however, these results demonstrate that, pooled across conditions, there is little effect for personality traits in driving responsiveness to public health messages.

Of course, examining pooled results misses the potential for differential effects based on the *content* of the messaging. Thus, while personality may not play a particularly strong role in responsiveness to messaging *writ large*, it's possible (and likely) that specific types of messages produce responses that are contingent on personality. To examine this possibility, **Table 4** presents the results with interactions between the various personality traits and whether an individual saw the control condition (no specific information) or one of the two treatment conditions where personality appears to play a modest role when accounting for the content of the message. Here we pool the two informational conditions together as there were no significant differences between these conditions. In this sense we are comparing those who received general information about the possibility of a second wave to those who received more specific information about the second wave, including projections of infections and deaths. Exploring differences between the control and treated conditions, we find that there is a significant interaction effect for the treated condition assignment with

emotionality. That is, while emotionality does not predict greater public health compliance when individuals are reminded about the potential second wave (**Table 3**), higher levels of emotionality do predict a higher likelihood of complying when the information contains projected deaths and infections. We also see the opposite effect for those scoring higher on the antagonism factor of Machiavellianism. In this case more specific information regarding deaths and infections results in lower compliance.[5]

DISCUSSION AND CONCLUSION

This article adds to the emerging literature on personality and public health compliance, specifically as it relates to COVID-19 social distancing and support for government lockdown policies. Our study benefits from a large representative sample and fulsome batteries of a variety of measures of personality (HEXACO, FFMI, etc.). In fact, we utilize more than 150 unique items to assess the traits studied here. As we expected, the observational results clearly reveal that both general and dark traits are related to public health compliance in predictable ways. When examining compliance with social distance measures, we find honest

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[5]We extend our analysis in the supplemental materials. Here we report the results of a number of marginal effects calculations that reach marginal significance ($p < 0.10$).

TABLE 4 | Linear regression analysis of effect of public health messaging on public health compliance, by control or treatment condition assignment.

	Model 1 (N = 1690)		Model 2 (N = 1681)		Model 3 (N = 1684)		Model 4 (N = 1684)		Model 5 (N = 1674)	
	B	SE	B	SE	B	SE	B	SE	B	SE
Age	−0.02	0.03	0.01	0.03	−0.01	0.03	−0.01	0.03	−0.01	0.03
Sex (Male)	−0.36	0.87	−0.19	0.97	0.06	0.91	−0.46	0.88	−0.09	0.91
Income	−0.10	0.20	−0.07	0.21	−0.06	0.20	−0.16	0.21	−0.07	0.21
Education	−0.08	0.42	−0.23	0.43	−0.07	0.42	−0.18	0.42	−0.01	0.42
Ideology	−0.52**	0.20	−0.46*	0.20	−0.49*	0.20	−0.51*	0.20	−0.53**	0.20
Pooled treatment	0.15	0.92	−9.81	7.31	1.19	1.51	−0.34	1.97	10.04	6.54
H			−0.10	0.06						
H x treated			0.03	0.07						
E			−0.06	0.05						
E x treated			0.13*	0.06						
X			−0.00	0.05						
X treated			−0.05	0.07						
A			0.04	0.06						
A x treated			0.03	0.07						
C			0.01	0.06						
C x treated			0.02	0.08						
O			0.05	0.05						
O x treated			0.01	0.06						
SRP F1					−0.08	0.08				
SRP F1 x Treated					−0.06	0.09				
SRP F2					0.06	0.08				
SRP F2 x Treated					−0.06	0.10				
SRP F3					−0.03	0.07				
SRP F3 x Treated					0.09	0.08				
SRP F4					0.13	0.08				
SRP F4 x Treated					−0.08	0.10				
NVS							−0.03	0.04		
NVS x treated							0.03	0.05		
NGS							0.03	0.04		
NGS x treated							−0.00	0.05		
FFMI Ant									0.11	0.06
FFMI Ant x treated									−0.15*	0.08
FFMI Ag									−0.00	0.06
FFMI Ag x treated									−0.05	0.07
FFMI Pl									0.06	0.05
FFMI Pl x treated									−0.02	0.07
R	0.01		0.02		0.01		0.01		0.01	

Note. H = honesty-humility; E = emotionality; X = extraversion; A = agreeableness; C = conscientiousness; O = openness; SRP F1 = interpersonal manipulation; SRP F2 = affective; SRP F3 = lifestyle; SRP F4 = antisocial; NVS = vulnerable narcissism; NGS = grandiose narcissism; M1 = Machiavellianism antagonism facet; M2 = agency facet; M3 = planfulness facet.
*p < .05.
**p < .01.
***p < .001.

rule-followers (honesty-humility), careful and deliberate planners (conscientiousness), and inquisitive and unconventional thinkers (openness) exhibit greater compliance with social distancing. We also see that the entitlement, callousness, and self-interest that characterize the Dark Triad traits also result in lower levels of compliance. Turning to lockdown support, we find that a wider range of personality traits are significant. Here we see that each of the Dark Triad traits are negatively related to support for government lockdown policies while general traits such as emotionality, honesty-humility, and conscientiousness are positively related. Interestingly, emotionality does not exert consistent influence over the two outcomes. Individuals scoring higher in this trait support government lockdown action to slow the spread of the virus even if it

doesn't translate into higher levels of compliance for themselves personally.

The experimental results show that even small differences in messaging (like including or excluding specific information about the number of infections and deaths) can alter the effect of some personality traits on compliance. These results, of course, do not demonstrate overwhelming effects of personality conditional on treatment assignment. We venture, however, that this illustrates the potential for public health messaging to exert a differential effect based on the recipient's personality traits. For some individuals, such as those higher on emotionality (fearful, anxious, sentimental, etc.), being confronted with more information about the severity of the second-wave resulted in higher levels of self-reported social distancing compliance. At the same time,

however, we find evidence that exposure to the same public health messaging reduced compliance among those scoring higher on the antagonism factor of Machiavellianism. Unintended messaging effects around COVID-19 have been reported elsewhere. In a study of age-based messaging strategies, Utych and Fowler (2020: 7) report that providing information on the threats to older individuals has no positive effects on behavior or attitudinal change. In fact, they find that providing this information creates negative effects. As they conclude "when targeting messages towards younger Americans, a focus on threats to older adults could potentially be counterproductive."

The findings reported here have a number of important implications. First, the observational analysis reveals that while much emphasis has been placed on factors like partisanship and ideology, individual differences in personality are also an important part of the puzzle. Second, our experimental analysis reveals some potential unintended messaging effects whereby exposure to public health messaging leads to less social distancing compliance. These unintended effects demonstrate an important challenge faced by politicians and public health professionals in their response to the pandemic. While we may hope that a universally appealing message could be developed to encourage greater compliance among the populace writ large, our results suggest that this may be a difficult task to achieve.[6] In the absence of a universally appealing message, however, the results of our observational and experimental analysis combine to suggest that communication tailoring may be an avenue worth pursuing. In the age of big data (Kosinski et al., 2013) where psychological targeting already occurs (Hirsh et al., 2012; Matz et al., 2017), public health messages that are targeted to match a recipient's individual personality may be an important tool to encourage compliance and slow the spread of the virus. While the specific messages that may produce these effects is beyond the scope of this manuscript, we encourage this type of work from both academics and public health professionals.

While this study makes a number of important contributions, it is not without limitations. First, this is a cross-sectional study that was conducted during the first wave of the pandemic. Unlike a longitudinal study that collects data at multiple points in time, we cannot actually measure second-wave compliance. Instead, our social distancing measures and planned future compliance rely on self-reporting. Due to social desirability, our self-report measures may overestimate compliance. While our approach is consistent with the majority of the literature on the subject, it is in contrast to a small number of studies that

have been able to draw upon behavioral measures using cellphone mobility data (see Wright et al., 2020; Jay et al., 2020). Second, while we focus on social distancing and support for lockdown policies, these are not the only measures that have been used to slow the spread of COVID-19, nor are they the only aspects of public health compliance (others include hand washing, mask wearing, etc.). Third, while we include a robust set of controls in addition to our various personality traits, we are unable to account for all possible alternative mechanisms such as fear, risk tolerance, anxiety, and others. Fourth, it is possible that our informational vignettes were not powerful enough to illicit more nuanced responses. Finally, while we draw on a large and fairly representative sample, it was generated from an online non-probability pool of respondents which may have implications for generalizability. Limitations aside, our results show that individual differences in personality are an important part of the puzzle for understanding who does and does not comply with public health guidelines for social distancing.

DATA AVAILABILITY STATEMENT

The raw data supporting the conclusions of this article will be made available by the authors, without undue reservation.

ETHICS STATEMENT

The studies involving human participants were reviewed and approved by Carleton University Research Ethics Board-B (CUREB-B). The patients/participants provided their informed consent to participate in this study.

AUTHOR CONTRIBUTIONS

JB and SP developed the survey instrument as part of a larger project and conceptualized the paper. All three authors developed the specific experimental manipulation from Part 2. JB and PC conducted data analyses. All three authors participated in writing separate sections of the paper and in editing the final draft.

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SUPPLEMENTARY MATERIAL

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fpos.2021.660911/full#supplementary-material

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[6]We note, though, that with political and public health messaging, the content of the message may alter the traits that predict compliance. Thus, while we find that certain traits lead to greater or less compliance with our experimental messages that focus on the trajectory of the virus, there likely exist alternative messaging strategies that could produce entirely different patterns of results.

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