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Putting the stress on conspiracy theories: Examining associations between psychological stress, anxiety, and belief in conspiracy theories

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ABSTRACT

Psychological stress and anxiety may be antecedents of belief in conspiracy theories, but tests of this hypothesis are piecemeal. Here, we examined the relationships between stress, anxiety, and belief in conspiracy theories in a sample of 420 U.S. adults. Participants completed measures of belief in conspiracy theories, perceived stress, stressful life events, trait and state anxiety, episodic tension, and demographic information. Regression analysis indicated that more stressful life events and greater perceived stress predicted belief in conspiracy theories once effects of social status and age were accounted for (Adj. $R^2 = .09$). State and trait anxiety and episodic tension were not significant predictors. These findings point to stress as a possible antecedent of belief in conspiracy theories.

1. Introduction

Conspiracy theories allege that multiple actors are intentionally plotting to accomplish malevolent goals (Swami & Furnham, 2014). Examples include the belief that the Apollo moon landings were staged and the assassination of Martin Luther King, Jr., was the result of an organised plot by U.S. government agencies (Swami, Chamorro-Premuzic, & Furnham, 2010). Although prima facie evidence supporting conspiracy theories is usually scant, such beliefs are widespread. For example, nationally representative surveys have reported that half of the American public endorse at least one conspiracy theory (Oliver & Wood, 2014). This is concerning because conspiracist ideation is associated with negative health, sociopolitical, and environmental consequences (for a review, see Douglas, Sutton, Jolley, & Wood, in press).

To date, most research on the antecedents of conspiracist ideation have focused on latent psychopathology (e.g., schizotypy and maladaptive personality traits; Barron, Morgan, Towell, Altemeyer, & Swami, 2014; Swami, Weis, Lay, Barron, & Furnham, 2016), biased cognitions (e.g., errors of probabilistic reasoning; Brotherton & French, 2014), and individual differences in traits such as thinking styles, political cynicism, and self-esteem (e.g. Abalakina-Paap, Stephan, Craig, & Gregory, 1999; Brotherton, French, & Pickering, 2013; Swami, Voracek, Stieger, Tran, & Furnham, 2014; Swami et al., 2010, 2011). Just as important as these perspectives is the broader psychosocial context in which conspiracy theories emerge.

In particular, psychological stress and anxiety have been identified as factors that are related to belief in conspiracy theories. This perspective stems from the idea that conspiracy theories provide simplified, causal explanations for distressing events (Hofstadter, 1966) and conceptualises conspiracy theories as neutral, rational narratives of the world (Nefes, 2015). This perspective also suggests that conspiracy theories help to regulate levels of acute stress. That is, by reinstalling a sense of order, control, and predictability following a distressing external threat, conspiracy theories help individuals to regulate their own negative emotions, restore a sense of agency, and maintain self-esteem (Robins & Post, 1997). To date, however, evidence of associations between stress, anxiety, and belief in conspiracy theories has been piecemeal.

In terms of anxiety, Grzesiak-Feldman (2013) reported that both state and trait anxiety were significantly and positively correlated with conspiracy thinking about outgroups, although the sample size in this study was small ($N = 87$). In an earlier study of high school students ($N = 118$), however, Grzesiak-Feldman (2007) reported that trait, but not state, anxiety was significantly correlated with conspiracist ideation, but the relationship was positive in boys and negative in girls. Two further studies (Grzesiak-Feldman, 2013, Studies 2–3) also found that pre-exam anxiety increased conspiracist ideation about Jewish people, possibly because anxiety led to greater processing of

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information related to threat-related out-groups. Similarly, Radnitz and Underwood (in press) reported that an anxiety prime increased conspiracist beliefs following exposure to a mock news article.

To our knowledge, previous research has not directly assessed relationships between psychological stress and conspiracist ideation, although indirect evidence is supportive. For example, distressing experiences (e.g., a perceived lack of control, subjective uncertainty) heighten the tendency to perceive patterns in unrelated stimuli (Whitson & Galinsky, 2008) and to make dispositional inferences about others (Sullivan, Landau, & Rothschild, 2010), which promote conspiracist ideation (van Prooijen & Jostmann, 2013). Stressful situations also increase the tendency to think less analytically (Starcke & Brand, 2012), which in turn promotes belief in conspiracy theories (Swami et al., 2014). These studies point to anxiety, and possibly stress, as antecedents of belief in conspiracy theories, but the literature remains equivocal and limited.

Here, we tested the hypothesis that greater psychological stress and anxiety are associated with belief in conspiracy theories. Stress, in this view, is experienced in response to a range of stimuli; within manageable parameters, one's sense of well-being can be maintained, but if these stimuli go beyond normal limits, they become stressors. As such we hypothesised that higher stress would be associated with greater endorsement of conspiracy theories. To operationalise stress, we used self-report measures of perceived chronic stress (i.e., respondents' subjective appraisal of events as threatening or challenging in the last month) and the incidence of major stressful life events in the last 6 months, with the expectation that both variables would be positively associated with belief in conspiracy theories.

We also examined associations between belief conspiracy theories and anxiety, which was operationalised as state anxiety, trait anxiety, and episodic tension. There were two reasons for this. First, inclusion of these measures helps to provide insight into earlier equivocal relationships between anxiety and belief in conspiracy theories (Grzesiak-Feldman, 2007, 2013). Second, because stress and anxiety are inherently linked (Everly, 1990), the concurrent inclusion of these variables allows us to distinguish between stress and anxiety as antecedents of belief in conspiracy theories. Additionally, because those with lower social status are known to report more stressful life events and anxiety (Blair, 2010), we controlled for subjective social status in our analyses.

2. Method

2.1. Procedures and participants

The study was approved by the relevant university ethics committee. Data were collected via Amazon's Mechanical Turk (MTurk) website in September 2015. MTurk samples are more demographically-diverse than standard Internet samples and the site is accepted as a source of high-quality data for social science research (Buhrmester, Kwang, & Gosling, 2011). A brief study description, including estimated duration and compensation, was posted on the website and advertised to MTurk workers who achieved a >98% approval rate and completed at least 1000 hits. We limited participation to MTurk workers from the U.S., because not all our measures have been validated for use outside this national context. After providing informed consent, participants were directed to the measures described below, which were presented in an anonymous form and in random order via the randomisation function with Qualtrics, which hosted the survey. In exchange for completing the survey, participants were paid $0.50. Participants with large amounts of missing data ($n = 34$) were excluded from the dataset. All participants received debriefing information at the end of the survey.

The final sample consisted of 225 women and 195 men, ranging in age from 20 to 78 years ($M = 44.68$, $SD = 12.38$). The majority of participants self-reported as White (82.6%), while 8.3% were of Black ancestry, 4.8% of Asian ancestry, and 4.3% as some other ethnic background. In terms of educational qualifications, 38.4% had completed secondary schooling, 5.2% were still in full-time education, 42.6% had an undergraduate degree, 13.1% had a postgraduate degree, and 0.7% had some other qualification.

2.2. Measures

2.2.1. Belief in conspiracy theories

Participants completed the Belief in Conspiracy Theories Inventory (BCTI; Swami et al., 2010, 2011), a 15-item measure describing a range of conspiracy theories (sample item: "The Apollo moon landings never happened and were staged in a Hollywood film studio"). Participants rated their belief that each conspiracy was true on a 9-point scale, ranging from 1 (*Completely false*) to 9 (*Completely true*). Scores were averaged, with higher scores reflecting greater belief in conspiracy theories. Scores on this measure have good factorial validity (Swami et al., 2011) and correlate strongly with scores from generic measure of conspiracist ideation (e.g., Brotherton et al., 2013). Here, Cronbach's α for the BCTI was .92.

2.2.2. Perceived stress

We used the 10-item Perceived Stress Scale (PSS; Cohen, Kamarck, & Mermelstein, 1983), which measures an individual's subjective appraisal of the degree to which situations in her or his life are stressful (sample item: "In the last month, how often have you felt that you were unable to control the important things in your life?"). Items were designed to tap how unpredictable, uncontrollable, and overloaded respondents find their lives. All items were rated on a 5-point scale ranging from 0 (*Never*) to 4 (*Very often*) and, following reverse-coding of 4 items, an overall score was computed as the mean of all items (higher scores reflect greater perceived stress). The PSS has very good psychometric properties in diverse populations (Lee, 2012). Here, Cronbach's α for the PSS was .90.

2.2.3. Major stressful life events

The List of Threatening Experiences Questionnaire (LTE-Q; Brugha, Bebbington, Tennant, & Hurry, 1985) was used to assess the incidence of stressful life events. The scale consists of 12 items, with dichotomous responses (0 = *No*, 1 = *Yes*), about the occurrence of 12 prevalent major stressful events that may have occurred in the preceding 6 months (sample item: "Serious illness, injury, or assault to your person"). A global score was computed as the sum of all affirmative responses, with higher scores reflecting the occurrence of more stressful life events. Global scores on the LTE-Q have been shown to have good psychometric properties (Brugha & Cragg, 1990). Here, Cronbach's α for this scale was .70.

2.2.4. State anxiety

We used Form Y-1 of the State–Trait Anxiety Inventory (STAI; Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983) to measure state anxiety (sample item: "I feel strained"). This 20-item measure reflects a feeling of anxiety at the present moment and is a temporary emotional state (Spielberger & Reheiser, 2004). All items were rated on a 4-point scale, ranging from 1 (*Not at all*) to 4 (*Very much so*). Ten items were reverse-coded prior to analyses and an overall score was computed as the mean of all items, with higher scores reflecting greater state anxiety. Test–retest reliabilities are low, as would be expected for a transitory emotional state, but internal consistency coefficients are acceptable (Spielberger et al., 1983). Here, Cronbach's α for this scale was .73.

2.2.5. Trait anxiety

To measure trait anxiety, we used Form Y-2 of the STAI (Spielberger et al., 1983), which measures a differential trait reflective of a tendency to worry (Spielberger & Reheiser, 2004; sample item: "I feel nervous and restless"). The scale consists of 20 items that are rated on a 4-point scale, ranging from 1 (*Almost never*) to 4 (*Almost always*). Nine