

**Psychological Entitlement and Conspiracy Beliefs:  
Evidence From the COVID-19 Pandemic**

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**Publisher note:**

This is an Accepted Manuscript of an article published by Taylor & Francis in *Journal of Social Psychology* on 01 January 2024, available at: <https://doi.org/10.1080/00224545.2023.2292626> © 2024 Taylor & Francis

### **Abstract**

Psychological entitlement describes the dispositional tendency to claim excessive and unearned rewards and resources, and to demand undeserved special treatment. In one experiment, one cross-sectional survey, and one time-separated survey (total n=721), we show that psychological entitlement is associated with general conspiracy theory endorsement, COVID-19 specific conspiracy theory endorsement, and conspiracy theorizing as an overarching cognitive style. We find those high in entitlement are more likely to report having made discretionary visits to non-essential venues and services (e.g., buffets, spas, casinos) during the pandemic, and that these risky public health behaviours are mediated through beliefs in conspiracy theories. We identify consequences for public health behavior and conclude with a research agenda for better understanding the underlying mechanisms linking entitlement and conspiracy beliefs.

*Keywords:* psychological entitlement, conspiracy theories, conspiracy ideation, COVID-19, public health compliance, health behavior

## **Psychological Entitlement and Conspiracy Beliefs:**

### **Evidence From the COVID-19 Pandemic**

Conspiracy theories undermine official explanations for events and promote elaborate plots and schemes that connect unrelated people, events, and behaviours. These theories are persuasive and influence how people think, feel, and behave across various domains (e.g., Douglas & Sutton, 2004; 2008). In the area of public health, research links conspiracy beliefs to fewer infectious disease prevention practices like vaccination (Jolley & Douglas, 2014), handwashing, and social distancing (Oleksy et al., 2020). Those who endorse conspiracy theories, for example, are more likely to make personal health-related decisions that have widespread societal implications, including vaccine hesitancy and refusal (Tomljenovic et al., 2020).

Since the onset of the COVID-19 pandemic, news and social media outlets have highlighted a variety of conspiracy beliefs surrounding the virus (e.g., the virus is a lab-created bioweapon, a vaccine is being suppressed, the virus is a hoax, etc.; Georgiou et al., 2020; Henley & McIntyre, 2020). Not surprisingly, conspiracy thinking has been studied as a predictor of receptivity to, and acceptance of, COVID-19-related public health measures, including prevention behaviors and vaccination compliance (Allington et al., 2020; Biddlestone et al., 2020; Oleksy et al., 2020; Romer & Jamieson, 2020). Given the challenges posed by conspiracy thinking to public health compliance during COVID-19, it is important to better understand who is at greatest risk of endorsing these beliefs.

In this paper, we position conspiracy theorizing as a potential mechanism to explain the recent finding that psychological entitlement leads to risky public health behaviour and perceptions of the COVID-19 pandemic as being overblown (Zitek & Schlund, 2020). We argue entitlement drives risky public health behaviours because those high in the trait are more prone to endorsing conspiracy beliefs. We present data from three studies

demonstrating an association between entitlement and conspiracy ideation and beliefs (studies 1 and 3), and participation in risky personal behaviours during the COVID-19 pandemic (e.g., eating at buffet restaurants, going to spas and saunas, etc.; studies 2 and 3).

### **Psychological Entitlement and Feelings of Unearned Deservingness**

Psychological entitlement is an individual difference variable that describes the pervasive belief that one deserves special treatment, perks, and rewards, independent of objective levels of effort and performance (e.g., Campbell et al., 2004; Naumann et al., 2002). Entitled individuals believe they are uniquely deserving of good things; they take from others without reciprocating while simultaneously externalizing blame for personal failure (Exline et al., 2004; Neville & Fisk, 2019).

People high in psychological entitlement possess an “aristocratic” world view; they claim or assert their deservingness based on qualities other than demonstrated merit (Fisk, 2010). These individuals chronically experience unmet expectations and consequently, frequently report feeling short-changed and wanting more (Grubbs & Exline, 2016). When they feel disappointed, threatened, or unfairly treated, entitled individuals respond aggressively or contentiously to legitimize their positive self-concept, thereby reinforcing their entitled beliefs (Exline et al., 2004; Grubbs & Exline, 2016; Reidy et al., 2008).

Historically, entitlement has been discussed as a defining element of the narcissistic personality, both as a trait and a clinical disorder (Miller et al., 2012). However, while entitlement is related to narcissism, empirical evidence indicates the two constructs are not synonymous. When measured separately, entitlement and the grandiose elements of narcissism differentially predict various outcomes, including mental health and ethical misconduct (Brown et al., 2009). Entitlement has also been differentiated from narcissism in terms of its relational implications. Entitlement, unlike narcissism, has been described as

largely interpersonal in nature; psychological entitlement is characterized by a “difficult mix” of needs for both personal connection and independence (Rose & Anastasio, 2014, p. 53). Moreover, while entitlement is a defining feature of narcissism, there are a range of situational (e.g., Vincent & Kouchaki, 2016) and dispositional (e.g., Lange et al., 2019) predictors of entitlement beyond narcissism alone. All narcissists may be entitled, but not all entitled people are necessarily narcissistic<sup>1</sup>.

### **Psychological Entitlement and Public Health Behaviour During COVID-19**

Early evidence suggests that personality variables can predict public health intentions and adherence, including attitudes and behaviours during the COVID-19 pandemic. Individuals with antisocial personality traits have previously been shown to score lower on COVID-19 compliance and containment measures, even in the face of rising national case numbers (Miguel et al., 2020). Relatedly, individuals scoring high on the ‘dark triad’ traits of Machiavellianism, psychopathy, and narcissism engage in fewer COVID-19-related preventative behaviours (e.g., decontaminating high touch surfaces, frequent hand-washing), while simultaneously engaging in more pandemic-related hoarding behaviours (e.g., stockpiling food and supplies), expressing less concern over the virus, and complying less with government restrictions (Carvalho & Machado, 2020; Nowak et al., 2020; Zajenkowski et al., 2020).

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<sup>1</sup> In our studies, we captured measures of narcissism (the GNS in Study 1, NPI-16 in Study 2, and both NPI-16 and HSNS in Study 3). In a supplemental analysis publicly available on the Open Science Framework, we reanalyze the results reported in this paper, testing the degree to which entitlement adds incrementally to the variance explained in the outcomes above and beyond these measures. For Studies 2 and 3, this is a conservative test, because entitlement is a defining element of narcissism, and the measure of grandiose narcissism has both conceptual and measurement overlap with entitlement. In other words, such analyses test the effect of entitlement over and above a measure that also includes entitlement. In Study 1, using a dimensionalized measure of narcissism, we find that entitlement explains conspiracy thinking above and beyond the variance accounted for by non-entitlement-related facets of narcissism. The supplemental analysis is available at <https://osf.io/2hb8a/>.

Recent work by Zitek and Schlund (2020) offers preliminary support for the relationship between psychological entitlement in particular and noncompliance with COVID-19 health guidelines. These authors show non-compliance is accounted for, in part, by entitled individuals' beliefs that concerns about the virus are inflated, as well as their lower levels of concern about harming others. Our work seeks to both replicate and extend this finding. We focus on entitlement as a predictor of behavioural noncompliance with pandemic policies (e.g., non-essential trips outside the home), and we seek to gain a more precise understanding of the beliefs (e.g., conspiracy thinking) underlying these risky or noncompliant behaviours.

In the context of a pandemic, opportunities to express a sense of entitlement and personal deservingness abound. In many jurisdictions, public health messaging focuses on reducing “non-essential” or “discretionary” trips but for those high in entitlement, their own needs and desires are likely to be considered essential. If an exception to a rule exists, one might expect that those high in psychological entitlement would argue that exception should be granted to them. Furthermore, public health restrictions represent a private cost (a restriction on personal freedoms) toward a public good (preventing the spread of disease). Previous research using economic games shows psychologically entitled individuals contribute less in public-good and commons dilemmas (e.g., Haesevoets et al., 2019) and we expect an application to public health would be no different. Entitlement may create an expectation of access to public goods and services and enjoy their associated benefits, but less felt obligation to make individual contributions toward those goods and services.

### **Entitlement and Conspiracy Thinking**

Conspiracy theories encompass “explanations for important events that involve secret plots by powerful and malevolent groups” (Douglas et al., p. 538). These theories offer broad

explanations that allow believers to defend their idiosyncratic worldview by providing structures of logic impervious to debate or evidence. Conspiracy theories are unfalsifiable in that the total absence of evidence, or even contradictory evidence, is taken as confirmation of their truth (Keeley, 1999). Ultimately then, conspiracy ideation allows people to explain away complex and difficult to understand occurrences into a neat package of assumptions about how the world works (Van Prooijen & Jostmann, 2013). Why might such theories hold a particular appeal for the entitled? We describe three possible mechanisms.

First, we consider the mechanism tested in Study 1: The salience of (in)justice. We begin by considering work on collective narcissism and conspiracy thinking (e.g., Cichocka et al., 2015; Cichocka et al., 2016a; Cichocka et al., 2016b). Work in this area suggests that conspiracy theories are way to “valorize the self... by allowing blame for negative outcomes to be attributed to others” (Douglas et al., 2017, p. 540). Narcissists are motivated individually and collectively to deflect or deny their failings and the failings of their ingroups (e.g., de Zavala et al., 2013), and can do so by endorsing and spreading conspiracy theories. Such theories allow them to protect the idealized image they have of themselves and their social groups by attributing away or denying ingroup failings (Sternisko et al., 2020).

We think that the entitled may similarly be drawn to entitlement as a defensive mechanism against a threat to their self-concept. One defining trait of entitlement is the tendency to demand unearned rewards and treatment. When such rewards and treatment are left unrealized (as extreme and unreasonable demands often are), entitled individuals experience perceived injustice and a subjective sense of disadvantage (see Lee et al., 2019). Conspiracy theories might provide those high in entitlement and prone to feelings of disadvantage with a tidy way of blaming others for unfavourable personal outcomes, resistant to disconfirming (and therefore discomfiting) evidence. These theories provide convenient, impersonal, and unfalsifiable explanations for seemingly unfavourable or unfair

events (Douglas et al., 2017). In Study 1, we test an (in)justice salience explanation: Those high in entitlement are more prone to conspiracy theorizing because it provides a means of attributing experiences of perceived injustice to forces outside of their personal control, so will drift toward conspiracy theories most strongly when they encounter perceived disadvantage or felt injustice.

There are, of course, alternative ways of theorizing about why entitlement has a particular allure to those high in entitlement. A second perspective might focus on motivated cognition. From this viewpoint, the lure of the conspiracy theory to the entitled is the behaviour it justifies or enables: “Sovereign citizen” theories, for instance, could justify tax evasion; COVID conspiracy theories could justify breaking health recommendations or lockdowns. Self-serving justifications for behaviour are a lure of conspiracies in general (van Prooijen, 2022), but we might imagine that entitlement brings with it a greater-than-typical need to receive special treatment and unearned benefits. If conspiracy theories provide a rationale for these demands, they may have a special appeal to those high in entitlement.

The third possible approach to understanding the lure of the conspiracy theory focuses on how conspiracy theories offer a sense of inflated importance to their adherents (van Prooijen, 2022). Conspiracies are shadowy, secret information – available only to the few who are in the know. Lantian, Muller, Nurra & Douglas (2017) demonstrate that one lure of conspiracies is that they create a feeling of having scarce and rare knowledge, which is particularly appealing to those who have a high need for uniqueness. This would seem to describe entitlement well.

## Study 1

In Study 1, we seek to establish an association between psychological entitlement and general conspiracy ideation (as distinct from normal, rational suspiciousness). We also



experimentally test whether felt injustice moderates this link, as a way of probing one of our explanations for the entitlement-conspiracy link (i.e., that conspiracy ideation serves as a way of explaining away felt disadvantage or injustice).

## **Method**

### ***Participants and Procedure***

Participants were 333 undergraduate students enrolled in an introductory psychology course at a Canadian University. Participants completed an online survey in exchange for course credit; data was collected over two sessions in January 2021. Participants first completed a measure of psychological entitlement and reported their demographic characteristics (i.e., age and gender). A minimum of one week later, participants were invited to complete a second survey that included both the (in)justice manipulation and a measure of conspiracy ideation. All research materials and procedures were approved by a Queen's University Research Ethics Board.

**Data Availability Statement.** Data, with identifiers removed, is publicly available for inspection or reanalysis at: <https://osf.io/2hb8a/>.

### ***Measures***

**Entitlement.** Entitlement was measured using the 9-item Psychological Entitlement Scale (PES; Campbell et al., 2004; sample item, "I honestly feel I'm just more deserving than others"). The items were rated on a 7-point Likert scale from 1 (strongly disagree) to 7 (strongly agree), and exhibited high internal reliability ( $\alpha = .84$ ).

**Conspiracy Theory Ideation.** We measured participants' tendency to believe in conspiracy theories in general using the Conspiracy Mentality Scale (Stojanov & Halberstadt, 2019). This eleven-item, seven-point scale has two subscales, distinguishing conspiracy theory ideation (16 items, e.g., "The truth is known only to a secret powerful group that actively disseminates false information or misleads the public.";  $\alpha = .93$ ), from rational

suspiciousness or skepticism (4 items, e.g., “There are people who don’t want the truth to come out”;  $\alpha = .75$ ).

**Perceived Injustice.** To manipulate feelings of injustice, we followed a recall-based priming approach similar to that used in extant studies of justice perceptions in student populations (Giovannelli et al., 2018; Horan et al., 2010). In particular, we asked participants to write a minimum of three sentences and a maximum of one paragraph about a grade they received in a high school or university class. Participants were randomly assigned to write about a time they received a grade that was lower than they felt they deserved (i.e., injustice), or one of two control conditions. In the *justice control condition*, participants wrote about a grade they felt they deserved; in the *neutral control condition*, participants wrote about the most recent grade they received.

**Manipulation Check.** To verify that the writing exercise above effectively manipulated perceptions of distributive injustice, we asked participants to assess the grade they described in their writing task using Colquitt’s (2001) four-item, five-point distributive justice subscale, adapted to the education context (sample item, “does your grade reflect the effort you have put into your work?”;  $\alpha = .91$ ).

## Results

In total, 356 participants began the study. We included only individuals who participated in each of the two research sessions (excluding 20 participants who did not complete the second wave), and those that exhibited acceptable attention to the instructions (excluding 3 participants who failed to complete the writing task associated with the experimental manipulation). This left a final sample of 333 participants. Of these, 252 (76%) were female; the average participant was 18 years old (range 17-27). Means, standard deviations, correlations and reliabilities are presented in Table 1 below.

[Table 1 About Here]

We began by testing the association between entitlement and conspiracy ideation. Entitlement was positively associated with conspiracy thinking. In particular, it was significantly correlated with the conspiracy ideation subscale of the Conspiracy Mentality Scale ( $r = .35, p < .001$ ), but uncorrelated with the rational suspicion dimension ( $r = .07, p = .22$ ). We conclude that those high in entitlement are more likely to engage in conspiracy thinking as a general cognitive style.

We then tested whether the entitlement-conspiracy mentality relationship was moderated by our manipulation of (in)justice. We began by testing whether our writing manipulation did generate recalled experiences that varied in their perceived justice. A test of homogeneity found significant heterogeneity in the variance among the three conditions, Levene's test:  $F(2, 330) = 8.47, p < .001$ . Using a Welch's ANOVA analysis, we found there was a significant omnibus effect of our justice manipulation on our perceived distributed justice manipulation,  $F(2, 217.45) = 65.42, p < .001$ . Games-Howell post-hoc tests revealed that the injustice manipulation led participants to recall grades they felt were significantly less fair ( $M = 2.65, SD = 1.08$ ) than in the just ( $M = 4.05, SD = .78$ , mean difference  $p < .001$ ) or neutral control conditions ( $M = 3.89, SD = 1.00$ , mean difference  $p < .001$ ). We concluded that our manipulation of justice salience had its expected effect.

We used a regression-based approach to testing the interaction between entitlement and our justice manipulation, using Hayes' (2017; Model 1) procedure for testing moderated regression. We entered conspiracy ideation as our dependent variable, entitlement as our predictor, and two dummy-coded variables representing our three experimental conditions as moderators. We found no significant effect for either of these interaction terms, suggesting that the experimental manipulation did not change the association between entitlement and conspiracy ideation. The interaction between the justice dummy variable (justice condition vs both controls) and injustice dummy variable (injustice condition vs. justice and the neutral

control) were both non-significant,  $b_{justice} = .15$ ,  $SE = .13$ , 95%,  $CI - .10$  to  $.41$ ,  $t(333) = 1.18$ ,  $p = .24$ ;  $b_{injustice} = -.00$ ,  $SE = .14$ ,  $t(333) = -.02$ ,  $p = .99$ . Overall, we found the association between entitlement and conspiracy ideation was not changed by increasing the salience of (in)justice. The regression analyses are presented in full in Table 2.

**[Table 3 About Here]**

## **Discussion**

In study 1, we showed that individuals higher in psychological entitlement were more likely to engage in conspiracy ideation; there was a significant association between entitlement and endorsement of general conspiratorial explanations for phenomena. Importantly, this was true only for true conspiracy ideation; entitlement was unassociated with more conventional, rational forms of suspiciousness. We further found that the entitlement-conspiracy ideation link persisted both when participants were experimentally cued to think about experiences of either justice or injustice.

The relationship between psychological entitlement and conspiracy thinking suggests a need for future work delineating the precise mechanism linking these constructs. Interestingly, in this study, thinking about a specific instance of (in)justice did not change the entitlement-conspiracy mentality relationship.

That said, we urge caution in interpreting this result for two reasons. First, it is possible that our experimental manipulation (i.e., asking participants to think of a specific single instance of unfairness in a university setting), did not generate a more externalized search for blame, or prime outside attributions as we theorized. In other words, it may be that we were correct that conspiracy theories are appealing to those high in entitlement because they can be used to explain feelings of injustice or perceived experiences of disadvantage, but our manipulation did not create this psychological state. Perhaps if the conspiracy beliefs

were more closely related to the domain where the injustice is being recalled, it might have been more successful. It is also possible – though, in retrospect, likely not plausible – that this manipulation would have worked were it to have been sufficiently powered. Limited by the size of our allocation of student participants, our sample size is likely insufficient to test a three-level categorical moderator of a moderate correlation between continuous variables.

The question, therefore, is whether future research should further expand the hunt for an injustice moderation by replicating this design with a much larger sample, or by changing the nature of the injustice/disadvantage measure or linking it to conspiracy beliefs more closely linked to the domain of the recalled injustice.

While these are possible paths, it seems more likely that the relevant mechanism linking entitlement and conspiracy ideation is not about explaining or assigning away blame for disadvantage or injustice; people high in psychological entitlement may be drawn to conspiracy theories for reasons other than justice judgments, like those described in the introduction: A desire to possess privileged ‘inside’ information, for instance, or a rationale for affirming their preferences or opinions. Future research could test these alternate possibilities directly.

We also note that this study did not include data on participants’ ethnicity. The relationship between ethnicity and entitlement remains unclear, with some previous research finding that white participants exhibit lower levels of entitlement (Ziegler-Hill & Wallace, 2011), and other studies finding no difference (Thomason & Brownlee, 2018; Miller, 2013). If there is a plausible theoretical account for the relationships here being confounded by race or ethnicity, our data cannot rule out such an account.

Although we did not find support for the mediating role of injustice, our findings are important in that they nevertheless establish an association between entitlement and conspiracy thinking. Psychologically entitled participants were drawn to conspiratorial

explanations for phenomena, and this was distinct from mere skepticism about the world. Our theorizing suggests that findings related to psychological entitlement should extend beyond conspiracy ideation generally to influence specific beliefs, and from specific beliefs to behaviours during the COVID-19 pandemic. Our second study investigates this possibility.

## **Study 2**

In Study 2, we test the link between psychological entitlement and beliefs across a range of specific conspiracy theories. We also seek to demonstrate that psychological entitlement is associated with making discretionary trips outside the home during the COVID-19 pandemic. Our results are consistent with a mediation model in which psychological entitlement (a trait) leads to conspiracy thinking (beliefs), which in turn promotes risky consumer behaviour (i.e., making visits to discretionary services during the pandemic).

### **Method**

#### ***Participants and Procedure***

Participants were 216 U.S. and Canadian members of Amazon Mechanical Turk (MTurk), an online crowdsourcing service, recruited through CloudResearch (formerly TurkPrime) MTurk Toolkit in July 2020. Sixty-nine percent of respondents reported their birth decade as being the 1980s or 1990s. 79% were Caucasian, and 35% self-identified as women. Participants completed an online survey that included measures of personality, conspiracy thinking, and public health behaviours. In exchange for the participation, individuals were paid USD \$1.00 via their Amazon accounts. Workers were permitted to be “any level” but were required to meet an 80%+ HIT approval rate. To help further boost respondent quality, study parameters were set to block low quality participants and suspicious geocodes. The materials were approved by the Queen’s University Research Ethics Board.

**Data Availability Statement.** Data, with identifiers removed, is publicly available for inspection or reanalysis at: <https://osf.io/2hb8a/>.

### **Measures**

**Entitlement.** We measured entitlement using two separate scales: First, we included the 9-item Psychological Entitlement Scale (PES) used in Study 1 (Campbell et al., 2004;  $\alpha = .93$ ). In addition, given this study involved asking individuals to report, in essence, their perceived entitlement to consume goods and services during a period where such behavior was largely ill-advised, we also included Butori's 13-item revision of the Consumer Entitlement Inventory (CEI; Butori, 2010; sample item: "I need to feel that I am a customer who is granted special attention";  $\alpha = .96$ ). The CEI items were measured on a 7-point scale (1 = strongly disagree to 7 = strongly agree).

**Conspiracy Beliefs.** We measured participants' endorsement of a range of conspiracy beliefs with the 15-item Generic Conspiracist Beliefs scale (Brotherton et al., 2013).<sup>2</sup> An example item reads, "Experiments involving new drugs or technologies are routinely carried out on the public without their knowledge or consent" (1 = definitely not true to 5 = definitely true). Unlike the conspiracy ideation measure (Study 1) which tapped a cognitive style characteristic of conspiracy endorsement, this scale tapped respondents' agreement with various general conspiracy beliefs, such as the prevalence of government sponsored mind-control drugs, likelihood of alien contact, etc. The scale exhibited high reliability ( $\alpha = .96$ ).

**Public Health Behaviours.** We measured participants' public health behaviours by asking them to report how many trips they had made to 13 non-essential services or venues in the previous 30 days. A full listing of these services and venues is provided in Table 3.

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<sup>2</sup> At the time we collected these data, there were not yet validated scales of COVID-specific conspiracy beliefs, so these general beliefs can be thought of as a proxy for the type of conspiracy beliefs people developed about COVID during the pandemic.

**[Table 3 About Here]**

Determination of risky and nonessential activities were gleaned from advisory messaging and communiques made by various government and public health agencies during the early days of the COVID-19 pandemic. We reasoned that these discretionary visits during the pandemic are a risky, socially costly set of health behaviours. Participants responded with their number of visits on a 9-point scale, from 0 visits to 8+ visits. If the participant indicated that the service was closed or otherwise unavailable in their area, the response was excluded from analysis using a pairwise deletion strategy. Venues included amusement parks, water parks, bars/pubs/nightclubs, casinos/bingo halls/gaming clubs, saunas/spas, gyms/fitness centres/yoga studios, movie theatres/cinemas, sporting/racing events, concerts/plays, restaurants/indoor dining, buffets, hair/nail salons, and shopping malls, as described in Table 3 above. Responses were summed into a single variable representing the total number of discretionary visits or trips made. Because these responses were zero-inflated, we used a square root transformation of the variable. To ensure our results were not specific to this particular treatment of the measure, we also created an alternate dummy measure of these behaviours as a different strategy for dealing with the zero-inflated data: We coded participants who had made zero discretionary trips as 0, and those who had made any non-zero number of discretionary trips as 1. 72% of participants had made at least one discretionary or nonessential trip.

**Results**

Means, standard deviations, and correlations for the study variables are presented below in Table 4.

**[Table 4 About Here]****Entitlement and Conspiracy Beliefs**

As predicted, we found that psychological entitlement was associated with belief in



conspiracy theories generally, whether measured with the PES ( $r = .61, p < .001$ ) or the CEI ( $r = .71, p < .001$ ).

### **Entitlement and Visits to Non-Essential Services**

Also as predicted, we found those higher in psychological entitlement were more likely to have made trips to non-essential places during the previous month of the pandemic. This correlation was observed regardless of measurement approach: The number of trips (square root transformed) was significantly correlated with both the PES ( $r = .52, p < .001$ ) and the CEI ( $r = .60, p < .001$ ). Both measures of entitlement were also significantly associated with having made at least one discretionary trip outside the household (i.e., our dummy-coded outcome variable;  $r_{\text{PES}} = .35, p < .001$ ;  $r_{\text{CEI}} = .39, p < .001$ ).

### ***Conspiracy Thinking as a Mediator of the Entitlement-Public Health***

#### ***Behaviours Relationship***

We predicted that entitlement would drive public health behaviours through conspiracy theorizing. To test this prediction, we specified a mediation model in Jamovi's jAMM package, specifying entitlement as a predictor of the mediator, generic conspiracy beliefs, which in turn predicted non-essential service visits as an outcome ("going out", using our square-root transformed measure of visits). We mean-centered the predictor and generated confidence intervals around our point estimates using 1,000 bootstrapped resamples of the data. We found evidence of a significant indirect (mediated) effect:  $B = .34, SE = .10, 95\% CI .16 \text{ to } .54, p < .001$ . Entitlement was significantly associated with conspiracy thinking ( $B = .44, SE = .05, 95\% CI .34 \text{ to } .52, p < .001$ ), and conspiracy thinking in turn was associated with going out ( $B = .78, SE =$

.20, 95% CI .34 to .52,  $p < .001$ ). The mediation results are summarized below in

Figure 1.

**[Figure 1 About Here]**

To test the robustness of this finding, we conducted the same analyses with alternative specifications, including (1) our alternative measure of entitlement, the CEI, and (2) our alternative specification of the dependent variable (the dichotomous measure of having made one or more trips vs. not). As can be seen in Table 5 below, we find a direct effect regardless of model specification, but find that the path from conspiracy beliefs to going out does not hold (and therefore the indirect effect falls to non-significance) when using these alternate specifications in our model. We view this as raising important questions about the robustness of our mediation finding, to be resolved with an improved approach to measuring both conspiracy beliefs and public health behaviours. We return to this issue in the discussion.

**[Table 5 About Here]**

### **Discussion**

In Study 2, we find an association between psychological entitlement and a range of generic conspiracy beliefs (e.g., secret organizations communicate with extraterrestrials; scientists manipulate, fabricate and suppress research evidence, etc.; Brotherton et al., 2013). We also find individuals high in entitlement are more likely to make discretionary, non-essential trips outside of the home during the pandemic, an effect mediated through conspiracy beliefs. Although inferences about the causal ordering of effects is limited by the cross-sectional design, these findings are consistent with a model in which entitlement drives conspiracy beliefs, which in turn, lead those high in entitlement to engage in risky public health behaviours.

This study has a number of potential limitations. First, the magnitude of the association between entitlement and conspiracy theory endorsement was high – more than

twice as large as previously reported associations between conspiracy beliefs and related constructs like narcissism (Cichocka et al., 2016b), and twice as large as previous work showing links between entitlement and believing that COVID-19 is “overblown” (Zitek & Schlund, 2020). It is possible that the correlations observed here could be artificially inflated.

Participants in this study were recruited through MTurk with a minimum 80% HIT approval rate, but without specific instructional manipulation checks or attention checks. Recent evidence suggests potential declines in data quality from this source (Chmielewski & Kucker, 2020), an issue we address in Study 3. Moreover, all measures described in this study were collected in a single wave, which may have increased the potential for common method variance due to a single measurement context (Podsakoff et al., 2003) and “occasion factors” (Spector, 2006).

An additional concern with the findings reported here is that our measure of public health behaviours (“going out”) used a month-long recall period for counts of visits to a range of services. Since some of the services listed may be visited infrequently (e.g., spa and salon, amusement park), a month-long recall period seemed justifiable and yet inevitably, as recall period increases, accuracy of reporting declines. For this reason, along with the fact that the conspiracy-health behavior link disappeared with certain operationalizations of behavior, a different approach to measuring public health behaviours is needed.

Finally, if conspiracy beliefs have a palliative function for high-entitlement people, allowing them to go out during the pandemic despite concerns about COVID-19, *that effect should be attributable to specific beliefs about the virus*. Believing that aliens are hidden at Area 51 would likely not reassure someone about going out to the spa during the pandemic, but beliefs about COVID-19 being a manufactured crisis might. Our first study measured general conspiracy beliefs, but our theorizing would suggest that it is domain-specific conspiracy theories (i.e., theories related to COVID), and a better test would involve a

domain-specific measure. In light of these limitations, we sought to extend our line of inquiry in a follow-up study, as presented below.

### Study 3

In Study 3, we show that psychological entitlement drives beliefs in *COVID-19-specific conspiracy theories*, and replicate the effect on discretionary trips reported in Study 2 using a better measure of the outcome variable. We also took a number of additional steps to assure data quality. First, we screened participants using three different forms of attention and comprehension checks. Second, to help alleviate concerns around common method variance, we introduced a several-months-long time separation between the measurement of personality and the measurement of individuals' conspiracy beliefs and public health behaviours. Third, addressed issues with the self-reporting of public health behaviours by introducing a shorter recall period (i.e., non-discretionary outings over the previous week) and a simpler self-reporting strategy (whether or not they had made a visit to each venue or service, rather than an estimated count of those visits). Lastly, the current study tests our model using COVID-19-specific, rather than generic conspiracy beliefs. Lastly, it also tests whether the association between COVID specific conspiracy beliefs and non-essential outings are confounded by political partisanship, given the strong partisan divide in COVID-19 conspiracy beliefs in the United States.

### Method

#### *Participants and Procedure*

Participants were 172 MTurk members, recruited over two phases. Individuals were drawn from a sample of 400 who had been previously invited to participate in a study through CloudResearch's MTurk Toolkit in June 2020. Participants were limited to those located in the United States, with a minimum 80% approval rate on MTurk. In addition, we used CloudResearch's duplicate IP block, suspicious geocode block, and verification of

worker country location as additional data-quality precautions.

Of those 400 initially recruited, 351 passed three quality assurance checks: An attention check (“please answer ‘strongly disagree’ to this question”), a comprehension check (“what is Marie Christine Smith’s middle name?”), and a language test (“describe the last meal you ate”). Of those 351 eligible participants, 172 responded to the second survey, which was open for a two-week period in October 2020.

**Data availability statement.** Data, with identifiers removed, is publicly available for inspection or reanalysis at: <https://osf.io/2hb8a/>.

In the first wave, participants completed a series of personality measures, including psychological entitlement. In the second wave, participants reported their discretionary trips outside of the home during the previous week of the pandemic, along with measures of their belief in general and COVID-19-specific conspiracy theories, and political affiliation. Both surveys were completed online. The materials were approved by the Queens’ University Research Ethics Board. and the design and hypotheses were pre-registered in advance of data collection (<https://aspredicted.org/h5ef2.pdf>). Participants were paid USD \$1.00 for each of the two waves of data collection.

### ***Measures***

**Entitlement.** Entitlement was measured using the 9-item Psychological Entitlement Scale (PES; Campbell et al., 2004), as used in the prior studies ( $\alpha = .94$ ).

**General and COVID-19-Specific Conspiracy Beliefs.** We measured participants’ endorsement of general conspiracy beliefs with the 15-item Generic Conspiracist Beliefs scale (Brotherton et al., 2013) used in Study 2. COVID-19-specific conspiracy beliefs were tapped by combining items from two separate scales; we used 5 items from the COVID-19 Specific Conspiracy Beliefs scale (Allington et al, 2020; example item: “The symptoms that most people blame on coronavirus appear to be linked to 5G network radiation”), and 9 items

from Miller (2020; example item: “The coronavirus was intentionally created to reduce the world’s population”). The items from Miller were adapted to remove specific references to political party (so that the scale reflected COVID-19-specific conspiracy theories rather than partisan conspiracy theories). Participants reported their endorsement of these items on a 5-point scale from 1 (definitely not true) to 5 (definitely true). Both the generic and COVID-19-specific conspiracy belief scales exhibited high reliability ( $\alpha_{general} = .96$ ;  $\alpha_{COVID-19} = .94$ ).

**Non-Essential Activity.** We measured participants’ non-essential trips out of the home by asking them to indicate whether they had visited the same 13 venues as in Study 1. To address concerns with the long recall period used in Study 2, we had participants report their visits over the previous week. Participants responded with one of three options: “Closed or unavailable in my area”, “Open but I have not visited”, or “Visited”. This variable was dichotomized to represent either participants having made a visit to a non-essential service in the past week (2), or not (1). As a robustness check, we also tested our predictions using a count of the total of all visit types in the last week.

**Partisan Identification.** Given previous research and public polling showing a partisan divide in COVID-19-related attitudes (e.g., Green et al., 2020; Pew Research Centre, 2020), we measured partisan identification with a single-item question asking participants whether they, “as of today”, considered themselves a Democrat, Republican, or Independent/Other. A “prefer not to say” option was also provided. In our sample, 26% of respondents identified as Republicans, 47% as Democrats, 25% as Independents or other, and 3% declined to say (these figures add to more than 100% due to rounding). We ultimately coded political affiliation into two dummy variables: A Republican dummy (1=Republican; 0=all others), and a Democrat dummy (1=Democrat; 0=all others). This strategy was used because a Democrat-versus-Republican dummy would have had missing values for more than

a quarter of all responses. However, as we report later, the use of a single Democrat vs. Republican dummy with the smaller sample does not substantively change the results.

## Results

Means, standard deviations, and correlations for the study variables are presented below in Table 6.

### [Table 6 About Here]

#### *Entitlement and Conspiracy Beliefs*

As predicted, we found psychological entitlement was associated with belief in both general ( $r = .37, p < .001$ ) and COVID-19-specific conspiracy theories ( $r = .38, p < .001$ ). Interestingly, the effect of entitlement on COVID-19-specific conspiracy theories was not influenced by political affiliation: There was no interaction between entitlement and either of our party-affiliation dummy variables on COVID-19 conspiracy beliefs (Entitlement x Republican:  $B = .13, SE = .09, p = .16$ ; Entitlement x Democrat:  $B = -.09, SE = .08, p = .29$ ). A partial correlation controlling for both partisan dummy variables shows that the entitlement-COVID-19 conspiracy link remains significant ( $r = .39, p < .001$ ). This is also the case if we use a Republican-versus-Democrat dummy ( $r_{119} = .41, p < .001$ ).

#### *Entitlement and Visits to Non-Essential Services*

Also as predicted, we found that those higher in psychological entitlement were more likely to have made trips to non-essential places during the previous week of the pandemic, whether measured as a binary (having gone out in the past week,  $r = .19, p =$

.01), or measured as a count (the total number of different non-essential services visited,  $r = .34$ ,  $p < .001$ ).

***Conspiracy Beliefs as a Mediator of the Entitlement-Discretionary Outing Relationship***

We predicted that conspiracy beliefs are an enabling mechanism that help to explain the propensity of entitled individuals to make discretionary visits to non-essential services during the pandemic. To test this prediction, we specified a mediation model in jAMM where entitlement predicted COVID-19-specific conspiracy beliefs as a mediator, which in turn predicted non-essential service visits as an outcome. We mean-centered the predictor and generated confidence intervals around our point estimates using 1,000 bootstrapped resamples of the data.

We found a significant total effect of entitlement on having made a discretionary visit to a non-essential service in the past week ( $B = .06$ ,  $SE = .24$ , 95% CI .01 to .11,  $p = .01$ ). We also found that entitlement predicted COVID-19-specific conspiracy beliefs ( $B = .23$ ,  $SE = .05$ , 95% CI .13 to .32,  $p < .001$ ). The indirect (mediated) effect of entitlement on service visits through these conspiracy beliefs was significant ( $B = .03$ ,  $SE = .01$ , 95% CI .01 to .06,  $p = .01$ ). Controlling for this indirect path, we found no remaining direct effect (i.e., the effect was wholly mediated through conspiracy beliefs),  $B = .03$ ,  $SE = .03$ , 95% CI  $-.03$  to .08,  $p = .29$ .

We tested the same model using the count of services visited rather than the dichotomous visit/no visit variable, and found similar results. Entitlement predicted the number of services visited in the past week ( $B = .36$ ,  $SE = .08$ , 95% CI .20 to .51,  $p < .001$ ), in addition to its effect on COVID-19 conspiracy thinking already described above. COVID-19 conspiracy thinking predicted the number of services visited ( $B = .65$ ,  $SE = .14$ , 95% CI .37 to .93,  $p < .001$ ). Again, we found evidence of a significant indirect path (i.e., mediation),



$B = .15$ ,  $SE = .05$ , 95% CI .06 to .27,  $p = <.001$ , though when using the count of services, we found a remaining significant direct (unmediated) effect of entitlement on discretionary service visits ( $B = .21$ ,  $SE = .08$ , 95% CI .05 to .36,  $p < .01$ ) beyond the significant indirect effect.

To confirm this mediational effect was due to *COVID-19-specific* conspiracy beliefs (rather than conspiracy beliefs in general), we also tested a model in which entitlement's effects on "going out" were mediated simultaneously by both generic and COVID-19-specific conspiracy beliefs. This model is shown in Figure 2 below and indicates that entitlement's effects on public health compliance during the pandemic are mediated through COVID-specific (and not merely general) conspiracy beliefs. The domain-specific (COVID) theories had a significant mediating effect ( $B = .16$ ,  $p < .001$ , 95% CI .08 to .24); in the same model, generic conspiracy beliefs did not ( $B = -.02$ ,  $p = .49$ , 95% CI -.07 to .04). This is consistent with our argument in Study 2, where we presented generic conspiracy beliefs as a proxy for specific beliefs about the pandemic.

Lastly, we consider one possible risk associated with our measurement of COVID conspiracy beliefs<sup>3</sup>, namely that some of the items in the scale might be interpreted as intensifying rather than alleviating fears of COVID. For example, if one genuinely believes that COVID-19 is a Chinese bioweapon or a population control tool, that politicians are restricting tests and treatments, that its spread is being intensified by 5G, or that the virus was accidentally released from a lab, one might be more rather than less hesitant to go out in public. To address this question, we ran the same mediation model previously reported twice: Once with the original COVID conspiracy scale, and the other with a measure that removes any items that might be read as implying that COVID is serious.<sup>4</sup> The revised items

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<sup>3</sup> We thank an anonymous reviewer for highlighting this potential concern.

<sup>4</sup> For those seeking to replicate our findings, the items remaining in the revised scale are ConspiracyCovid\_4, 5, 6, 7, 9, 10, and 14.

exhibited high reliability ( $\alpha=.90$ ). In Figure 3, we present the results: The direction of the effects and substantive conclusions are unchanged. The associations remain significant. The magnitude of the link between conspiracy beliefs and public health behaviours is reduced, and with it the magnitude of the indirect effect, but the 95% confidence intervals for the estimates overlap in both cases. In Table 7, we also compare the correlations between the two measures of COVID conspiracy beliefs, and show no substantive differences in their associations with entitlement or either of the two (dichotomous or continuous) operationalizations of going out. We return in the general discussion to speculate on why this effect remains whether or not the beliefs are contradictory—and whether or not they minimize the virus’ seriousness.

**[Figures 2 and 3 About Here]**

### **General Discussion**

Our findings suggest an association between psychological entitlement and conspiracy thinking, both as an overall style or mentality, as well as in terms of believing both general and COVID-19 specific conspiracy theories. We also find that conspiracy thinking plays a role in helping to explain the risky public-health behaviours of those high in entitlement. In this work, we found entitled individuals to be more likely to report having made discretionary visits to non-essential venues and services during the COVID-19 pandemic, both over a month-long recall period in the summer of and in a week-long recall period in the fall of 2020. Across two studies, conspiracy thinking mediates entitlement’s effects on non-essential outings. This finding suggests that among those high in psychological entitlement, a willingness to believe conspiracy theories has potentially broad social costs. Conspiracy thinking enable those higher in entitlement to justify going out

during a pandemic, despite potential health risks to themselves and others.

### **Practical Implications: Reducing the Lure of Conspiracy Theories**

The practical implication that needs the most urgent consideration is what can be done to reduce the particular appeal of conspiracy theories to those high in entitlement. The pandemic, at least in its early stages, saw disproportionate numbers of cases caused by a small number of ‘superspreaders’ (Illingworth et al., 2021). High-entitlement people, prone to believing conspiracies about the pandemic and making discretionary trips at the height of restrictions, may be among these individuals. Below, we share some observations, drawing on what is known about psychological entitlement, about what such interventions might include. However, we are also careful to note that intervention design is premature without a deeper understanding of the theoretical mechanisms underlying the lure of conspiracies for those high in entitlement.

Previous research indicates that dark personality traits should, in fact, be considered when creating and communicating public health policies (e.g., Carvalho & Machado, 2020). What might interventions targeted at people high in entitlement during public health crises look like? Drawing on previous research on entitlement (rather than our own data, which is silent on this question), we identify one possibility, though the degree to which it might be effective hinges on a clearer understanding of the mechanism at play, which provides a practical impetus for future additional research on this relationship.

Interventions could focus on the unique characteristics of entitlement with regard to autonomy and control. Entitlement is associated with two seemingly contradictory needs: The need for control, and the need for others’ approval (Rose & Anastasio, 2014). In short, entitled people don’t want to be told what to do, but they want to be seen positively by others. Drawing on previous work about psychological reactance, health messaging could avoid controlling language and highlight the role of personal choice (e.g., Miller, Lane, Deatrick,

Young & Potts, 2007), but may want to instead highlight the social and reputational gains they might gain from engaging in the desired behaviours – for instance, by emphasizing how it is socially valorized to be resistant to being persuaded by conspiracy theories (Bonetto, Varet & Troïan, 2019).

However, better intervention designs need to begin with a clear understanding of exactly why entitled people are drawn to conspiracy theories: Some possibilities are described below. Perhaps they enjoy having what they see as access to rare and privileged information. Perhaps some dimension of injustice perceptions not tested in this paper makes it appealing to attribute disadvantages to a shadowy external force. Perhaps it is a means by which those high in entitlement can craft (a priori or post hoc) explanations to justify their self-interested behaviour. Or, perhaps it is conspiracies with a personal benefit that offer the greatest lure. We consider some of these possibilities later in the discussion, but the efficacy of an intervention must begin with an understanding of the mechanisms at play that this paper's initial empirical demonstration cannot offer.

### **Practical Challenges: Doublethink and Defensive Conspiracy Beliefs**

Interventions focused only on pointing out the logical flaws of conspiracies may particularly struggle. As we saw in Study 3, conspiracy beliefs were often logically inconsistent or incoherent: For instance, there is a strong and *positive* association between believing that there is no evidence COVID exists, and believing that COVID is a Chinese bioweapon which was intentionally released. Confusing though such a belief structure may be, this tendency towards logically inconsistent “doublethink” is strongly associated with the conspiratorial style of thinking (as recent research shows; cf Petrović & Žeželj, 2021).

A second challenge for intervention design is that conspiracy beliefs can be defensively layered atop other conspiracy beliefs. As we saw during the pandemic,

conspiracy beliefs about the virus can easily extend to beliefs in equally implausible cures or protection – for instance, beliefs that COVID can be prevented with the use of (among other methods) bead bracelets, vitamin supplements, and indoor tanning (FTC, 2020). Those who believe or are motivated to believe in conspiracy doublethink may have a belief structure whereby they are protected by unproven and implausible methods for prevention or treatment. So, faced with the psychologically costly abandonment of their beliefs, high-entitlement people may simply add new conspiracy beliefs defensively, allowing them to avoid confronting or revising their beliefs. Given our finding in Study 1 that entitlement tends to promote a conspiratorial style of thinking, this may be a serious obstacle to practical interventions.

### **Limitations and Future Directions**

This work provides novel insights into how individuals high in psychological entitlement think and behave during the COVID pandemic; our findings suggest psychological entitlement undermines collective sacrifices in the name of self-interest. Moreover, those who possess this elevated and illegitimate sense of perceived deservingness seem to rely on a unique cognitive style to help rationalize their behavior. That said, we encourage readers to approach this work and our findings with a clear view of the paper's limitations.

First, while our work demonstrates a reliable linkage between psychological entitlement and various forms of conspiracy ideation (i.e., both general and COVID-specific), we are unable to assert *why* that connection exists or its boundary conditions. Extant research points to some of these potential factors (e.g., perceived exclusivity, justification for personal behavior); future research should take these variables into account. One possibility that we could not explore in full with our measures of conspiracy theories is that those high in

entitlement are lured in particular by conspiracy beliefs they can see a personal benefit from. The measures in this study cannot be cleanly categorized by their level of benefit, but a future study could do so. The simplest approach would be to generate a long list of conspiracy beliefs, coded for their degree of benefit, and test whether entitlement disproportionately drives personally-beneficial conspiracy beliefs (e.g., sovereign citizens do not need to pay taxes) over less personally-beneficial ones (e.g., aliens landed at Roswell). To rule out confounds and more cleanly test the mechanism, the same conspiracy could be presented using language that either emphasizes or downplays the personal benefit of the belief.

A second limitation involves our sample population (MTurk; Study 2 and 3) and the cross-sectional nature of the survey process (Study 2). As sampling from online platforms becomes more common in the social sciences, questions have arisen about the quality of survey respondents (e.g., Chmielewski & Kucker, 2020). While we included a data-quality check in Study 1 (competing an open-ended response according to the instructions), data quality thresholds in Studies 2 and 3 (limiting the task to participants meeting an approval-rate threshold), and using instructional manipulation checks in Study 3, we cannot entirely rule out some forms of response bias, including either demand characteristics (e.g. socially desirable or other motivated responding). And, because there were no exclusions in Study 3 against participant reuse (i.e., a participant from Study 2 being recruited into Study 3). As a result, we would encourage meta-analysts to include these studies with caution because they may violate the assumption of effect size independence.

Similarly, though we use time separation in Studies 1 and 3, our studies remain single-source, self-report data. While self-report are conventional and sensible ways of measuring both conspiracy beliefs and entitlement, cross-sectional self-report data has a number of inherent limitations, including common method variance and ambiguity around causal order (Spector, 2019). Future tests might use, for example, experimental

manipulations of state psychological entitlement (e.g., Stamkou, van Kleef & Homan, 2019), or a quasi-behavioural measure of conspiracy beliefs (e.g., signing up for newsletters; Lantian, Muller, Nurra & Douglas, 2016) – and apply such approaches in either more varied or more representative samples.

Third, and again related to the representativeness of our study samples, we have an incomplete picture of the demographics of our respondents, having collected gender but not ethnic demographic information in Study 1, age, gender and ethnicity in Study 2, and no demographics (beyond our political partisanship question) in Study 3. It may be that the entitlement-conspiracy endorsement link could be moderated by some of these demographic factors here in ways that we did not measure or test.

Finally, we situated conspiracy thinking as a mediator of the entitlement-pandemic behavior relationship with the rationale that conspiracy theories would help give entitled people a rationale to engage in risky public health behaviours. In our model, we place conspiracy theories as an antecedent of health behaviours. But the same theoretical rationale could easily place conspiracy theories as an outcome of entitled citizens' risky public health behaviours: Entitled people engage in risky behaviours, and then (as a form of motivated cognition) seek out beliefs that justify or validate their choice. Our data are cross-sectional and cannot speak to the precise causal order, and our theorizing suggests that either or both could occur: The ordering of behaviours and conspiracy beliefs could be reversed or reciprocal. Future research might test whether conspiracy beliefs are liberating (beliefs come first, and are followed by behaviour) or legitimating (behaviour comes first, and beliefs are attached in a post-hoc way). Such future research could contribute to theory: If motivated cognition is the mechanism, we would likely expect to see conspiracy beliefs adopted both to justify anticipated behaviour, and to legitimate past behaviour. If, by contrast, the mechanism is a desire associated with entitlement for seemingly rare or

privileged information, we would expect conspiracy beliefs to precede behaviour, but not likely result from it.

A longitudinal look at the long-term behaviour and attitudes of entitled individuals toward COVID-19 would be instructive. Pandemics, like any social crisis, are ‘prolonged risk’ events in which uncertainty and its attendant correlates (e.g., fear, trust) can wax and wane as time progresses (Vaughan & Tinker, 2009), and behavioural compliance can be influenced by temporal focus (Sobol et al., 2020). The high-entitlement response to an early stage of the pandemic where the costs of prevention are personal and immediate, and the benefits are diffuse and long-term, may be different from later in a pandemic’s course. Research shows that entitlement is associated with a greater preference for smaller, immediate gains over larger, more delayed ones (Buelow & Brunell, 2014). Moreover, those higher in entitlement might be more prone to ‘pandemic fatigue’, quickly growing impatient with restrictions on their behaviour.

Future work should consider the cultural specificity of our findings. While conspiracy thinking is universal (e.g., Bruder et al., 2013), it is plausible that entitlement and collective attitudes toward public health vary along national or cultural dimensions (e.g., Žemojtel-Piotrowska et al., 2019; Žemojtel-Piotrowska et al., 2017). In the United States, where the majority of our participants were from, some have lamented the decentralized pandemic response, with local policy often seemingly based on political, social, and economic factors (Lewis, 2021 *Scientific American*). It would be interesting to examine our research question in other contexts where the pandemic response has been considered more effective. In a related vein, while our focus in this series of studies was on measuring psychological entitlement as an individual difference variable, there is potential merit in thinking about it as a social or collective construct. It would be practically important to understand the factors



that fuel *collective* entitlement and group-level noncompliance with public health recommendations (e.g., anti-mask groups, vaccine nationalism).

Finally, COVID continues to present new scientific, social, and economic challenges; how individuals - particularly those high in psychological entitlement - respond in the face of emerging viral variants, reports of ‘long-haul’ symptoms, ‘pandemic fatigue,’ and seemingly ever-changing health policies remains to be seen. In this vein, a potentially fruitful area of future research includes studying the role entitlement and reactance have in predicting responses to regulations perceived as potentially threatening to personal freedoms. In the face of perceived threat, both reactance and entitlement could be expected to trigger an unpleasant motivational response which in turn, may predict relatively minor acts of noncompliance (e.g., making non-essential trips outside the house) as well as perhaps those that are more serious in nature (as has been seen with verbal and physical abuse toward staff enforcing health requirements).

## Summary

“We’re all in this together!” has become a COVID-19 pandemic catchphrase. While many have heeded this call for personal sacrifices to protect personal, community and national interests, others have responded with skepticism, hostility, and outright non-compliance. This paper examined how psychological entitlement, an individual difference variable noted to elevate self-interests above care and concern for others, has influenced personal behaviour during the pandemic (namely, the frequency of non-essential outings). Our work shows that conspiracy thinking plays an important role in shaping public health behaviour by those higher in entitlement – but it is only an initial demonstration. To design effective interventions to address this challenge, we must first seek a clearer understanding of its theoretical mechanisms.

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**Table 1**  
*Study 1 Means, Standard Deviations, Correlations, and Reliabilities*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Psychological Entitlement Scale	3.3	1	.84			
2. Conspiracy Theory Ideation	4.26	1.06	.35*	.93		
3. Rational Suspicion	5.76	.83	.07	.58*	.75	
4. Distributive Justice Subscale (manipulation check)	3.53	1.14	-.06	-.01	.02	.91

*Note.* Reliabilities presented on the diagonal.

\* $p < .001$ .

**Table 2**

Moderated regression analysis, study 1

*Tests whether the experimental manipulation of (in)justice salience moderates the effect of entitlement on the dependent variable, conspiracy theory ideation; we find no such moderating effect.*

Variable	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	95% LCI	95% UCI
Intercept	3.74***	.27	13.86	<.001	3.21	4.27
Entitlement	.24**	.08	3.07	.002	.09	.39
Dummy 1	.27	.42	.64	.52	-.56	1.10
Dummy 2	-.45	.40	-1.12	.26	-1.23	.34
Entitlement x Dummy 1	-.02	.12	-.14	.89	-.26	.22
Entitlement x Dummy 2	.17	.12	1.43	.15	-.06	.39

Dummy coding of categorical moderator

Dummy 1 (injustice condition 2 vs. others);

Dummy 2 (injustice condition 3 vs. others).

Test of highest-order interaction between entitlement x injustice:

$F(322,2)=1.38$ ,  $\Delta R^2 = .008$ ,  $p=.25$

**Table 3***Non-Essential Services and Venues (Studies 2 and 3)***Non-Essential Service or Venue***Percentage of respondents reporting the service is available/open in their area at the time of the survey in parentheses (Study 3)*

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*Amusement Park (43% open/available)**Water Park (41% open/available)**Bars, Pubs, or Nightclubs (78% open/available)**Casinos, Bingo Halls, or Gaming Clubs (68% open/available)**Saunas (66% open/available)**Gyms, Fitness Centres or Studios (87% open/available)**Movie Theatres or Cinemas (72% open/available)**Sporting or Racing Events (55% open/available)**Concerts or Plays (44% open/available)**Indoor Restaurant Dining (88% open/available)**Buffets (67% open/available)**Personal Care Services (e.g., hair and nail salons) (89% open/available)**Shopping Mall (84% open/available)*

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Note: Non-essential visits were measured over the previous month (Study 2) and previous week (Study 3). Visit categories unavailable or closed were excluded pairwise from the analysis.

**Table 4***Study 2 Means, Standard Deviations, Correlations, and Reliabilities*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4
1. Psychological Entitlement Scale	4.12	1.5	.93			
2. Consumer Entitlement Inventory	4.17	1.52	.83*	.96		
3. Generic Conspiracy Beliefs Scale	3.19	1.08	.61*	.71*	.96	
4. Discretionary trips outside the home <sup>a</sup>	3.84	3.56	.52*	.60*	.47*	—

*Note.* Reliabilities presented on the diagonal.<sup>a</sup> Variable is square-root transformed.\* $p < .001$ .

**Table 5****Study 2 Robustness Checks**

*The table below compares the same mediation model with three different model specifications as a robustness check on the results reported in Figure 1.*

*In each case, the model is the effect of entitlement on public health behaviours (“going out”, that is, visits to discretionary services during the early pandemic). In the first column, the effect is summarized when entitlement is measured using the Consumer Entitlement Index and a dummy (yes/no) measure of whether the participant made a discretionary trip. In the second, the CEI is also used, but the original square root measure of trips is used. In the last, the original Psychological Entitlement Scale (PES) is used, but the dummy specification of the DV is used.*

	Alternate specifications		
Entitlement measure	CEI	CEI	PES
Dependent variable	Dummy	Sqrt	Dummy
Narcissistic Personality Inventory control	No	No	No
Path from entitlement to conspiracy beliefs	.50***	.50***	.44***
	(95% CI .43 to .57)	(95% CI .43 to .57)	(95% CI .36 to .51)
Path from conspiracy beliefs to going out	-.01	.28	.03
	(95% CI -.10 to .08)	(95% CI -.16 to .69)	(95% CI -.03 to .10)
Total effect	.12***	1.41***	.11***



## Entitlement and Conspiracy Beliefs

	(95% CI .06 to .18)	(95% CI 1.16 to 1.66)	(95% CI .07 to .14)
Indirect effect	0	.14	.01
	(95% CI -.05 to .04)	(95% CI -.08 to .37)	(95% CI -.01 to .04)
Direct effect	.12***	1.27***	.09***
	(95% CI .08 to .15)	(95% CI .95 to 1.60)	(95% CI .04 to .14)

\*=p<.05; \*\*=p<.01; \*\*\*=p<.001.

**Table 6**

*Study 3 Means, Standard Deviations, Correlations, and Reliabilities*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Psychological Entitlement Scale	3.42	1.53	.94						
2. Generic Conspiracy Beliefs Scale	2.42	1.09	.37***	.96					
3. COVID-19-specific conspiracy beliefs	2.34	0.94	.38***	.81***	.94				
4. Discretionary trips outside the home ( <i>count</i> )	0.97	1.61	.34***	.36***	.45***	—			
5. Discretionary trips outside the home ( <i>dummy</i> )	1.4	0.49	.19*	.32***	.31***	.74***	—		
6. Republican ( <i>dummy</i> )	0.26	0.44	.11	.03	.23**	.18*	.14 <sup>†</sup>	—	
7. Democrat ( <i>dummy</i> )	0.47	0.5	−.02	−.22**	— .34***	−.11	−.15 <sup>†</sup>	— .55***	—

*Note.* Reliabilities presented on the diagonal.

\*\*\*  $p < .001$ ; \*\*  $p < .01$ ; \*  $p < .05$ ; <sup>†</sup>  $p < .10$ .

**Table 7:**

**Correlations between alternative measures of conspiracy beliefs, entitlement, and public health behaviours**

*As a robustness test, the table below compares the correlations between the study variables and two specifications of the COVID conspiracy belief scale (the original, versus a revised version removing items that might be interpreted as suggesting that COVID is in fact serious). Public health behaviours (“going out”) are trips to discretionary and non-essential services during the early pandemic, specified either as a yes-no dummy, or as a continuous measure of the number of visits outside to non-essential services.*

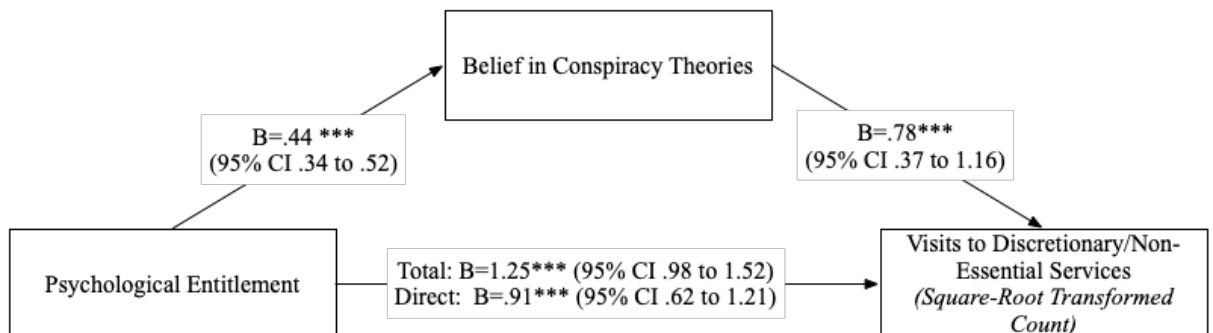
	PES	Going out (dummy)	Going out (continuous)
Original COVID Conspiracy Scale (All items)	.38***	.31***	.45***
Revised COVID Conspiracy Scale (Only items casting doubt on COVID’s seriousness)	.32***	.26***	.39***

\*\*\* =  $p < .001$ ; \*\* =  $p < .01$ ; \* =  $p < .05$ ; † =  $p < .01$

**Figure 1**

Effects of Entitlement on Public Health Behaviours, Mediated Through Conspiracy Beliefs

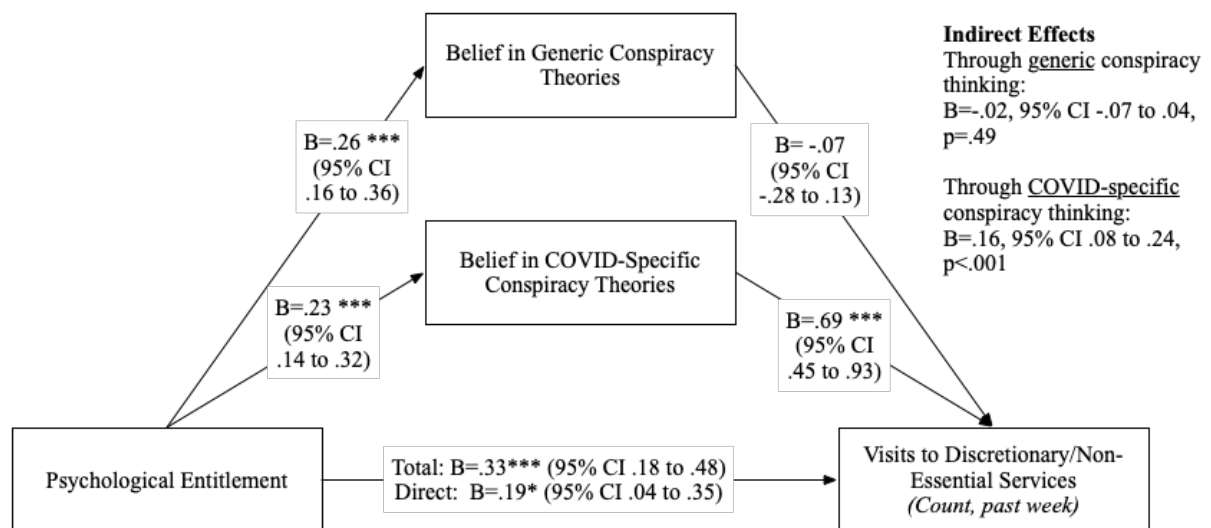
(Study 2)



**Figure 2**

Indirect Effect of Entitlement on Public Health Behaviours Through Conspiracy Theory Beliefs (Study 3)

*The diagram below summarizes a model including both generic and COVID-specific conspiracy theories. The effect of entitlement is mediated through domain-specific (COVID) rather than general conspiracy theory beliefs.*

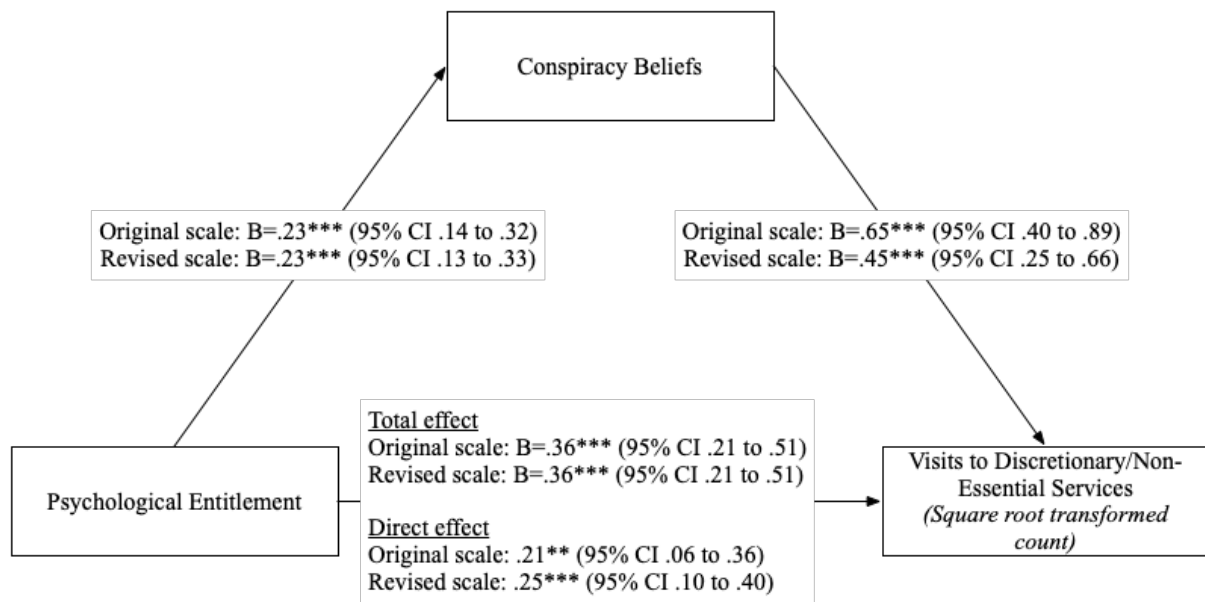


**Figure 3**

Indirect Effect of Entitlement on Public Health Behaviours Through Conspiracy Beliefs

(Study 3)

*The diagram below summarizes a robustness check comparing two versions of the COVID-specific conspiracy theory scale.*



Indirect Effect

Original scale:  $.15^{***}$  (95% CI .07 to .23)  
 Revised scale:  $.10^{**}$  (95% CI .04 to .17)