The Psychological Consequences of Conspiracy Beliefs

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Abstract

Those with conspiracy beliefs may experience predictable psychological impacts from these beliefs dependent on assertion level, with perceived diminished control and threat of retribution engendering inconsistent behaviors (Lieder, Griffiths, & Hsu, 2018). The author recruited 88 Americans via social media who completed questionnaires to answer two research questions. First, what are the psychological impacts of believing in conspiracy theories among persons with different assertion levels? For those with passive styles, greater complicated grief significantly correlated with greater perceived loss of control over outcomes of conspiracy-related threats. Persons with assertive coping engaged more proactively than passive persons to manage threats and reported the least complicated grief. Thus, greater personal empowerment through assertiveness mitigated complicated grief. The second research question was: Do perceived loss of control and fear of retribution limit proactive behavioral responses, leading to greater complicated grief? Results indicated that perceived loss of control mediated complicated grief, whereas fear of retribution due to non-compliance with authority did not affect complicated grief or proactive choices. Findings suggested that feelings of control over perceived existential threats may depend on typical response styles, which remain static in the face of conspiracy-related threats: passive persons feel a loss of control and fail to engage in proactive behaviors to change their situation; assertive persons feel more control and engage in more proactive behaviors. Because only 11 participants reported aggressive styles, findings for this group were inconclusive. Future research could include more persons with aggressive styles to better understand their psychological reactions to conspiracy beliefs.

Keywords: conspiracies, assertion, compliance, grief, autonomy

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The Psychological Consequences of Conspiracy Beliefs

In a nationwide online poll conducted in 2015, 10 common conspiracy theories were presented to the public: the identity of John F. Kennedy's assassin; reality of the moon landing; whether Paul McCartney was still alive; presidential disclosure of extraterrestrial visitation; origin of freak occurrences; personal alignment with five notable secret societies; concerns about Area 51, Loch Ness, and the Bermuda Triangle; and belief in subliminal advertising (CBS Interactive, 2015). Three additional questions were included. One asked about the mainstream, official narratives of Jesus' and Princess Diana's deaths, the 9-11 attack, Pearl Harbor, and the Titanic; another, about intentional government introduction of chemical toxins for public consumption via LSD, tainted polio vaccines, and chemically-altered liquor; and a third, about expertise in the ability to unravel conspiracies, asking about the Central Intelligence Agency (CIA), Edward Snowden, Dan Brown, Woodward and Bernstein, and Benedict Cumberbatch. Of the conspiracies polled, percentages of Americans who believed in them ranged from 70% who disputed the official explanation of John F. Kennedy's assassination down to only 5% who believed that the U.S. government had poisoned alcoholic beverages during the Prohibition Era (CBS Interactive, 2015). Regarding the three additional questions, most interesting was that 84% of Americans believed the government was not above suspicion in public poisoning and 56% lacked confidence in the CIA's ability to diligently uncover conspiracies; a quarter of Americans also believed that there was deception related to Princess Diana's death, Jesus' demise, and the 9-11 attacks.

Clearly, from these data, one can conclude that sizable numbers of Americans believe in various conspiracy theories and that some of these beliefs, such as tainted vaccines and other

forms of public poisoning or subliminal advertising, involve events that could directly impact individuals' immediate health status and personal choices. As such, it is legitimate to ask whether holding conspiracy beliefs may have psychological impacts on those who endorse various beliefs.

In this light, the purpose of this study is to determine the psychological impacts that holding conspiracy beliefs may have on those who hold these beliefs. The purpose is not to debate on or determine the validity of those beliefs or the quality of information and rationality of thinking that may have led people to arrive at such beliefs. Nonetheless, to study the psychological impacts of conspiracy beliefs in a systematic way, it is necessary to demonstrate, to the extent possible from the relatively minimal scholarly literature on this topic, that those who hold such beliefs are likely to respond to their beliefs in logical, or at least predictable, ways--essentially, to reduce the perceived harm or threat to themselves and their loved ones. If their responses were not predictable, it would be more difficult to find systematic patterns in their responses. As such, an exploration of what is known about their responses to conspiracy beliefs, based on the existing literature, occurs below.

Association of Conspiracy Beliefs with Psychological Characteristics

Douglas, Sutton, and Cichocka (2017) suggested that a tendency to accept conspiracy beliefs may correlate with feelings of marginalization--although the causal direction of this association was not specified. Douglas et al. (2017) explained that belonging to a group of people who share a conspiracy belief may affirm one's personal worth through group acceptance, but may also reinforce a shared, disempowered worldview and lead to feelings of helplessness. Douglas et al. described those who hold conspiracy beliefs along a full spectrum of self-efficacy,

ranging from narcissistic to paranoid, with the ability for pattern recognition within their immediate environment suggestive of erroneous preoccupation and a lack of critical thinking. Therefore, acceptance of conspiracy beliefs may be related to individuals' pre-existing psychological characteristics; yet it may also influence these characteristics as well. In fact, Douglas et al.'s (2017) research was correlational only and cannot, therefore, describe the causal relationships between conspiracy beliefs, group identification, and psychological characteristics.

Cairns (2014), on the other hand, offered a causal hypothesis. Cairns observed that persons with certain conspiracy beliefs may have little ability to do anything in the face of perceived impending doom. She suggested that this experience may be psychologically deflating. In her research, she observed that persons in this situation may evidence behaviors similar to the grieving process. Bakalaki (2016) found that persons who can do nothing in the face of perceived impending doom may experience complicated grief across all stages of the grieving process. Therefore, some researchers (Bakalaki, 2016; Cairns, 2014) have recognized that conspiracy beliefs may have direct psychological impacts on those who hold them. Yet little empirical research exists to explore this possibility in depth.

Galliford and Furnham (2017) surveyed 323 Norwegian men and women, with a mean age of 36 years-old; 69% were White. Survey questions covered participants' political and medical beliefs. Questions were randomized for each participant and divided equally to address both sets of conspiracy beliefs. Participants' political involvement was assessed via a question about their frequency of voting. Participants' preference for alternative medicine was measured using a Likert scale ranging from ineffective (1) to substantially effective (5). Political inquiries addressed such topics as war, decisive world initiatives, government spying on citizens, global

warming as a farce for higher taxation, and compliance demands over individual lifestyle choices (Galliford & Furnham, 2017). Medical narrative examples addressed vaccine-related illnesses, cancer cure suppression to support pharmaceutical profit, and drug experimentation on the unsuspecting and unconsenting public. Ten items from the Rosenberg Self-Esteem Scale (RSES; Robins, Hendin, & Trzesniewski, 2001) were used to measure feelings of self-worth and the Ten Item Personality Inventory (TIPI; Chiorri, Bracco, Piccinno, Modafferi, & Battini, 2014) was used to measure Big 5 personality characteristics on a 1 - 7 Likert scale (Galliford & Furnham, 2017).

Via multiple regression analysis, Galliford and Furnham (2017) found that believing in both medical and political conspiracy theories was significantly associated with being male, younger, more religious, more likely to hold conservative political views, and greater trust in alternative medicine. There were no associations with education. Of the Big 5 personality factors and self-esteem measure, conspiracy beliefs were significantly associated only with lower neuroticism. Finally, those holding one conspiracy belief were much more likely to hold other conspiracy beliefs, supporting the authors' assumption of undifferentiated characteristics among competing conspiracies.

Galliford and Furnham's (2017) findings suggested that persons who believe in conspiracy theories have few personality differences from those who do not, except that believers may be less neurotic than non-believers. Findings also suggested that conspiracy believers may have equivalent education levels. One possible consequence of holding medical conspiracy beliefs was a greater trust in alternative vs. standardized medicine. The strong belief in alternative medicine may be the result of beliefs in vaccine and pharmaceutical conspiracies

aimed at depopulation, especially plausible since access to comprehensive information so vital for informed decision making is limited (Lieder, Griffiths, & Hsu, 2018; Vulpe & Stoian, 2018). Similarly, Rossi, Cassotti, Moutier, Delcroix, and Houdé (2015) found that heuristics, or individual inductive reasoning, will change when more relevant information is analyzed actively, affording broader deductive reasoning. The authors noted that rote, heuristic reasoning must become intentionally effortful to enable resolution of cognitive conflict that unfamiliar threat(s) pose, and that only in this way is it possible to overcome bias. Lieder et al. (2018) found that increased attention is given to personal threat, which suggests that persistent media or social media reminders involving threat may both inform and predispose the public to behavioral responses that appear devoid of logic to onlookers, especially when uncharacteristic behavioral deviation is selected over socially-constructed norms. Nevertheless, reliance on alternative medicine may be a logical, self-protective response among those who believe that standardized medical approaches may involve harm, regardless of the validity of the information upon which these beliefs are based or the heuristics affecting these beliefs.

Using a neo-ethnographic approach coined *netnography*, Vulpe and Stoian (2018) examined Romanian Facebook posts regarding the debate over vaccination safety. The authors selected the four most popular pages related to this debate: two that promoted vaccinations and two that opposed vaccinations. The three posts with the largest engagement score were chosen from each page. A two-tiered level of engagement was measured for the 12 posts. Level 1 engagement comprised visitors' likes and dislikes via the applicable icons and share icon, and level 2 engagement captured commentary by the visitors and reciprocal commentary from the page administrator. Among the anti-vaccination members, child protective services was given a

new connotation because these members viewed abstinence from, rather than compliance with, vaccines to be in the highest interest of child health and safety. Photographs and videos of personal harm to loved ones caused by vaccines were used to support these claims. A heated debate between the two groups occured when a pro-vaccine page administrator employed a doctor to endorse a government vaccination initiative. The anti-vaccine group discredited his professional stature by referencing a prior scandal in which he was involved, sharing a hyperlink with information about the scandal. Offense was provoked by a quote in the pro-vaccine post, which referred to the professional's excruciating emotions when having to witness "psychiatrically impaired" (Vulpe & Stoian, 2018, p. 81) parents who refuse to comply with vaccination requirements. The opposition provided a second hyperlink to a prominent foundation executive's website containing a collection of video clips that addressed the depopulation-by-vaccination perspective (Vulpe & Stoian, 2018). The pro-vaccine groups' use of public exemplars and official narratives to diffuse vaccination fears was met with formidable resistance by those whose lives had been changed in adverse ways via compliance with required vaccine schedules.

Vulpe and Stoian (2018) found that both pro- and anti-vaccine webpages employed emotional argumentation. Anti-vaccine pages included possibilistic as opposed to probabilistic reasoning, storytelling to strengthen emotional appeals, aggressive language to discredit putatively credible pro-vaccine sources, photos of injured children and crying parents, and reliance on conspiracy theories suggesting distrust in government and healthcare systems. Pro-vaccine pages included laughter and derision of anti-vaccine information, arrogant language to disparage anti-vaccine proponents, and passive-aggressive perspectives against anti-vaccine

websites. The one difference was that pro-vaccine pages were able to rely on what are generally accepted as neutral and informative infographics produced by the medical system and vaccine manufacturers, in lieu of the emotionally intense photos of distressed children and parents used by the anti-vaccine pages. With this one exception, driven primarily by the availability of infographics to support the pro-vaccine position, the argumentation used by both sides was primarily *ad hominem* and emotional rather than scientific. These findings suggested that both sides engaged in similar forms of reasoning, with neither side demonstrating greater scientific accuracy or intellectual rigor (Vulpe & Stoian, 2018).

It can be argued that such findings resemble those of Galliford and Furnham (2017), implying that persons who hold conspiracy beliefs may not differ from those who do not hold conspiracy beliefs in terms of education or key personality factors. Furthermore, from the efforts to share their stories of harm, it could be argued that those who hold anti-vaccine beliefs are acting in predictable ways: 1. to protect others from similar harm; 2. to tell their stories as a form of emotional catharsis; and 3. to share information with others who have had similar experiences and found solutions in a quest to achieve mastery of their difficult life experiences. Thus, one cannot conclude that those who hold vaccination-related conspiracy beliefs act in a less predictable manner in response to their conspiracy beliefs than those who do not hold such beliefs. Rather, it is possible that those who hold conspiracy beliefs--despite the validity or invalidity of the beliefs themselves--may respond to their beliefs in logical, predictable ways. It is important to recognize this logic or predictability, primarily because predictable responses are capable of being studied systematically via psychological research, such as the present study

(Lieder et al., 2018; Rossi et al., 2015). In the absence of logical, predictable responses, it would be difficult to study the psychological impacts of conspiracy beliefs nomothetically.

It is understandable that some parents of infants, preschoolers, and school-age children may feel hard-pressed when faced with decisions about vaccines, given the sheer number of vaccines now required. The state-mandated vaccines for school enrollment are listed below, to demonstrate how a list of this length may appear daunting and even raise suspicions among parents, many of whom received relatively few vaccines when they themselves were children. A child within the United States is required to receive 35 vaccinations from birth to age four: Hepatitis B (HepB) at birth (1), 1 to 2 months (2), 6 months to 18 months (3); Rotavirus (RV, 2-dose) at 2 months (4) and 4 months (5); Diphtheria, Tetanus, and Acellular Pertussis (DTaP) at 2 months (6), 4 months (7), 6 months (8), 15 to 18 months (9), and age 4 to 6 years (10); Haemophilus Influenzae Type B (Hib) at 2 months (11), 4 months (12), 6 months (13), and 12 to 15 months (14); Pneumococcal 13-valent Conjugate (PCV-13) at 2 months (15), 4 months (16), 6 months (17), and 12 to 15 months (18); Inactivated Poliovirus (IPV) at 2 months (19), 4 months (20), 6 to 18 months (21), and 4 to 6 years (22); Inactivated Influenza (IIV), annually from 6 months through 8 years, with 1 or 2 doses (doses 23 - 29); Measles, Mumps, and Rubella (MMR) at 12 to 15 months (30) and 4 to 6 years (31); Varicella (VAR) at 12 to 15 months (32) and 4 to 6 years (33); and finally, two doses of Hepatitis A (HepA) at 12 to 23 months (34, 35), per the Centers for Disease Control and Prevention (CDC; 2018). This large number of required vaccines could give anyone pause to think and question. In addition, compliance with this number of vaccines is time-consuming and costly and may feel inherently invasive to children and parents. In this light, few would argue that the first years prior to public school enrollment

must be stressful for parents who are aware of potential vaccine dangers, especially working parents who must rely on childcare services, themselves bound by vaccine compliance regulations to remain operational. It would not appear necessary to detail here the many scientific reasons that support the vaccination of children, since the evidence is abundantly covered in the scientific literature and on government websites. Yet the data that may lead some parents to question the value of vaccinations are not generally presented in scientific literature or government sources; as such, it is important to briefly relate those data here to assist readers in understanding the perspectives of those who may believe in vaccine-related conspiracies and to establish that, regardless of the validity of their beliefs, the psychological impacts of those beliefs may be predictable and capable of systematic psychological inquiry.

Parents who have concerns about the safety of required vaccines may prefer to homeschool their children, a plausible connection that was, however, unsubstantiated by Thorpe, Zimmerman, Steinhart, Lewis, and Michaels (2012). Nonetheless, three of the seven authors of this study were affiliated with vested pharmaceutical interests, such that the conclusion of the study may remain in doubt. It would seem that those who believe vaccines may harm their children may engage in self-directed actions to protect them, above all by homeschooling. Once again, then, there is a suggestion that holding particular conspiracy beliefs may lead to specific rational behaviors and psychological impacts (Lieder et al., 2018).

Parental choice to homeschool continues to be met with legal opposition, although the parental right to educate one's children has been upheld repeatedly on the grounds of historical and traditional rites in American society (Raley, 2017). The most fundamental premises upon which homeschooling enjoyed freedom from interference prior to 1918 were: 1. to prevent

centralization and homogenous thought to sustain democracy; 2. to protect the rights of individuals, couples, children, and society; 3. to respect religious freedom; 4. to support autonomous parental competency; and, most critically, 5. to instill vigilance in posterity to enable identification of authoritative actions suggestive of tyranny, coupled with the cognitive wherewithal to counteract such a threat(s). At minimum, Raley (2017) and Ray (2019) argued that parental concern for child physical safety, unadulterated family values, and avoidance of introduction to illegal behavior or substances is rational, protective behavior characteristic of thoughtful, caring parents (Lieder et al., 2018; Rossi et al., 2015).

Access to wholesome, nutritious food may constitute an additional concern for parents who prefer that their children receive meals in homeschool settings. Shepherd and Saghaian (2015) mailed surveys to U.S. citizens regarding two groups of foods in markets: fresh produce and chicken or beef. With 371 respondents, Shepherd and Saghaian (2015) reported that food safety concerns due to contamination with E. coli and Salmonella within fresh produce and genetically-modified chicken and beef products (GMOs) were expressed by over 50% of higher-educated respondents. Though the authors mentioned only five recent negative food events, the United States Department of Agriculture (USDA, 2018) lists as many as 47 food recalls and public alerts within the first quarter of year 2015 alone (January to April) and 97 total by November's end, just prior to Shepherd and Saghaian's (2015) publication. In spite of these data, the desire to grow a home garden is regarded by many onlookers as an act of radical protest (O'Brien, 2016). Yet growing a home garden and choosing to homeschool one's children in part to assure that they are eating healthy foods may constitute informed decisions based on

knowledge of the recurrence and severity of food illnesses in market-purchased food in the U.S. (Lieder et al., 2018; USDA, 2018).

Air pollution from chemical airplane spraying is perhaps the most detrimental to human survival of all the foregoing conspiracies discussed. Bakalaki (2016) noted that its presence cannot be contained by borders and that it cannot be reclaimed once dispersed, thus affecting populations worldwide, especially when deployed simultaneously by various regional agencies. For those who hold this belief, mitigatory measures would be either onerous, such as living underground with expensive air-ventilation systems, or socially problematic, such as donning complex face-covering air filtration systems. Short of this, it is more likely that holding such a belief may produce feelings of helplessness, frustration, and grief, as Bakalaki (2016) contended. Other conspiracy beliefs against which persons can do little to protect themselves may also lead to adverse psychological impacts. This is considered in greater depth below.

Unacknowledged Grief in Relation to Uncontrollable Conspiracy Beliefs

Certain conspiracy beliefs may involve current, harmful events against which it is not possible, not practical, or not affordable to protect oneself. In the face of such uncontrollable events, individuals may experience feelings of frustration, helplessness, and prolonged grief over what they have lost, such as freedom or health, perhaps even confidence to start a family (Iden, Ruths, & Hjørleifsson, 2015; Rabiei, Eslami, Abedi, Masoudi, & Sharifirad, 2016; Williamson & Lawson, 2015). Some researchers (Bakalaki, 2016; Cairns, 2014) have recognized that certain conspiracy beliefs may have these direct psychological impacts on those who hold them. Complicated grief, in particular, has been suggested in the literature.

Communication with others is vital to the management and resolution of crises such as prolonged grief, because proximal conversation can reorient isolated individuals (Berger & Luckmann, 1967). Because of this, Berger and Luckmann suggested that communication is parsed intentionally to decrease "face-to-face confirmations" (1967, p. 155) of current events via public technological socialization. This suppressed ability to obtain and retain non-judgmental private communication and validation within one's support system promotes isolation within a closed ideation loop, sustained primarily via internal dialogue that affords little to no emotional respite. Riso and McBride (2010) noted that positive and negative internal, automatic thoughts that are generated without effort may result in schemata that play an integral role in the perception of environmental information. Interesting is that negative automatic thoughts have a peculiar affinity for existing core negative beliefs, above all those experienced in early childhood. Therefore, an existing negative mood may influence the perception of negative transient thoughts. Although an individual's environment is subject to change (for example, by college attendance), Riso and McBride (2010) found that cognitive schemata tend to remain static. Understandably then, aversive information related to existing threatening conspiracy beliefs or even new conspiracy beliefs will be noticed, processed, and retained more often than contradictory information; this process results in confirmation bias (Lieder et al., 2018; Rossi et al., 2015). Confirmation bias is a well-established psychological construct--a reasoning process of selecting and focusing on primarily information that supports one's beliefs rather than information that challenges them. Confirmation bias affects most reasoners, both those who believe in conspiracies and those who do not. Since great cognitive effort is required to challenge the human tendency toward confirmation bias (Rossi et al., 2015), individuals with access to

more comprehensive information have an advantage over the less aware in potentially avoiding confirmation bias. Yet among those who hold conspiracy beliefs, the suppressed ability to obtain information (Berger & Luckmann, 1967), isolation within a closed ideation loop (Berger & Luckmann, 1967), the affinity of negative automatic thoughts for existing core negative beliefs (McBride, Farvolden, & Swallow, 2010), and the resulting static cognitive schemata (Riso & McBride, 2010) likely exacerbate confirmation bias. Unfortunately, the fortified, perhaps insufficiently-informed, negative belief systems of those with conspiracy beliefs can have adverse emotional sequelae, such as depression and hopelessness, the latter a more dire emotional state than grief for which the experiencer perceives no possible resolution of the stressor (Morrison, 2010, p. 194; Rossi et al., 2015).

Grief experiences due to natural and ordinary death vary within and across American cultural groups and normally resolve with the passage of time, per the American Psychiatric Association (APA, 2013), which suggests assessment using the major depressive disorder symptom scale to determine if grief has become problematic and may potentially merit treatment. The Level 1 Cross-Cutting Symptom Measure (Adult) on pages 738 and 739 of the *Diagnostic and Statistical Manual of Mental Disorders* (5th ed.; *DSM-5*; APA, 2013) may also be useful to rule out psychotic features when assessing grief symptoms. Psychological management of prolonged bereavement within the *DSM-5* is discussed in the context of an actual rather than imagined death, yet Morrison (2010) noted that conspiratorial perceptions can be equivalent to actual experiences of that which is feared. Similarly, persistent fear of impending doom could be experienced as death before dying, as observed by Zeligman and Wood (2016) in autoimmune deficiency syndrome (AIDS) patients. Of course, grief is not only related to death or

impending death, but can arise following any experience of loss--including perceived losses of freedom and health that may occur among those with certain conspiracy beliefs (Iden et al., 2015; Rabiei et al., 2016).

Threat management may also lead to complicated grief. When humans perceive threat, self-directed efforts to identify and resolve it are initiated cognitively (Rossi et al., 2015; Van Prooijen & Acker, 2015). Within the threat identification process is evaluation of whether the source is internal or external. Following the determination of threat source, introspection occurs to evaluate whether sufficient innate power exists to rid oneself of the threat (Morrison, 2010; Van Prooijen & Acker, 2015). This process is dependent on inferential acuity made possible through pattern recognition within one's environment (Keestra, 2017). Pattern recognition provides an advantage in the context of perceived threat. Morrison (2010) and Williamson and Lawson (2015) noted that behavioral changes will occur in proportion to both the degree of perceived threat and the personal power to resolve it.

Also relevant to how people manage perceived threats is the theory of planned behavior (TPB). TPB comprises three psychological components necessary to transform one's intentions into an observable, measurable behavior: the value of the desired outcome (personal attitude), prevailing opposition to the choice (social norm), and the innate power to accomplish the goal and deal with subsequent consequences (self-directed choice) (Williamson & Lawson, 2015). For example, an individual who believes that the air is being polluted intentionally for harm may begin to stay indoors more often than before, perhaps choosing isolation altogether to avoid inhalation of toxic chemicals (desired behavior). He or she may opt to seek remote employment from home if isolation is considered too extreme by others (social norm), choosing to venture

outside the home only for essential tasks like shopping or attending important events (self-directed choice).

Nonetheless, when individuals determine that they have no ability to control the situation, they may experience ambivalence (Jiang, Liang, Wang, & Sun, 2016; Rabiei et al., 2016; Zeligman & Wood, 2016). Ambivalence may engender chronic, unconscious grief that evades psychological detection (Jiang et al., 2016; Van Prooijen & Acker, 2015). For example, individuals may often assume that if they disclose conspiracy beliefs they may receive an unfavorable psychological diagnosis, so their beliefs and associated grief may be left unvoiced (Jiang et al., 2016). The frequent, negative evaluation of peers toward adherents of conspiracy theories can be used to infer that non-disclosure of such beliefs (e.g., an attitude-behavior inconsistency) may be especially prevalent within clinical settings (Lieder et al., 2018). Given this possibility, then, disguised grief would confound accurate diagnosis and preclude professional treatment or assistance. Bakalaki (2016) suggested that lack of control over one's situation may result in complicated grief. Similarly, lack of control over public contempt within potential risk-acquired illness may correspond to contempt or dismissal of grief experienced by conspiracy theorists who express it, further complicating the resolution of their grief (Zeligman & Wood, 2016). Bellini et al. (2018) found that compounding perceived losses was positively correlated with complicated grief due to emotional rumination and thought intrusion by surviving loved ones of suicide, as measured by the Inventory of Complicated Grief (Prigerson et al., 1995). Hopelessness was found to differ statistically from complicated grief, as were feelings of detachment, or mental imbalance, associated with the presence of complicated grief (Bellini et al., 2018).

Explanations for Conspiracy Beliefs

What little peer-reviewed social science that has addressed conspiracy beliefs has generally offered dismissive explanations of why people hold such beliefs. Conspiracy beliefs have been attributed to preoccupations by narcissistic (Douglas et al., 2017), neurotic, paranoid, socially-frustrated, and ostracised individuals (Douglas et al., 2017; Lamberty & Imhoff, 2018; Van Prooijen & Acker, 2015); religious fanaticism (Raley, 2017); brainwashing and psychiatric derangement (Vulpe & Stoian, 2018); cognitive disability (Douglas et al., 2017); poor education (Vulpe & Stoian, 2018); irrational, scientifically-dismissive approaches (Lamberty & Imhoff, 2018; Vulpe & Stoian, 2018); psychosis (Morrison, 2010); and general distrust (Lamberty & Imhoff, 2018; Van Prooijen & Acker, 2015). Yet these characterizations may, at least at times, be unfair, based on assumptions rather than data, or lacking in awareness of other perspectives (Rossi et al., 2015). For example, in the 1960s and 1970s serious social scientists had begun to question the construction of accepted reality. In a classic book, Peter Berger, University Professor of Sociology at Boston University, and Thomas Luckmann, Professor of Sociology at the University of Konstanz in Germany argued that the components of what society calls *reality* are products of intentional creation by those in authority, requiring continual oversight by these authorities to manage the potential threat of exposure (Berger & Luckmann, 1967). Berger and Luckmann (1967) revealed that ridicule is the officially-opted strategy to diffuse public outcry when information that challenges the constructed reality emerges.

Clearly, social consciousness of official worldview perpetuation has risen, certainly with the Baby Boomer generation born between 1946 and 1964 (Berger & Luckmann, 1967), as the results of the *CBS Interactive* (2015) poll supports. Indeed, Americans need only remember the

horrors perpetrated by the U.S. military against Japanese and Vietnamese populations with weaponized aerosol delivery of Agent Blue in 1943 and Agent Orange from 1961 to 1970, with approved deception, to warrant suspicion of harm from chemtrails today (Bakalaki, 2016; Hynes, 2016; Lieder et al., 2018). Important to remember is that American soldiers were equally affected by these toxic chemicals, as were U.S. citizens and environment health with the spraying of dichlorodiphenyltrichloroethane (DDT) between the 1940s and 1950s (Bakalaki, 2016; Hynes, 2016). Equally horrific were the Thalidomide birth defects that began in 1953 (Dally, 1998), preceded and overlapped by the 40-year Tuskegee Syphilis Study (Reverby, 2001), which could understandably account for suspicions of childhood vaccination and depopulation initiatives (Lieder et al., 2018). Finally, the Mad Cow event of 2003 could help explain continued concern over the safety of market-purchased beef or other foods (Schlenker & Villa-Boas, 2009). Therefore, questioning authority and believing in the possibility of certain conspiracies may result from knowledge of authorities' past actions and the innate drive toward self-protection and protection of those in one's close circle; in short, questioning authority and believing in the possibility of certain conspiracies may be logical behaviors (Lieder et al., 2018). Until research demonstrates otherwise, it can be seen as disrespectful on the part of researchers to suggest that those who hold conspiracy beliefs are characterized by the various flaws suggested. They may or may not be so characterized. Little evidence exists to substantiate the negative claims that have been made; what little evidence does exist suggests otherwise, although it is not possible to draw firm conclusions one way or the other.

Bloom (2017) noted that earnest efforts to directly and indirectly maintain status quo today are achieved in three hierarchical ways: media-generated observational learning by

exemplar endorsement, legally-mitigated retribution, and socially-managed ostracism to ensure only appropriate speech, often referred to as *political correctness*. Of note is media complicity in silencing naysayers by enlistment of those with credentials influential enough to garner public attention (Dally, 1998), leaving believers in conspiracies at the mercy of ridicule-and-impairment narratives that disempower them and discredit the information they may attempt to share (Berger & Luckmann, 1967; Cairns, 2014; Lieder et al., 2018; Vulpe & Stoian, 2018). As noted above, the tone of psychological publications may echo this official disempowerment, even though scientific research is lacking to substantiate the series of negative labels used by psychologists for those who believe in conspiracy theories.

To support this contention, Galliford and Furnham (2017) found no connection between education and conspiracy beliefs. Instead, they suggested a higher incidence of conspiracy beliefs among men with graduate and postgraduate degrees. Lamberty and Imhoff (2018) reported similar findings for 105 male and 87 female Americans among 204 participants with a mean age of 37 years, specifically that higher education was positively correlated with belief in pharmaceutical conspiracies, with particular preference for alternative medical approaches. Vulpe and Stoian (2018) found no differences in reasoning or argumentation approaches between those with and without vaccination-related conspiracies. Thus, the existing research--although still scant--suggests that those who hold conspiracy beliefs may respond to those beliefs in predictable ways, capable of study.

Furthermore, Riso and McBride (2010) explained that logical behavior can be demonstrated regardless of one's personal awareness that existing thoughts may be somewhat illogical. This occurs because difficult or intense feelings persist despite one's cognitive

appraisal of them, leading to continued investment in the beliefs. These beliefs are not necessarily irrational, as people need cognitive understanding of their feelings to obtain a sense of control. Lieder et al. (2018) actually suggested that delayed action in a threat context may be construed as more irrational than rational. Vulpe and Stoian (2018) revealed equally rational and irrational behavior among non-believers and believers in conspiracies, highlighting that most human beings hold some illogical beliefs. Thus, those who hold conspiracy beliefs cannot be readily dismissed as intellectually or cognitively impaired. Rather, they may be acting in logical, self-protective ways given their knowledge base and life experiences (Lieder et al., 2018; Rossi et al., 2015). It is important for the present study to recognize that those with conspiracy beliefs may be acting in predictable ways in choosing these beliefs, because this study is predicated on the notion that those with conspiracy beliefs may have logical reactions to, and predictable psychological impacts from, those beliefs (Lieder et al., 2018; Rossi et al., 2015).

Assertion and Responses to Perceived Threat

Assertion is a well-researched construct in modern psychology. Three common assertion response styles have been described in the literature: passive, assertive, and aggressive (Potter & Potter, 2011). The passive style involves compliance with others' demands and failure to express or meet one's needs or feelings. The assertive style involves thoughtful, well-phrased expression of one's needs and feelings to negotiate outcomes that respect one's needs, feelings, and rights, as well as those of other people. The aggressive style involves the use of anger, belittling, and aggression to impose one's rights on others and meet one's needs with little regard for others' needs and feelings. The relationship of these assertion styles to perceived threat has been explored, albeit scantily, in the empirical literature.

Empirical inquiry related to how threat is perceived and managed via response or coping styles may account for the different behavioral responses seen among both believers and non-believers in conspiracies (Bakalaki, 2016). Passive, assertive, and aggressive coping styles employed by the adult population are believed to exacerbate, mediate, or perpetuate negative outcomes via a two-step appraisal process (Aldin, Folkman, Schaefer, Coyne, & Lazarus, 1980; Rossi et al., 2015). Primary appraisal evaluates risk, harm, and benefit to oneself and desired outcomes; secondary appraisal evaluates personal power to mediate a threat (Aldin et al., 1980; Leung & Chalupa, 2019; Morrison, 2010; Williamson & Lawson, 2015).

Regarding those with passive response styles, Leung and Chalupa (2019) measured the coping response to imminent death of Japanese kamikaze pilots in World War II using the Ways of Coping Scale (Aldin et al., 1980). This scale was used to assess archival records of the pilots' diaries, written before they entered the war and while they were in the war; 100% interrater agreement was obtained for the Ways of Coping Scale. Of course, imminent death produces complicated grief that differs from slow, impending doom because imminent death entails a definite end date; e.g., a one-flight mission. Few would disagree that much more complicated grief would be reported in connection with an uncertain end date, such as that presented by toxic chemical spraying (Bakalaki, 2016; Cairns, 2014; Hynes, 2016), tainted food distribution (Schlenker & Villa-Boas, 2009; Shepherd & Saghaian, 2015; USDA, 2018), potentially unsafe vaccines (Thorpe et al., 2012; Vulpe & Stoian, 2018), and intentional public medicinal poisonings (Dally, 1998; Reverby, 2001). Leung and Chalupa (2019) compared the pilots' pre-enlistment coping strategies to those grappling with terminal cancer, an impending death scenario similar to the chemtrail conspiracy outcome belief (Bakalaki, 2016). Once enlisted in

the Japanese Army, however, passivity was the primary default response to enable compliance with authority, regardless of the pilots' personal beliefs about war and death (Leung & Chalupa, 2019). The theme of hopelessness was prominent in their diary entries. It is noteworthy that, of the seven participants' qualitative data shared, not one actively sought an alternative to military service, such as serving in a supportive role in the war effort. The only participant reported to have done so among the 13 total participants was not featured in the article discussion. The fact that the majority of pilots did not seek alternative service suggests that passivity may result from fears of public derision and expatriation (or worse). Similar concerns were experienced by Americans who complied with the draft during the Vietnam War (Berger & Luckmann, 1967; Leung & Chalupa, 2019; Maxwell, 2015). Thus, compliance with authority may be highly associated with a passive response style.

On the other hand, Maxwell (2015) suggested that an assertive coping style was demonstrated in the departure to Canada by American citizens of draft age during the Vietnam War, to preserve alternative choice for their beliefs and autonomy, despite their expatriation (Lieder et al., 2018; Maxwell, 2015). Among academics, researchers de Almeida Santos and Soares (2018) found that psychology students scored higher on alternative problem-solving, autonomy, and pattern recognition compared to matched students in the human sciences field. The psychology students, who were emerging mental health workers, had honed their pattern recognition skills to make proper diagnoses. The assertive coping style demonstrated by the psychology students and draft resisters was able to withstand external appraisal, seeking to maintain personal integrity, continually analyzing patterns necessary for safety of the self, loved ones, and desired personal outcomes (de Almeida Santos & Soares, 2018; Keestra, 2017; Lieder

et al., 2018; Maxwell, 2015; Rossi et al., 2015). Thus, the assertive coping style may be associated with less compliance with authority compared to the passive response style. However, Jiang et al. (2016) noted that one's behavioral consistency may be expressed in different ways when personal control over outcomes is minimal or absent. To that end, Carver, Scheier, and Weintraub (1989) suggested the use of context-specific questions for measurement of usual coping preferences in conjunction with associated constraint-specific questions, rather than general or ambiguous probing that is subject to misinterpretation. Researchers would be remiss to avoid accounting for the dimension of little to no perceived control in the measurement of response to existential threats (Carver et al., 1989; Jiang et al., 2016; Lieder et al., 2018).

The third response style is that of aggression. Gagnon and Rochat (2017) measured trait anger, impulsivity, and hostile attribution bias (HAB) with use of the Reactive-Proactive Questionnaire (RPQ), a 23-item measure, 11 for reactive responses and 12 for proactive responses (Raine et al., 2006). Gagnon and Rochat (2017) found that participants' degree of self-reported impulsivity was correlated to actual reactive aggression. Therefore, persons whose routine response to threat was devoid of premeditation, considered of utmost urgency, who lacked the ability to self-regulate, and were especially influenced by negative schemata in ambiguous contexts, were more likely to fare poorly regardless of perceived control because the majority of situations appeared to them to have equal threat value. Furthermore, without the ability to analyze the situation prior to response, coupled with the suspicion inherent in negative attribution, these persons' social support networks were non-existent or poor (Gagnon & Rochat, 2017; Riso & McBride, 2010). In the context of conspiracy beliefs, then, persons whose routine response to threat is aggressive may evidence the lowest compliance with authority, along with

social isolation. Paradoxically, however, they may suffer more complicated grief due to the additional ramifications their usual responses elicit--be they relational, financial, social, or legal--difficulties that persist as a result of erroneous thought processes inherent in their negative, aggressive cognitive schemata (Riso & McBride, 2010).

It is important to note that the conspiracy theories within the current research involve unfamiliar threats to one's existence for which no schemata may exist, which may result in response inconsistency even for those with typically aggressive response styles (Gagnon & Rochat, 2017; Jiang et al., 2016; Lieder et al., 2018; Riso & McBride, 2010; Rossi et al., 2015). This is especially important given the numerous threats present in today's environment, all of which compete for cognitive management and resolution, critical skills that suffer compounding assault in the context of chronic, multiple stressors (Butcher, Hooley, & Mineka, 2014; Lieder et al., 2018; McBride et al., 2010; Rossi et al., 2015).

Summary and Research Questions

Several investigations have revealed that those who hold conspiracy beliefs appear to have similar education levels as those who do not hold such beliefs (Galliford & Furnham, 2017; Shepherd & Saghaian, 2015), and one study suggested that those with conspiracy beliefs may actually have greater education (Lamberty & Imhoff, 2018). A range of studies suggested that those with conspiracy beliefs may not be acting less rationally than the average person in choosing to hold those beliefs (Raley, 2017; Rossi et al., 2015; Schlenker & Villa-Boas, 2009; Vulpe & Stoian, 2018) and may also be acting logically and predictably in choosing how they respond to those beliefs (Dally, 1998; Hynes, 2016; Reverby, 2001; Rossi et al., 2015; Schlenker & Villa-Boas, 2009; Vulpe & Stoian, 2018). These findings imply that there may be logical

psychological impacts from holding conspiracy beliefs, impacts capable of systematic investigation.

Two studies suggested that those who hold conspiracy beliefs that entail harmful events over which they can exercise no control may experience complicated grief as a result (Bakalaki, 2016; Cairns, 2014), grief that may not come to the attention of healthcare providers. Several studies have suggested that those with medical conspiracy beliefs may engage in behaviors aimed at mitigating their exposure to harmful medical practices, such as alternative medicine, home gardening, and homeschooling (Galliford & Furnham, 2017; O'Brien, 2016; Thorpe et al., 2012). These behaviors suggest the possibility of specific psychological impacts from holding medical conspiracy beliefs, such as independence, self-reliance, social isolation, and efforts to affiliate with others who hold similar beliefs. The finding that those with conspiracy beliefs are more likely to be religious and endorse conservative political perspectives (Galliford & Furnham, 2017) suggests the possibility that those with conspiracy beliefs may be seeking affiliation within religious groups, pursuing spiritual comforts in the face of perceived threats, and/or identifying with those whose political beliefs likewise involve distrust of governmental authorities. Finally, the literature on assertion suggests that the psychological impacts of conspiracy beliefs may vary based on response style (Potter & Potter, 2011). Those with passive response styles may evidence the greatest compliance with authority and thus greater amounts of helplessness, hopelessness, and grief in the face of their conspiracy beliefs. Those with assertive response styles may evidence moderate compliance with authority, demonstrating more proactive impacts from holding conspiracy beliefs and thus less helplessness, hopelessness, and grief. Those with aggressive response styles may evidence the least compliance with authority,

demonstrating impacts associated with anger and aggression, but also possibly the greatest social isolation and complicated grief because their aggressive efforts may be less effective and more alienating of other people than the proactive efforts of those with assertive response styles.

In summary, the existing research suggests that those who hold conspiracy beliefs may experience predictable psychological impacts from these beliefs. The impacts may affect their emotions, mood, behaviors, relationships, spirituality, and future plans (Lieder et al., 2018; Rossi et al., 2015; Williamson & Lawson, 2015). Research further indicates that how people respond routinely to threat may depend on their level of assertion, yet perceived diminished control and the threat of personal retribution lead to behavioral responses that may be inconsistent with individuals' typical responses (Bakalaki, 2016; Bloom, 2017; de Almeida Santos & Soares, 2018; Gagnon & Rochat, 2017; Jiang et al., 2016; Leung & Chalupa, 2019; Lieder et al., 2018; Maxwell, 2015; Morrison, 2010; Rossi et al., 2015; Van-Prooijen & Acker, 2015; Williamson & Lawson, 2015; Zeligman & Wood, 2016). In light of this information about responses to threat, the present study asks: 1. What are the psychological impacts of believing in conspiracy theories among persons with different assertion levels? 2. Do perceived loss of control and fear of retribution limit proactive behavioral responses, leading to greater complicated grief?

Given the foregoing response dynamics, the following four hypotheses are offered: 1. Persons with passive coping styles will demonstrate greater compliance with authority (that is, the least proactive behaviors and the greatest negative engagement) and greater complicated grief. 2. Persons with assertive coping styles will demonstrate moderate compliance with authority (that is, the most proactive behaviors and low negative engagement), with the least complicated grief. 3. Persons with aggressive coping styles will demonstrate low compliance

with authority (that is, low negative engagement), but because their behaviors are aggressive, they are also ineffective (that is, low proactive behaviors); thus persons with aggressive coping styles will manifest high complicated grief due to the undesired outcomes of their behaviors. 4. For persons with all three coping styles, the confounding variables that challenge personal choice, that is, perceived loss of control and fear of retribution, will mediate compliance with authority and proactive behaviors.

Method

Participants

This study included participants with psychological diagnos(es), those often excluded as invalid research candidates, because the sample of Americans who believe in conspiracy theories may include members of this group. As presented in the reviewed literature, potential mis-diagnos(es) may have occurred due to assessment confounds related to complicated grief associated with conspiracy beliefs and healthcare provider biases against those who hold conspiracy beliefs. Therefore, to exclude such persons would result in intentional underrepresentation of the target population.

Since grief may be related to belief in conspiracies, as well as stigma related to public contempt for this type of grief, those who were in active bereavement from the loss of a loved one within the past six months were excluded from participation so that this potentially confounding factor would be less likely to affect the results of the present study (APA, 2013; Bakalaki, 2016; Maxwell, 2015; Zeligman & Wood, 2016). This disqualifier appeared as a single-question inquiry on the survey's welcome page, with a short Thank You page displayed if the answer was affirmative for grief related to a recent loss. In this way, the type of grief

considered to resolve normally (within six months) can be shown to differ statistically from complicated grief with use of the Level I Cross-Cutting Symptom Measure - Adult (APA, 2013; Bakalaki, 2016).

Adult American men and women between the ages of 18 to 64 years are identified as the target population. As noted, individuals currently under the care of mental health personnel were included. To rule out issues in translation across languages, individuals incapable of understanding and responding in the English language were excluded from participation as well as those requiring, but without access to, computer-assistive devices.

A Facebook account and associated profile featuring a graphic as photo to reflect honest inquiry of participants, with the profile name *PsychSocSis,* was used to post the Research Announcement. This researcher sought out participants by visiting adult Facebook group sites visited by Americans in general, such as those related to humor at work and higher education, as well as those whose stated interests align with topics identified in the literature: for example, alternative medicine, home gardening, homeschoolers, religious communities, and medical communities.

The researcher posted the Research Announcement on the Facebook pages of several open access groups frequented by American adults aged 18 to 64 or dedicated to research announcements; see Appendix A for the text of the announcement. Facebook's terms of service permitted such research postings; see www.facebook.com/terms. The Research Announcement remained on the social media site for one week, and was re-posted there by the researcher repeatedly to keep the announcement appearing in the news feed for the selected groups. Some Facebook groups are moderated; others are not. Some groups include language in their terms

disallowing posting on their pages for research and data collection. The researcher only posted the Research Announcement on Facebook pages whose terms allow postings for research or data collection purposes. If this was not clear from the terms, the researcher contacted the group moderator and requested permission to post the Research Announcement. If permission was granted, the researcher documented such in the 44 pages of handwritten field notes.

The Research Announcement included a social media link provided by the anonymous survey site, SurveyMonkey. The link redirected the participant to SurveyMonkey from Facebook, where the participant first read and agreed to the Informed Consent prior to being asked demographic information; see Appendix B for text of Informed Consent. If subjects agreed to the Informed Consent, they were then automatically presented with the survey to complete online. If subjects did not agree to the Informed Consent, they were directed to an internal Thank You page, and participation terminated at that point. In total, disqualified participants on the Facebook site accessed one link: one to reach the SurveyMonkey site, then to an internal Thank You page which included an explanation for disqualification and condolences for their recent loss. Qualified participants from the Facebook site accessed one possible link: one to reach the SurveyMonkey site, with the opportunity to download a personal copy of the Informed Consent (Appendix B) that included a telephone number and information for questions related to participation in the study. Although it was unlikely, were participants to have experienced any emotional discomfort as a result of completing the survey, they were instructed to contact the Emotional Distress Hotline, a national mental health hotline, available 24/7 for free, at 1-800-LIFENET (543-3638). After one week, the Facebook site became inaccessible to this researcher for participant enlistment due to notifications of community guidelines violations.

However, just prior to account inaccessibility, a personal website was created that utilized a second link provided by SurveyMonkey for use on websites rather than social media sites (see Research Announcement, Appendix A). A link to the personal website was added to this student researcher's Facebook page immediately following construction of the website. At the next login attempt, the Facebook account was no longer accessible.

Additional social media sites were then utilized for study participant enlistment, such as LinkedIn and Twitter, along with two other membership sites and personal email invitations sent from this student's Thesis Adviser. The research announcement text placed on these sites was modified; specific reference to conspiracies was replaced with a 'Current Events' inquiry, and the displayed link led to the personal website at: https://psychsocsis.wixsite.com/psychsocsis. No login information was asked of the website visitors. Once on the website, participants were presented with general information about anonymity of the survey collection and why they were being redirected from the website to the anonymous survey site when clicking on the web link provided by SurveyMonkey at the end of the website blog (see Appendix A, Web link; Appendix I). On its landing page, an expedited button labeled 'Just take me to the survey already!' allowed an immediate redirect to the survey site, if participants so desired. Disqualified participants entering the personal website accessed two links: one from the social media site, closed membership site, or email, and one from within the personal website to the survey site, after which they were directed to an internal Thank You page that explained the disqualification and offered condolences for their recent loss. Qualified participants entering the personal website accessed two possible links: one from the origin of invitation, then the second from within the personal website to the survey site and, finally, to an internal Thank You page for their

participation. The SurveyMonkey collectors, both the social media and web link, were disabled after 15 days and the data analyzed. More information regarding participant enlistment is presented within the Discussion section below.

The sample was divided into three groups based on each respondents' assertion coping style--passive, assertive, or aggressive. To have sufficient statistical power to detect differences of moderate effect size across the two outcome variables measured (proactive behaviors/negative engagement and complicated grief), each assertion group needed to include a minimum of 63 respondents (Cohen, 1988). It was, however, unclear what percentage of the U.S. population may fall into each assertion style, and percentages likely vary by gender. Some have suggested that the smallest group involves those with an aggressive style, which may include 15%-20% of Americans (Potter & Potter, 2011). Thus, to find a minimum of 63 persons with this assertion style, it was necessary to have a total sample size of 315-420 persons. Due to time limitations, it was not possible to amass a sample of this size. The final sample consisted of 88 subjects. With 88 subjects, the MANCOVA was able to detect only differences of large effect size. However, large effect sizes that emerge from small sample sizes are considered of statistical and practical relevance (Aron, Coups, & Aron, 2013).

Measures

Rathus Assertiveness Schedule (RAS). Assertion was assessed using a 13-item subscale taken verbatim from the standard 30-item Rathus Assertiveness Schedule (RAS; Rathus, 1973); see Appendix D for the text of the questions. The RAS was introduced to the participants prior to the conspiracy-related contextual questionnaire as the baseline measure against which psychological responses to conspiracy beliefs were measured in the present study. The -1 to 3+

rating scale found in the original RAS was converted to a 5-point Likert scale, from 0 (non-agreement) to 4 (strong agreement), to harmonize scaling across all measures, as all instruments in the present study comprise a five-point scale. To facilitate this, the RAS' use of -1 was expressed as 0, and 3+ was expressed as 4. The 13-item subscale measures passive ($N = 8$), assertive ($N = 2$), and aggressive ($N = 3$) coping styles. The 13-item extraction from the full RAS mirrors closely the complete RAS, whose questions were distributed as follows: passive ($N = 16$), assertive ($N = 4$), aggressive ($N = 5$), and ambiguous ($N = 5$) coping statements. Questions this researcher considered too ambiguous for use in this study included questions 3, 13, 20, 22, and 25 (Rathus, 1973). Reliability of the RAS was found to be .78 in pre- and post-exposure assertiveness testing. The RAS is used widely in psychological studies as a measure of assertion and is a standard tool for assessing assertion-level validly.

Ways of Coping Scale. Persons whose response to perceived threat results in positive, self-directed behaviors may demonstrate greater adaptability and, therefore, lower complicated grief within the same population of conspiracy believers (de Almeida Santos & Soares, 2018). The Ways of Coping Scale (WCS), with 100% agreement among its expert raters, was configured in context- and constraint-specific questionnaires in two separate 5-point Likert subscales, suggested by Carver et al. (1989). Appendix F employs strategies 3, 4, and 6: self-control, responsibility, and planful problem solving, with two questions for strategy 9 to assess positive or negative engagement (action vs. inaction) via compliance (see Leung & Chalupa, 2019, pp. 234, 235). The coping style dimension of perceived control vs. no control related to compliance with authority was assessed with three questions in a second WCS

subscale (Appendix G), with response strategies 1, 5, and 9: confrontation, escape/avoidance, and obedience/compliance in a 5-point, 0 - 4+ rating scale.

For purposes of this research, proactive behavioral engagement is defined as behavior that supports one's personal beliefs and desire for autonomy, rather than cultural appraisal of the behavior's appropriateness or inappropriateness (Carver et al., 1989; Chance, 2014; Lieder et al., 2018). The need for appraisal differentiation can be highlighted best in the examples of the two wartime populations discussed, draftees from Japan and draft resisters from the United States (Leung & Chalupa, 2019; Maxwell, 2015). Leung and Chalupa (2019) coded the behavior of escape as a coping strategy "which hints on wishful thinking" (p. 235), perhaps suggesting a foregone conclusion with no option(s), and Maxwell (2015) documented escape response as an assertive strategy that resulted in serious personal and national retribution. Therefore, participant responses were measured in the absence of cultural judgment, either positive for the presence of active engagement within the noted parameters below, or negative for absence of engagement (Carver et al., 1989; Chance, 2014). The measure of fear of retribution, or the shaming variable, was addressed using three questions focused on fear of peer shaming (strategy 5: escape/avoidance), fear of shame to loved ones (strategy 9: endurance/obedience/effort), or disregard for others' beliefs in favor of one's own, resulting in encroachment of others' rights (strategy 1: confrontation) within the WCS strategies 1, 5 , and 9 (Appendix G) (Berger & Luckmann, 1967; Gagnon & Rochat, 2017; Leung & Chalupa, 2019; Zeligman & Wood, 2016).

Proactive behaviors are defined as manifested choices believed to buffer environmental harm to oneself or loved ones within each of the identified conspiracy theories (Chance, 2014; Rosenberg & Yi-Frazier, 2016). Proactive behaviors regarding pharmaceutical industry harm

included: 1. use of alternative medical services, or 2. home remedy use, and 3. avoidance of vaccinations, or 4. seasonal immunization refusal (Dally, 1998; Galliford & Furnham, 2017; Lamberty & Imhoff, 2018; Reverby, 2001; Thorpe et al., 2012; Vulpe & Stoian, 2018). Proactive food safety behaviors included review of USDA or news alerts no less than three times within the past year, or home gardening, or vegetable purchases from local farmers' markets no less than three times within the past year, or proprietary food label reading prior to purchase no less than three times during the past year (Schlenker & Villa-Boas, 2009; Shepherd & Saghaian, 2015; O'Brien, 2016; USDA, 2018). Mediated public education concerns are defined as proactive with no less than one attempt to homeschool in the past three years with a duration of at least one month due to the discrepancy in numbers of U.S. homeschooled children overall versus the current number of homeschooled in the United States (Raley, 2017; Ray, 2019; Thorpe et al., 2012). Economic factors may account for failed parental attempts to sustain the homeschool choice, so the period of one month was chosen to reflect parental preference for homeschooling, yet failed attempts for unspecified reason(s) (Ray, 2019). Proactive behaviors believed to decrease environmental harm from toxic air pollutants included family or individual choice to refrain from childbearing or decreased personal or family exposure during outdoor activities, with no less than three alterations in outdoor exposure routine during the past year (Bakalaki, 2016; Cairns, 2014; Hynes, 2016; Jiang et al., 2016; Williamson & Lawson, 2015). Negative engagement with the above threats include behaviors that failed to meet positive engagement criteria within each of the established parameters (Chance, 2014).

Questions used to measure social support are found within Appendix G that also addressed shaming and control vs. no control measures within a second subscale of the WCS

strategies 1: confrontation, and 5: escape/avoidance, whose psychometric values represent the positive and negative behavior spectrum rather than cultural judgment, as mentioned previously (Leung & Chalupa, 2019).

Additionally, perceived retribution for non-compliance with authority was measured with the composition of the six WCS subscale questions for strategies 1 and 5 above, and a single-measure, three-question assessment for strategy 9: endurance/obedience/effort (Leung & Chalupa, 2019, p. 234) (Appendix G) that addressed context-specific constraints with hypothetical financial, relational, and cultural penalties (Carver et al., 1989).

Level I Cross-Cutting Symptom Measure - Adult. Six diagnostic domains taken from the Level I Cross-Cutting Symptom Measure - Adult (Level I) within the DSM-5 (APA, 2013) comprise a 1-5 Likert subscale used to measure hopelessness (I), anger (II), anxiousness and self-modified behavior (IV), unacknowledged suffering (V), sleep disruption (XIII), and dissociation (XI) to identify symptoms common in complicated grief (See Appendix E). Hopelessness, anger, anxiety, isolation, resisted self-acknowledgment of suffering, sleep disturbance, and detachment were all discovered as present in suicide-related complicated grief (Bellini et al., 2018).

Conspiracy Belief Questionnaire. The Conspiracy Belief Questionnaire (CBQ) in Appendix D was used to identify the existence of currently-held conspiracy beliefs and participants' self-reported degree of personal alignment. The CBQ contains closed-ended questions developed by the researcher. Questions included both socio-demographics collected immediately following consent on the survey site as well as key content related to the research question and/or suggested by the literature review. The survey was reviewed and edited by a

doctoral-level psychologist with specialization in survey design. This improved the face and content validity of the survey. Face validity suggests that the survey measures what it aims to measure based upon a simple reading of the questions. Content validity indicates that the instrument represents all key aspects of the construct it was designed to measure; content validity can be partially assessed by expert appraisal that all content domains have been included among the questions. Nevertheless, as a new survey developed specifically for the present research, no data were available on the reliability or validity of the questions or the instrument beyond face and content validity.

Procedures

The researcher posted the Research Announcement on the Facebook pages of open access groups frequented by American adults aged 18 to 64 or dedicated to research announcements; see Appendix A for the text of the Research Announcement. The Research Announcement remained on the social media site for one week, and was re-posted there by the researcher repeatedly to keep the announcement appearing in the news feed for the selected groups. Some Facebook groups were moderated; others were not. Some groups included language in their terms disallowing posting on their pages for research and data collection. The researcher posted the Research Announcement on Facebook pages whose terms allow postings for research or data collection purposes. If this was not clear from the terms, the researcher contacted the group moderator and requested permission to post the Research Announcement. If permission was granted, the researcher included documentation of such within the 44 pages of handwritten field notes, after which research announcements were posted to the group sites.

The Research Announcement included a link to an anonymous survey, accessed via SurveyMonkey. The link redirected participants to the SurveyMonkey site, where participants read and agreed to the Informed Consent; see Appendix B for text of Informed Consent. If subjects agreed to the Informed Consent, they were then automatically presented with the survey to complete online. If subjects did not agree to the Informed Consent, they were directed to an internal Thank You page and participation terminated at that point.

Although it was unlikely, participants may have experienced emotional discomfort as a result of questions on the survey. If they did experience any emotional discomfort, they were instructed to contact the Emotional Distress Hotline. This is a national mental health hotline, available 24/7 for free, at 1-800-LIFENET.

During week two, a personal website was created that utilized a second link provided by SurveyMonkey for use on websites rather than social media sites (see Research Announcement, Appendix A). A link to the personal website was added to this student researcher's Facebook page immediately following its construction. No login information was asked of the website visitors. Once on the website, participants were presented with general information about anonymity of the survey collection and why they were being redirected from the website to the anonymous survey site when clicking on the web link provided by SurveyMonkey at the end of the website blog (see Appendix A, Web link; Appendix I). On the website's landing page, a separate, expedited button labeled 'Just take me to the survey already!' allowed an immediate redirect to the survey site, if participants so desired. Disqualified participants entering the personal website accessed two links: one from the social media site, closed membership site, or email, and one from within the personal website to the survey site, after which they were directed

to an internal Thank You page that explained the disqualification, with condolences for their recent loss. Qualified participants entering the personal website accessed two possible links: one from the origin of invitation, then the second from within the personal website to SurveyMonkey. When participation was concluded, an internal Thank You page was presented.

On the second day of the personal website's implementation (day nine, early morning), the personal website was inaccessible on this researcher's end, though it appeared functional on the Thesis Adviser's end. Posts were made on each of the accessible social media and private membership sites regarding the technology glitch, and the social media link provided by SurveyMonkey was supplied in another research announcement post to allow interested participants entry to the survey site directly. When the personal website appeared fully functional on this researcher's end (day nine, evening), social media and private membership sites were revisited and the research announcement reposted using the personal website link. Participants were again able to gain access to the survey site from within the personal website. The web link provided by SurveyMonkey was displayed as text within an internal blog and also embedded in a hyperlinked button on the personal website for expedited redirection to the survey site. Following student researcher-Thesis Adviser determination that sufficient numbers of participants and alternatives for enlistment appeared to have been exhausted, the SurveyMonkey collectors, both the social media link and web link, were disabled after only 15 days and the data analyzed.

After the data collectors were disabled, the personal website's expedited access (hyperlinked button) and web link (in text) to the SurveyMonkey site were disabled and deleted, respectively. Following this, the researcher revisited the accessible social media and private

membership sites to post announcement of the end of data collection for the study, which included appreciation for participation.

Data Management

The Informed Consent placed on SurveyMonkey, as well as information on the personal website's landing page, noted that names and other identifying information would not be collected in this study, but rather, that this study was totally anonymous and cannot ever be connected back to the individual participant. To ensure anonymity of the survey participants, in using SurveyMonkey, the researcher chose the feature that disabled collection of IP addresses; the personal website feature to disable identifiers was also selected. Here is the link in SurveyMonkey that provides information on how to turn off the function of IP address collection: https://help.surveymonkey.com/articles/en_US/kb/How-do-I-turn-off-the-IP-addresses-collection-on-the-responses. This information will be utilized when building the survey.

For this study, data from the survey were transferred from SurveyMonkey into an SPSS database for analysis. All the results were presented in aggregate form to protect subjects' identities. Data were accessible to the researcher only in the form of the SPSS database, maintained on an encrypted flash drive, kept in a locked file cabinet in the researcher's home, along with the 44 pages of handwritten field notes. The SPSS database used for data analysis was accessible only by using a strong password known to the researcher. The dataset contained no coded identifiers and, as such, was completely anonymous.

All electronic data was stored on an encrypted flash drive. No data was stored on any computer hard drive. Following completion of the research, the data set and related files will be

retained by the researcher for a minimum of five years in case questions arise about the analyses. After the five years, this data will be destroyed using then current Department of Defense data destruction standards. An affordable technique, such as encryption, will likely be chosen, pending technology at the time.

Statistical Analysis

Respondents' sociodemographic characteristics were presented in tabular format. Then, the various scales administered were scored using scoring criteria from the test manuals or rubrics described below. First, participants' assertion style—passive, assertive, or aggressive—were assessed using the RAS. Results of the RAS were used to categorize participants into one of the three assertion styles, forming three groups. This categorical variable was used as one of two fixed factors in the statistical analysis. Second, the degree to which respondents hold various conspiracy beliefs was assessed using the CBQ. A total score was derived from this instrument by summing the Likert-scale responses across all items. Scores were then used to categorize respondents into three groups—low, moderate, and high conspiracy beliefs. This categorical variable was used as the second of two fixed factors in the statistical analysis. Third, the psychological impacts or dependent variables assessed include: 1. proactive behaviors vs. negative engagement specifically related to conspiracy beliefs, measured via the WCS-1; 2. complicated grief, measured via the Level I. For each, a total mean score was derived to capture the three psychological impacts. Finally, the WCS-2 assessed perceived control and fear of retribution. For each, a mean score was derived to capture the construct. These two scores are the covariates in the analyses, as respondents' perceived control and fear of retribution was hypothesized to mediate their responses to, and psychological impacts, from conspiracy beliefs.

In addition, means and standard deviations of all scale scores were presented in tabular format, separated by respondents' assertion category.

The present study includes four hypotheses: 1. Persons with passive coping styles will demonstrate greater compliance with authority (that is, the least proactive behaviors and the greatest negative engagement), with greater complicated grief. 2. Persons with assertive coping styles will demonstrate moderate compliance with authority (that is, the most proactive behaviors and low negative engagement), with the least complicated grief. 3. Persons with aggressive coping styles will demonstrate low compliance with authority (that is, low negative engagement), but because their behaviors are aggressive, they will also be ineffective (that is, low proactive behaviors); and thus persons with aggressive coping styles will manifest high complicated grief due to the undesired outcomes of their behaviors. 4. For persons with all three coping styles, the confounding variables that challenge personal choice, that is, perceived loss of control and fear of retribution, will mediate compliance with authority via proactive behaviors, more negative engagement, and complicated grief. To explore these hypotheses, a MANCOVA was computed. The two fixed variables were the assertion and conspiracy belief category to which respondents belong. WCS-1 proactive behaviors and Level I grief scores were the dependent variables. WCS-2 perceived loss of control and fear of retribution were included in the equation as covariates. Because of the lower than desired sample size, Roy's Largest Root was used to determine the significance of the model effects, as Roy's Largest Root is a more liberal test of significance appropriate for smaller sample sizes (Garson, 2015). Through the MANCOVA, it was possible to answer the two research questions: 1. What are the psychological impacts of believing in conspiracy theories among persons with different assertion levels? 2. Do perceived

loss of control and fear of retribution limit proactive behavioral responses, leading to greater complicated grief?

Results

Using the planned and alternative online recruitment methods, 88 persons completed the questionnaires. Because it is not possible to know how many people viewed the research announcements, it is also not possible to calculate a response rate for this study. However, 83% of participants who began the 61-question survey continued to completion, to yield a total of 88 completed questionnaires.

Table 1 presents the socio-demographics of the study participants: age, gender, and education level. Among participants, 73.9% identified as female, 25.0% as male, and 1.1% as non-binary (neither male nor female). Education levels were self-reported as 1.1% for both non-high school graduates and associates degrees; 2.3% for high school graduates or GED certificates; 9.1% for some college attendance; 20.5% for Bachelor's degrees; 53.4% for Master's degrees; and 12.5% for doctoral degrees. The mean age of participants was 43 years old.

Table 2 presents baseline measures for participants' usual assertion level measured by the RAS and existing belief in conspiracy theories measured by the CBQ, which comprise the independent variables. Regarding assertion levels, 50.0% of the respondents self-reported an assertive coping style, 37.5% a passive coping style, and 12.5% an aggressive coping style. Regarding conspiracy beliefs, 32.1% of respondents self-reported low or few conspiracy beliefs, 36.9% moderate conspiracy beliefs, and 31.0% high, or many, conspiracy beliefs. Dependent variables in Table 2 include proactive behaviors (WCS-1) and complicated grief (Level I). The

mean number of proactive behaviors, out of a possible of 11 behaviors that could have been employed, was 4.6 (2.0). The mean total complicated grief score, with a maximum possible score of 50, was 19.9 (9.1). The covariates in Table 2 include perceived non-control and fear of retribution (WCS-2). The mean perceived non-control score, on a scale of 1-5, was 2.4 (0.9). The mean fear of retribution score, on a scale of 1-5, was 2.5 (0.7).

The use of Roy's Largest Root in the MANCOVA to rule out potential Type III errors resulted in high significance for content validity of the CBQ ($p = .014$) and the RAS assertion measure ($p = .069$) (Garson, 2015). Between-subjects effects measured separately via ANOVA were useful for predicting complicated grief ($p = .002$) in the presence of the WCS-2 hypothetical compliance scenarios used to measure perceived non-control

A MANCOVA was computed to explore the hypotheses of the study. The two fixed, predictor variables were the assertion and conspiracy beliefs category to which respondents belonged. WCS-2 perceived non-control and fear of retribution were included in the MANCOVA as covariates. WCS-1 proactive behaviors and Level I complicated grief scores were the dependent variables. The multivariate test of assertiveness closely approached significance; *Roy's Largest Root* = 0.077, $F(2,72) = 2.779$, $p = 0.07$ (Garson, 2015). The multivariate test of conspiracy beliefs category was highly statistically significant; *Roy's Largest Root* = 0.125, $F(2,72) = 4.514$, $p = 0.01$. The multivariate test of WCS-2 perceived non-control was highly statistically significant; *Roy's Largest Root* = 0.149, $F(2,71) = 5.289$, $p = 0.007$. Finally, the multivariate test of fear of retribution did not reach statistical significance; *Roy's Largest Root* = 0.033, $F(2,71) = 1.176$, $p = 0.31$. The significance of the multivariate tests permits a robust interpretation of the between-subjects effects, especially when using Roy's

Largest Root but most noteworthy for its generalization and contribution to the body of psychological knowledge (American Psychological Association, 2010).

In a between-subjects univariate ANOVA, perceived non-control significantly predicted the dependent variable of complicated grief; $F(1) = 10.500$, $p = 0.002$, with greater perceived non-control associated with more complicated grief. Underscoring this relationship, the Pearson correlation between the two variables was $r = 0.438$, $p < .001$. RAS assertion category also neared significance in predicting complicated grief; $F(2) = 2.700$, $p = 0.07$. The Pearson correlations between the three assertion coping styles and complicated grief revealed that the association was due to a strong positive relationship between a passive coping style and complicated grief, $r = 0.442$, $p < .001$. The remaining coping styles were not significantly correlated with complicated grief: assertive style, $r = -0.043$, $p = .70$; aggressive style, $r = 0.111$, $p = .32$. The overall model to predict complicated grief, including both independent variables and covariates, was highly significant; $F(10) = 3.237$, $p = 0.002$, $R^2 = .31$. In the between-subjects univariate ANOVA, RAS assertion category was not significantly related to proactive behaviors; $F(2) = 0.479$, $p = 0.622$. The three-division level of conspiracy beliefs measured by the CBQ appeared close in distribution (low: 32.1; moderate: 36.9; high: 31.0). Statistically, the Pearson correlations between the three assertion styles and proactive behavior did not reach significance: passive, $r = -0.136$, $p = .21$; assertive, $r = -0.022$, $p = .836$; aggressive, $r = 0.128$, $p = .235$.

In the between-subjects univariate ANOVA, conspiracy beliefs category neared significance in predicting proactive behaviors; $F(2) = 2.791$, $p = 0.07$. The Pearson correlation between these two variables was statistically significant, $r = 0.231$, $p = .03$. However, the overall

model to predict proactive behaviors was not statistically significant; $F(10) = 1.396$, $p = 0.20$, $R^2 = .16$.

Discussion

Four hypotheses were offered for the present study. First, it was hypothesized that persons with passive coping styles would demonstrate greater complicated grief and greater compliance with authority (that is, the least proactive behaviors and the greatest negative engagement). RAS assertion category neared significance in predicting complicated grief. The Pearson correlations between the three assertion coping styles and complicated grief revealed that this association, as predicted in the first hypothesis, was due to a strong positive relationship between a passive assertion style and complicated grief, $r = 0.442$, $p < .001$. In fact, the remaining assertion styles were not significantly correlated with complicated grief: assertive style, $r = -0.043$, $p = .70$; aggressive style, $r = 0.111$, $p = .32$. Therefore, it is clear that persons with passive coping styles had significantly greater complicated grief than those with other coping styles, as predicted in the first hypothesis. In the between-subjects univariate ANOVA, RAS assertion category was not significantly related to proactive behaviors. Likewise, the Pearson correlations between the three assertion styles and proactive behavior also did not reach significance. Therefore, the second part of Hypothesis 1 was not confirmed.

Second, it was hypothesized that persons with assertive coping styles would demonstrate moderate compliance with authority (that is, the somewhat more proactive behaviors and low negative engagement), with the least complicated grief. In the between-subjects univariate ANOVA, RAS assertion category was not significantly related to proactive behaviors. The Pearson correlation between assertion coping styles and proactive behaviors, although not

statistically significant, was higher among assertive persons than those with passive styles, as predicted, but were surprisingly lower than persons with aggressive styles, thus placing assertiveness in the middle of proactivity rather than at the top: passive, $r = -0.136$, $p = .21$; assertive, $r = -0.022$, $p = .836$; aggressive, $r = 0.128$, $p = .235$. RAS assertion category neared significance in predicting complicated grief. The Pearson correlations between the three assertion coping styles and complicated grief revealed that persons with the assertive coping style, as predicted, evidenced the least complicated grief: passive, $r = 0.442$, $p < .001$; assertive style, $r = -0.043$, $p = .70$; aggressive style, $r = 0.111$, $p = .32$. These findings, taken together, suggest that the second hypothesis was confirmed, although a larger sample size would be needed to replicate these findings and improve the statistical significance in the analyses related to proactive behaviors.

Third, it was hypothesized that persons with aggressive coping styles would demonstrate low compliance with authority (that is, high negative engagement and low proactive behaviors); but because their behaviors are aggressive they are also ineffective, and thus persons with aggressive coping styles would manifest high complicated grief due to the potentially undesired outcomes of their behaviors. In the between-subjects univariate ANOVA, RAS assertion category was not significantly related to proactive behaviors. The Pearson correlations between the three assertion styles and proactive behavior also did not reach significance: passive, $r = -0.136$, $p = .21$; assertive, $r = -0.022$, $p = .836$; aggressive, $r = 0.128$, $p = .235$. Therefore, contrary to the third hypothesis, persons with aggressive coping styles demonstrated the greatest proactive behaviors based on the Pearson correlations, although not statistically significant. RAS assertion category neared significance in predicting complicated grief. However, the Pearson

correlation between the aggressive coping style and complicated grief did not reach statistical significance; $r = 0.111$, $p = .32$. It would seem, then, that the second part of this hypothesis was also not substantiated by the data. It is difficult, however, to draw any firm conclusions from these non-significant findings, particularly because the number of persons in the sample with the aggressive coping style was smallest: $n = 11$. In short, it is not possible to confirm or disconfirm the third hypothesis due to this limitation in sample size.

Fourth, for all three coping styles, the confounding variables that challenge personal choice, that is, fear of retribution and perceived non-control, were hypothesized to mediate compliance with authority in the form of proactive behaviors. In the between-subjects univariate ANOVA, RAS assertion category was not significantly related to proactive behaviors. Likewise, the Pearson correlations between the three assertion styles and proactive behavior did not reach significance: passive, $r = -0.136$, $p = .21$; assertive, $r = -0.022$, $p = .836$; aggressive, $r = 0.128$, $p = .235$. Since the overall relationship between assertion styles and proactive behaviors was not statistically significant, one would not further consider the concept of mediation. Therefore, the fourth hypothesis does not appear to be confirmed.

The present study also included two research questions. The first research question was: What are the psychological impacts of believing in conspiracy theories among persons with different assertion levels? Eleven conspiracy theories were presented within the CBQ. Since belief in one, several, or many of the conspiracies presented was not found to correlate to assertion style, speculation would be inaccurate. However, the mediating variable for greater complicated grief among those with the passive coping style was significantly correlated to greater perceived loss of control over the outcome of existential threat(s), as measured by feared

retribution from non-compliance to authority. Persons with passive styles were found to express greater complicated grief than those with assertive coping styles, whereas results for persons with aggressive styles were inconclusive. Persons who self-reported assertive coping styles were found to have the least complicated grief. Persons with a self-reported assertive coping style were also found to engage more actively than passive persons to manage existing threat to themselves and loved ones, with the least reported complicated grief. Thus, greater feelings of personal empowerment appear to mitigate the onset of complicated grief. Finally, persons whose self-reported coping style was aggressive were found to engage even more proactively than those with assertive coping styles within the context of existential threat, but with inconclusive results for the presence of complicated grief. The small sample size of 11 persons with self-reported aggressive styles may account for the statistical non-significance, presenting a need for replication in future research with a greater sample size.

The second research question was: Do perceived loss of control and fear of retribution limit proactive behavioral responses, leading to greater complicated grief? Nine hypothetical scenarios were presented in the WCS-2 to measure the potential mitigation effect of perceived non-control and fear of retribution on complicated grief. The data suggested that only perceived loss of control and assertion level mediated the expression of complicated grief. Fear of retribution due to non-compliance was not found to significantly contribute to feelings of complicated grief or significantly affect proactive choices. These findings suggest that feelings of control over perceived existential threats may be dependent primarily on one's usual, frequently-exercised response style, which appears to remain static; that is, in the hypothetical existential threat or retribution for non-compliance scenarios (WCS-2), participants were found

to respond as measured by the RAS, which captures their usual or typical coping style. Therefore, a passive person would be expected to remain at the same level of engagement both prior to and following an existential threat, yet express greater complicated grief in proportion to the perceived heightened existential threat, which supports the findings of Bellini et al. (2018). Assertive persons would likely continue to engage proactively to mitigate harm to themselves and loved ones, with potentially increased proactive behaviors as warranted by the perceived threat, yet may engage in self-directed proactive behaviors that provide the most safety for themselves and those in their care. Proactive behaviors may be attributed to inculcated cultural, familial, or other beliefs rather than proactivity in response to conspiracy beliefs or assertion style alone, per WCS-1 data. Put differently, the uneven distribution of assertion styles (assertive: 50.0%; passive: 37.5%; aggressive: 12.5%), with near-equal distribution of conspiracy beliefs, makes it difficult to determine respondents' distinct rationales for proactive behavior choices. Finally, complicated grief will likely remain absent or inconclusive for aggressive persons because fear of retribution and perceived non-control may be experienced less frequently. Persistent exercise of personal autonomy, absent of concern for consequences to oneself or others, has been supported in the literature (Gagnon & Rochat, 2017). Accordingly, complicated grief may be essentially non-existent for this group--which was supported by the results of the present study. Yet the group's small sample size requires further investigation to determine more conclusively if complicated grief may be present or not among those with aggressive styles.

Among participants, 73.9% identified as female, 25.0% as male, and 1.1% as non-binary (neither male nor female). This gender skew toward women was to be expected, because Smith

(2008) concluded that women are more likely to begin and complete online surveys than men. Nevertheless, the results of the present study should be understood as primarily applicable to women rather than to men because this study included only 22 male participants. Future researchers would do well to recruit more male participants to determine whether or not gender affects the psychological impacts of conspiracy beliefs.

Education levels were self-reported as 1.1% for both non-high school graduates and Associates degrees; 2.3% for high school graduates or GED certificates; 9.1% for some college attendance; 20.5% for Bachelor's degrees; 53.4% for Master's degrees; and 12.5% for doctoral degrees. Thus, overall 86.4% of the participants had a college education or greater. This appears to corroborate several findings related to autonomy, logic, and science-based preference among those within academia (de Almeida Santos & Soares, 2018; Galliford & Furnham, 2017; Lamberty & Imhoff, 2018). Additionally, the frequently-exercised accessibility to knowledge among this population may account for heightened personal awareness and preference for alternative action themselves (Berger & Luckmann, 1967), which Lieder et al. (2018) suggested is a rational reaction. Finally, because the 61-question inquiry was salient enough to pique and retain interest to completion, it could be inferred that this population found the subject matter within the present study of particular importance. Furthermore, the anonymity provided may have been a welcomed respite from the potential pressures experienced from political correctness (Bloom, 2017). The education disparity among the participants may not have affected the outcome; it is difficult to know. It may refute the negative emotional and cognitive assumptions made about those who believe in the conspiracies addressed (Morrison, 2010; Vulpe & Stoian, 2018).

Qualified participants below the graduate and doctoral levels may represent the largest population of passive persons (Bachelor's, 20.5%; some college, 9.1%; high school or GED, 2.3%; non-high school and Associates, 1.1%; 33.0%), whose perceived loss of control over existential threat may have been the greatest (de Almeida Santos & Soares, 2018; Galliford & Furnham, 2017; Lamberty & Imhoff, 2018). Perceived loss of control was strongly correlated with complicated grief, which substantiates the findings of Van Prooijen and Acker (2015). The passive group would be least likely to share the survey opportunity with family and friends, especially due to its controversial content. Although the mean age of participants was 43, participants of this age at the Master's and doctoral levels would likely have honed strategies to overcome obstacles to academic success by this point (de Almeida Santos & Soares, 2018). Also, this group may have access to a larger network of individuals to share the survey invitation with, beyond immediate family and friends. An extended network invitation may increase the probability of more like-minded participants than obligatory invitations to extended family, again due to the controversial topics in the survey. This study found that one's usual response style tends to remain static, without much deviation even in the face of an existential threat. Finally, the data do not support the assertion of Galliford and Furnham (2017) regarding participants' non-discriminatory belief in most, or all other, competing conspiracies based on the belief in one or two; data show self-directed discrimination in conspiracy beliefs among participants' assertion style, revealed as low (32.1%), moderate (36.9%), and high (31.0%).

Limitations

This research involves several limitations. First, the sample size, $N = 88$, was relatively small given the number of variables in the MANCOVA. A larger sample would have made it

possible to detect moderate and small effect sizes rather than solely large effect sizes. Future researchers would therefore do well to recruit a larger sample. Second, although some of the instruments used have established reliability and validity, others, such as the Level I, are pilot instruments. Future researchers may have the resources to purchase reliable and valid measures to replace those used that lacked reliability and validity data. In addition, the Conspiracy Beliefs Questionnaire was developed specifically for this study and thus lacks validity and reliability information. Additional psychometric work is needed to demonstrate the reliability and validity of this questionnaire. Third, the beliefs and behaviors analyzed in the present study were based entirely on participants' self-reports, rather than obtained from direct observation or actual behavior samples, such as their records of alternative medical interventions or participation data for conspiracy-related websites. Self-reporting has known limitations and may be especially problematic for a study such as the present investigation, since some of the beliefs and behaviors asked about were sensitive in nature and may have led some participants to conceal their actual beliefs or behaviors.

Fourth, it is possible that the subjects in the present study were functioning better than a normative group of Americans, in that those functioning less well might not have been online to see the research announcement or, if they did see it, might not have had the energy, desire, or motivation to complete the survey. Therefore, in future research, investigators would do well to recruit Americans from various venues, rather than merely from social media. Fifth, most of the participants in the present study were women, with the sample containing only 22 men. Therefore, the results largely represent the experiences of adult women in the U.S. Future researchers could make efforts to recruit a larger sample of men to determine whether or not

gender is a significant covariate affecting the psychological impacts of conspiracy beliefs. Sixth, the present sample, on average, was much more highly educated than Americans in general. Thus, future researchers should make efforts to recruit participants with varying education levels to examine whether or not education level mediates the psychological impacts of conspiracy beliefs.

Conclusion

The present study included two research questions. The first research question was: What are the psychological impacts of believing in conspiracy theories among persons with different assertion levels? Among those with passive coping styles, greater complicated grief was significantly correlated with greater perceived loss of control over the outcome of conspiracy-related existential threats. In contrast, persons with assertive coping styles engaged more proactively than passive persons to manage threats and reported the least complicated grief. Thus, greater feelings of personal empowerment in the form of greater assertiveness appear to mitigate the onset of complicated grief among those who hold conspiracy beliefs. The second research question was: Do perceived loss of control and fear of retribution limit proactive behavioral responses, leading to greater complicated grief? The data indicated that perceived loss of control mediated the expression of complicated grief, whereas fear of retribution due to non-compliance with authority did not significantly contribute to complicated grief or affect proactive choices. The findings suggested that feelings of control over perceived existential threats may primarily depend on one's usual, frequently-exercised response style, which appears to remain static in the face of conspiracy-related existential threats: passive persons feel a loss of control and fail to engage in proactive behaviors to change their situation and assertive persons

feel a greater sense of control and engage in more proactive behaviors. Because only 11 persons in the sample self-reported an aggressive coping style, findings for this group were inconclusive; future research should include more persons with aggressive styles to better understand their psychological reactions to conspiracy beliefs.

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Appendix A

Research Announcement

Social media link

Hello! My name is Lori George. I am a Masters degree student at Purdue University Global and am interested in your opinions about government authority, honesty, and possible secrets hidden from the public, along with how these issues may be affecting you personally. The study is anonymous, so no one will know who you are. The survey should take about 5 minutes of your time to complete. Please click here to take part: www.surveymonkey.com/r/73P6THL.

Web link

Hello! My name is Lori George. I am a Masters degree student at Purdue University Global and am interested in your opinions about government authority, honesty, and possible secrets hidden from the public, along with how these issues may be affecting you personally. The study is anonymous, so no one will know who you are. The survey should take about 5 minutes of your time to complete. Please click here to take part: www.surveymonkey.com/r/Q689MRH.

Modified Research Announcement (Week 2)

Psychology Student Research for Current Events - 500 Americans aged 18-64 years needed!
Visit website for redirect to anonymous survey site: https://psychsocsis.wixsite.com/psychsocsis

Appendix B

Purdue University Global
Consent for Participation in Research
"*The Psychological Consequences of Conspiracy Beliefs*"

CONCISE SUMMARY

The revised Common Rule requires that consent forms contain a concise presentation of key information. The intention of this section is to provide potential research participants with a better understanding of the project's scope, including major risks and benefits, so they can make a more fully informed decision about whether to participate.

The purpose of this research is to understand how American adults feel about authority, government honesty, possible secrets hidden from the public, and how these affect citizens' daily choices. Participation in the study should take between 5-10 minutes. The major requirement is your honesty, and the benefit to participation is knowledge that you are helping psychologists to better assist people. The only potential risk of participation may be feelings associated with your own previous experiences within the anonymous survey questions. The information presented in this section may be discussed in greater detail later in the consent form.

Why am I being asked?

You are being asked to be a participant in a research study about how belief in hidden information is handled by the American public and how it affects them. This research study is being conducted by Lori George, a Master's of Science in Psychology student at Purdue University Global. You have been asked to participate in the research because you are an American adult between the ages of 18 and 64 years-old and may be eligible to participate. We ask that you read this form and ask any questions you may have before agreeing to be in the research.

Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with Purdue University Global, Facebook, or SurveyMonkey. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

What is the purpose of this research?

The purpose of this research is to understand how American adults feel about authority, honesty, and possible secrets hidden from the public and how it affects their lives.

What procedures are involved?

If you agree to be in this research, we would ask you to do the following things:

- Be as honest as possible. Since the study is anonymous, you should have no fear of expressing how you really feel.
- Share the study link with your family and friends if they are ages 18-64.

Approximately 500 participants may be involved in this research at Purdue University Global.

What are the potential risks and discomforts?

This study has been designed to involve minimal risks. However, some of the questions may remind you of situations in the world that make you uncomfortable. If this should occur, you may contact the Emotional Distress Hotline, a national mental health hotline, free of charge 24 hours a day/7 days a week at 1-800-543-3638 (1-800-LIFENET).

Are there benefits to taking part in the research?

The benefit to current scientific knowledge cannot be underestimated, especially when participants answer questions honestly. The benefit to you is knowing that you helped advance professional knowledge that will help others like yourself. Also, by reflecting on the questions in the survey, you may discover some things about yourself and how government secrecy is affecting you or your loved ones personally.

What about privacy and confidentiality?

No one will know that you are a research subject because this research is totally anonymous. No information about you, or provided by you during the research, can ever be disclosed to others because no information that can possibly identify you as an individual will be collected. When the results of the research are published or discussed in conferences, no information will be included that could ever reveal your identity.

Will I be reimbursed for any of my expenses or paid for my participation in this research?

At this time, no reimbursement is available for participation in this research.

Can I withdraw from the study?

You can choose whether to be in this study or not. If you volunteer to be in this study, you may withdraw at any time without consequences of any kind. You may also refuse to answer any questions you don't want to answer and still remain in the study.

Whom should I contact if I have questions?

The researcher conducting this study is Lori George. You may ask any questions you have now. If you have questions later, you may contact the researcher at: (940) 730-3522. You may also contact the researcher's thesis adviser, Dr. Edward Cumella PhD, at ecumella@purdueglobal.edu.

What are my rights as a research subject?

If you feel you have not been treated according to the descriptions in this form, or you have any questions about your rights as a research subject, you may contact the Institutional Review Board (IRB) at Purdue University Global through the following representative:

Susan Pettine, IRB Chair
Email: spettine@purdueglobal.edu

Remember: Your participation in this research is voluntary. Your decision whether or not to participate will not affect your current or future relations with Purdue University Global, Facebook, or SurveyMonkey. If you decide to participate, you are free to withdraw at any time without affecting those relationships.

Thank you once again for your interest and help with this important study.

You may print a copy of this form for your information and your records.

Appendix C

Rathus Assertiveness Schedule (1973, p. 399-400)

Please indicate the degree to which the following statements are true for you.	I do not agree		I agree somewhat		I agree strongly
I have hesitated to make or accept dates because of "shyness"*	0	1	2	3	4
I am careful to avoid hurting other people's feelings, even when I feel that I have been injured*	0	1	2	3	4
If a salesman has gone to considerable trouble to show me merchandise which is not quite suitable, I have a difficult time in saying "No."*	0	1	2	3	4
There are times when I look for a good, vigorous argument.#	0	1	2	3	4
I enjoy starting conversations with new acquaintances and strangers.+	0	1	2	3	4
I will hesitate to make phone calls to business establishments and institutions.*	0	1	2	3	4
I find it embarrassing to return merchandise.*	0	1	2	3	4
If a close and respected relative were annoying me, I would smother my feelings rather than express my annoyance.*	0	1	2	3	4
I have avoided asking questions for fear of sounding stupid.*	0	1	2	3	4
If a famed and respected lecturer makes a statement which I think is incorrect, I will have the audience hear my point of view as well.#	0	1	2	3	4
I tend to bottle up my emotions rather than make a scene.*	0	1	2	3	4
If a couple near me in a theater or at a lecture were conversing rather loudly, I would ask them to be quiet or to take their conversation elsewhere.+	0	1	2	3	4
Anyone attempting to push ahead of me in a line is in for a good battle.#	0	1	2	3	4

***Legend**: * = passive; + = assertive; # = aggressive*

Appendix D

Conspiracy Belief Questionnaire

Age (slider)

Gender: M, F, Non-Binary, Other

Education Level: <HS, HS/GED, some college, bachelor's, masters, and doctorate

To what extent do you believe in each of the following conspiracies?	I do not believe at all		I agree somewhat		I believe strongly
1. Vaccinations cause harm to infants and children	1	2	3	4	5
2. To maintain their profits, Big Pharma does not really want to cure illnesses and may even create or worsen illnesses	1	2	3	4	5
3. Chemically-treated foods (e.g., pesticides, herbicides) cause illness and death	1	2	3	4	5
4. GMO (genetically modified) foods cause illnesses	1	2	3	4	5
5. The media is deceptive and causes confusion	1	2	3	4	5
6. The media promotes ridicule of alternative ways of thinking	1	2	3	4	5
7. Political correctness silences and penalizes free speech	1	2	3	4	5
8. The government funds experiments on the unaware public	1	2	3	4	5
9. Chemtrails contain lethal poisons	1	2	3	4	5
10. Public school enrollment supports the vaccination agenda	1	2	3	4	5
11. Homeschooling is discouraged to promote public ignorance	1	2	3	4	5

Appendix E

Level I Cross-Cutting Symptom Measure - Adult
Subscale: domains I, II, IV, V, VIII, & XI (*DSM-5*, 2013, p. 738-739)

During the past 2 weeks, indicate how often the following problems have bothered you.	Not at all (None)	Less than a day or two	Several days each week	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	1	2	3	4	5
2. Feeling down, depressed, or hopeless	1	2	3	4	5
3. Feeling more irritated, grouchy, or angry than usual	1	2	3	4	5
4. Feeling nervous, anxious, frightened, worried, or on edge	1	2	3	4	5
5. Feeling panic or being frightened	1	2	3	4	5
6. Avoiding situations that make me anxious	1	2	3	4	5
7. Unexplained aches and pains (e.g., head, back, joints, abdomen, legs)	1	2	3	4	5
8. Feeling that my illnesses are not being taken seriously enough	1	2	3	4	5
9. Problems with sleep that affect my sleep quality over all	1	2	3	4	5
10. Feeling detached or distant from myself, my body, my physical surroundings, or my memories	1	2	3	4	5

Appendix F

Ways of Coping
(Subscale 1: strategies 3, 4, 6, 9)

Please indicate the number of times you have engaged in the following behaviors in the past year (or other time period mentioned).	Number of times in the past year				
Made use of medical alternative services[4]	0	1	2	3	4+
Used home remedies[4]	0	1	2	3	4+
Vaccinated my children or dependent grandchildren[9]	0	1	2	3	4+
Received seasonal flu shots[9]	0	1	2	3	4+
Reviewed USDA food safety alerts in news or official USDA website[3]	0	1	2	3	4+
Planted or maintained a home vegetable garden[4]	0	1	2	3	4+
Purchased vegetables from a local farmers market[4]	0	1	2	3	4+
Read food labels prior to purchase[3]	0	1	2	3	4+
Reconsidered childbearing at this time (**select 0 if not applicable**)[6]	0	1	2	3	4+
Cut down the number of outdoor family activities[6]	0	1	2	3	4+
Homeschooled my child(ren) or dependent grandchild(ren) *for at least 1 month in the past 3 years*[6] (**select 0 if not applicable**)	0	1	2	3	4+

Appendix G

Ways of Coping
(Subscale 2: strategies 1, 5, 9)

Please indicate the degree to which the following statements are true for you.	I do not agree		I agree somewhat		I agree strongly
Friends, family, and co-workers support my beliefs	1	2	3	4	5
I have lost friends, family, and co-workers due to my beliefs	1	2	3	4	5
I prefer to be alone and don't interact with family, friends, or co-workers	1	2	3	4	5
I'm not ashamed of my beliefs, and those who disagree with me get an earful even if it costs me a relationship	1	2	3	4	5
I keep my beliefs to myself because friends, family, and co-workers ridicule me for them	1	2	3	4	5
I avoid topics that may cause embarrassment to me or my family members	1	2	3	4	5
Threat of fines or imprisonment for non-compliance with authority won't keep me silent about my beliefs, and if it might affect my family, I would leave to protect them	1	2	3	4	5
I can't afford to pay fines for non-compliance with authority, so compliance is my only option	1	2	3	4	5
If my family would suffer financially or socially because of my non-compliance to authority, I would choose compliance	1	2	3	4	5

Appendix H

Tables

Table 1

Respondents' Sociodemographic Characteristics (N=88)

Measure	All Subjects
Age	43.2 (12.5)
Gender	
Female	73.9%
Male	25.0%
Non-binary	1.1%
Education Level	
Less than high school	1.1%
High school completion or GED	2.3%
Some college	9.1%
Associates degree	1.1%
Bachelor's degree	20.5%
Master's degree	53.4%
Doctoral degree	12.5%

Table 2

Respondents' Assessment Scores (N=88)

Measure	All Subjects
Rathus Assertiveness Scale	
Assertive	50.0%
Passive	37.5%
Aggressive	12.5%
Conspiracy Beliefs Questionnaire	
Low conspiracy beliefs	32.1%
Moderate conspiracy beliefs	36.9%
High conspiracy beliefs	31.0%
Proactive Behaviors (sum, 0-11 possible)	4.6 (2.0) RANGE: 0 - 8
Complicated Grief (sum, 10-50 possible)	19.9 (9.1) RANGE: 10 - 46
Perceived Non-Control (mean, 1-5 possible)	2.4 (0.9) RANGE: 1 - 4.7
Fear of Retribution (mean, 1-5 possible)	2.5 (0.7) RANGE: 1 - 4.7

Appendix I

PsychSocSis - Student Research
(Personal Website Text/Web link)

Out with the old, in with the new

Anonymous student research surveys provide those who wish to participate an outlet to say what they might not say when in the company of others. To ensure fairness of data within research and the conclusions drawn, participation invitations must be extended to all parties with a vested interest. This means inviting participants who disagree, sometimes strongly, with our own personal beliefs.

When individuals refuse to allow those who disagree with them the opportunity to voice their opinions, this is called censorship due to bias. For research to be fair and ethical, it is necessary to overcome personal bias and allow the 'other side' to speak. Anonymous surveys do just that with the use of **features that collect no information regarding where participants entered the survey from, no collection of personal email address, and no social media pathway information**. This researcher will never know who you are or what your personal opinion was.

This website requires no login information to ensure that your visit is unknown to me, the student researcher. My only goal is to help you reach the anonymous survey site without censorship roadblocks. **Once there, the only required information will be your age range, gender alignment, and level of education**. This information set is called 'demographics' and is necessary for most any research study. It tells researchers the least information necessary without identification of participants specifically.

Since everybody wishes to contribute in one way or another to current events that affect them, anonymous surveys allow them to do this honestly without fear of judgment **What the research is about appears prior to your agreement with participation**.

To take part, simply click on the link below **The research is for American adults between the ages of 18-64**. Once the demographic information is provided, you may exit the survey at any time. Do allow more than the estimated 5 minutes to take the survey if you read more slowly than most. Take your time and answer honestly. The survey may only be taken once per person to prevent overrepresentation of any one opinion.

Thank you for supporting student research efforts! Today's student researchers become tomorrow's professional voice for change. Here's the link to the survey:
https://www.surveymonkey.com/r/Q689MRH