UNDERSTANDING CONSPIRACY BELIEFS IN THE CONTEXT OF THE COVID-19 PANDEMIC: A QUALITATIVE STUDY

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ABSTRACT

Conspiracy theories – explanations of significant events as the secret malicious plot of a powerful group – have become a prevalent part of our cultural dialogue particularly during the COVID-19 pandemic. Social events that bring about uncertainty have been linked to endorsement of conspiracy theories. The pandemic, as a significant social crisis, provided a natural experiment to investigate the role of social stressors in the development of conspiracy theories. The current study draws on theoretical models such as the Adaptive Conspiracism Hypothesis, Social Identity Theory, and the Existential Threat Model of Conspiracy Theories. These models suggest that conspiracy beliefs may arise from evolved cognitive mechanisms for threat detection and attempts to make sense of uncertainty during social crises, interplayed with processes of group psychology. Based on these models and theoretical frameworks, we set out to explore whether social threat was experienced by individuals who endorsed COVID-19 conspiracy theories. The study employs a qualitative approach not often found in the literature, using serial in-depth semi-structured interviews to gain a nuanced understanding of participants' complex thoughts and beliefs. Our findings suggest that participants, due to a mistrustful worldview, were predisposed to higher sensitivity for detecting social threat and experienced pandemic events as threats to their autonomy. In this model, a threatened autonomy acted as an existential threat triggering sense-making processes that included a higher sensitivity to attributing malice intention to institutions. This led to endorsement of conspiracy theories, reinforcing a mistrustful worldview. The qualitative method allowed for an exploration of the subjective meanings people assign to their beliefs. These findings deepen the theoretical understanding of conspiracy beliefs and carry important implications for addressing public health non-compliance and vaccine hesitancy in future crises.

Abstract

Les théories du complot, qui consistent à expliquer des événements importants par le complot secret et malveillant d'un groupe puissant, sont devenues un élément prépondérant de notre dialogue culturel, en particulier pendant la pandémie de COVID-19. Les événements sociaux qui suscitent l'incertitude ont été liés à l'adhésion aux théories du complot. La pandémie, en tant que crise sociale importante, a fourni une expérience naturelle pour étudier le rôle des facteurs de stress social dans le développement des théories du complot. La présente étude s'appuie sur des modèles théoriques tels que l'hypothèse du conspirationnisme adaptatif, la théorie de l'identité sociale et le modèle de menace existentielle des théories du complot. Ces modèles suggèrent que les croyances conspirationnistes peuvent résulter de mécanismes cognitifs évolués de détection des menaces et de tentatives de donner un sens à l'incertitude pendant les crises sociales, en interaction avec des processus de psychologie de groupe. Sur la base de ces modèles et cadres théoriques, nous avons cherché à déterminer si les personnes qui adhèrent aux théories du complot COVID-19 ressentent une menace sociale. L'étude utilise une approche qualitative peu fréquente dans la littérature, en recourant à des entretiens semi-structurés approfondis en série afin d'obtenir une compréhension nuancée des pensées et des croyances complexes des participants. Nos résultats suggèrent que les participants, en raison d'une vision du monde méfiante, étaient prédisposés à une plus grande sensibilité à la menace sociale et vivaient les événements pandémiques comme des menaces pour leur autonomie. Dans ce modèle, une autonomie menacée agit comme une menace existentielle qui déclenche des processus de construction de sens, notamment une plus grande sensibilité à l'attribution d'intentions malveillantes aux institutions. Cela a conduit à l'adhésion aux théories du complot, renforçant ainsi une vision du monde basée sur la méfiance. La méthode qualitative a permis d'explorer les significations subjectives que les gens attribuent à leurs croyances. Ces résultats approfondissent la compréhension théorique des croyances conspirationnistes et ont d'importantes implications pour la lutte contre le non-respect des règles de santé publique et l'hésitation à se faire vacciner lors de crises futures.

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CONTRIBUTION OF AUTHOR

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1. INTRODUCTION

From claims about moon landing to government mind control and secret satanic cults, conspiracy theories have been a pervasive feature of contemporary culture. While no universally accepted definition of conspiracy theories exists, they are typically characterized as explanations of significant events as the secret and malicious plots of powerful groups (Abalakina-Paap et al., 1999; Douglas et al., 2019; Sutton & Douglas, 2014; Uscinski & Enders, 2023).

Conspiracy theories can be found in many domains of contemporary culture. With the rapid spread of information in the digital age, they have become particularly salient. During the recent COVID pandemic, these theories were salient in public discourse concerning the origin of the virus, the events of the pandemic, and the contents vaccines (Douglas, 2021). Further, there is evidence they exerted a significant effect on compliance with public health advisories, notably vaccination (Bertin et al., 2020; Milošević Đorđević et al., 2021; Nefes et al., 2023; Pavela Banai et al., 2022; Romer & Jamieson, 2020). These effects of conspiracy theories also extend to diminished overall well-being and worsened economic situations (Van Prooijen et al., 2023).

Although the prevalence of conspiracy theories is relatively stable over time (J. Uscinski et al., 2022), they appear to become more common in periods of increased anxiety brought about by social events (van Prooijen, 2020). Social crises like the pandemic create fertile ground for their spread, and this has led some authors to propose a link between conspiracy theories and social life. One hypothesis is stressful social events lead individuals to rely on conspiracy theories to make sense of the event (Van Prooijen & Douglas, 2017). It has been further suggested that social sense-making processes are built into our cognitive evolutionary history as social beings who are sensitive to coalitional threat (van Prooijen & van Vugt, 2018). The pandemic, as a significant

social crisis, provided a natural experiment to investigate a possible role for social stressors in the development of conspiracy theories. The objective of the present project is to carry out this investigation.

A secondary goal of this thesis is methodological. The conspiracy theory literature has tended to rely on quantitative studies using standard survey methods to explore conspiracy theories. While these have proved enormously valuable, methods of this kind are known to obscure some of the nuances of participants' beliefs and the interplay between experiences, emotions, values, and other beliefs. The handful of studies that employ qualitative methods demonstrate the potential value of exploring motivations and beliefs in greater depth. (Franks et al., 2017; Harambam & Aupers, 2017; Raab et al., 2013). As a complement to traditional methods, therefore, the present project relied on a series of interviews to explore the motivations behind participants' beliefs, as well as their lived experience of the pandemic. Drawing on research that highlights the role of sense-making processes, social threat, and sensitivity to coalitional threats during crises, this project seeks to understand how these factors contribute to endorsement of conspiracy theories. By taking a more holistic approach to understanding these beliefs from the perspective of those who hold them, we aim to uncover the complex interplay of the mental states that lead to, or are intertwined with, conspiracy theories. Our findings suggest that studying conspiracy theories qualitatively in the context of a social crisis like the pandemic can offer insight into where these beliefs come from, and how these beliefs influence behavior in times of uncertainty and affect public health and public policy.

2. LITERATURE REVIEW

a. Understanding Conspiracy Theories

Most definitions of conspiracy theories share some common features: (1) *secrecy*: the 'real' explanation of an event—different from the widely accepted explanation—is kept hidden from the public and discredited when brought to light; (2) *a powerful group:* responsible for the event and has the power not only to carry out their plans but carry them out secretly; and (3) *malicious intent:* the event is carried out for the benefit of the this powerful group rather than the interest of the public. Typically, the goals of the group are nefarious in nature in that it is are being carried out for the benefit of the minority at the expense of the majority.

Attempts to understand why people believe in conspiracy theories have examined them through the lens of various fields such as sociology, psychology, anthropology, and political science. This project takes a largely psychological approach.

i. General Observations

Research into the psychology of conspiracy beliefs is relatively new, with a focus on personality measures, cognitive factors, and sociopsychological factors that link to these beliefs. One of the most commonly reported correlate of belief in a conspiracy theory is belief in another one (van Prooijen & Douglas, 2018), lending support to the idea of a "monological belief system" first proposed by Goertzel (1994). According to this proposal, conspiracy theories become part of a closed epistemology where each belief acts as a reinforcer of a new one. Belief in the context of conspiracy theories may be reflective of a "higher order interpretation" in which what is believed is that there is some secret event orchestrated by a powerful group. This could explain why

individuals can endorse contradictory conspiracy theories simultaneously. Indeed, this interpretation is sometimes revealed when people who hold these beliefs are given the opportunity to discuss their beliefs at length (Lukić et al., 2019).

Douglas and colleagues (2017) have proposed that individuals who hold conspiracy theories are motivated in an attempt to endorse these beliefs as a way of fulfilling existential, epistemic, or social needs. The epistemic need refers to a desire to reduce uncertainty and seek out a more predictable environment. The existential needs include the motivation to feel safe, secure, and in control. For example, conspiracy beliefs seem to be positively associated with feelings of powerlessness (Abalakina-Paap et al., 1999). Compensatory Control Theory (Landau et al., 2015) posits that when individuals are faced with a reduced sense of control, they will seek to regain the control through other means. Conspiracy theories may represent one such mechanism of regaining control, as will be discussed below. Finally, the social need refers to the idea that that conspiracy beliefs are motivated by the desire for a positive self-image and image of one's group. Although the literature proposes these motivations, such beliefs appear to be unsuccessful at satisfying these needs.

ii. Personality

Research into personality factors linked to conspiracy beliefs reveal correlations with "Big Five" measures of personality, which includes extraversion, agreeableness, neuroticism, conscientiousness, and openness to experience (McCrae & Costa, 1997). For example, conspiracy theories are negatively correlated with agreeableness, and positively correlated with openness to experience (Bowes et al., 2021; Swami et al., 2010). However, the findings have been inconsistent (Brotherton et al., 2013; Goreis & Voracek, 2019; Imhoff & Lamberty, 2018). On a more

maladaptive side of personality, some studies have found conspiracy theories to be correlated with trait narcissism, paranoid ideation, and schizotypy (Darwin et al., 2011; Stasielowicz, 2022). (Bowes et al., 2021; March & Springer, 2019).

iii. Cognition

The correlation between different conspiracy beliefs could also be evident of shared underlying cognitive mechanisms. In other words, if conspiracy beliefs reflect an underlying cognitive mechanism, it seems to in some part explain why beliefs in conspiracy theories correlate with each other. Biases or thinking styles could explain a general tendency towards endorsing conspiracy theories. One such bias is the "need for cognitive closure"—an eversion to ambiguity—which has been shown to correlate with greater endorsement of conspiracy theories (Marchlewska et al., 2018). Others investigators, however, have found the correlation to be in the opposite direction, with such beliefs associated with a reduced need for closure (Jones et al., 2023). These inconsistent findings might be explained by the fact that those who are more likely to endorse conspiracy theories are more tolerant of uncertainty given that they are faced with multiple explanations of events. In other words, individuals who encounter different and sometimes conflicting explanations to events might be more comfortable navigating the ambiguity of not being faced with one clear explanation.

Another mechanism that has been implicated in conspiracy theories is pattern perception. One study, for example, found that the perception of patterns in random stimuli has been shown to correlate with the endorsement of COVID-19 conspiracy theories (Hartmann & Müller, 2023). Perceiving patterns is an important ability for survival, allowing perceivers to make useful connections among things and to learn about the environment. In the context of conspiracy

theories, events are perceived as causally connected even when they are not. This tendency to perceive connections may also serve a psychological function. A key motivator underlying conspiracy belief is the need for control, particularly in situations where one feels they lack control (Douglas et al., 2017). As such, perceiving patterns in a random set of events may provide a sense of control over the environment. In situations in which individuals have lower levels of objective control, conspiracy beliefs arising from illusory pattern perception could provide individuals a sense of control in being better able to predict future events (Whitson & Galinsky, 2008). However, findings on this topic are inconsistent (Stojanov et al., 2020).

Hyperactive agency detection – an over-perceiving of agency and attributing intentions to others– is also thought to contribute to conspiracy beliefs (Douglas et al., 2016; Van Der Tempel & Alcock, 2015). This form of cognition has also been linked to religious and paranormal beliefs (Elk, 2013; Riekki et al., 2013). Similar to pattern perception, the ability to detect agency is important for survival (van Prooijen & van Vugt, 2018). Given that a belief in agency is central to belief in conspiracy theories, it's possible that hyperactive agency detection is related to a conspiracy mentality, an inclination towards conspiracy belief (Imhoff & Bruder, 2014).

The "jumping-to-conclusion" bias involves making a judgement without sufficient information. In one computer-task, participants who displayed higher levels of conspiracy beliefs were more likely to make decisions with less information (Pytlik et al., 2020). This bias is associated with reliance on more intuitive and less analytical thinking styles, and an intuitive thinking style is indeed more prevalent in individuals with higher conspiracy beliefs (Swami et al., 2014).

Taken together, it seems like certain cognitive biases correlate to conspiracy beliefs, providing evidence for these beliefs being motivated by psychological needs we have: existential, epistemic, and social (Douglas et al., 2017).

iv. Social context

In addition to underlying cognitive mechanisms, the context in which these beliefs form is also relevant. As noted above, although the prevalence of conspiracy theories is relatively stable over time (J. Uscinski et al., 2022), they appear to increase in times of high anxiety brought about by social events (van Prooijen, 2020). Kofta and Sedek's (2005) work on social change in Poland was one of the earliest studies of the relationship between social crises and conspiracy beliefs (Kofta & Sedek, 2005). The period of the first election under a non-communist government was marked by considerable social anxiety. Kofta and Sedek hypothesized that this anxiety might contribute to the formation of conspiracy theories. They found that antisemitic conspiracy theories became more common as the election approached. This finding highlights the possible role of social identity in conspiracy theories. *Social Identity Theory* (Tajfel & Turner, 1979) holds that an individual's sense of belonging to a social group highly influences their thoughts and behaviors. In stressful social conditions, social identity may become more salient and differences between in-groups and out-groups become magnified. Kofta and Sedek's work suggests that perception of a collective threat during times of social stress may be a driving factor of conspiracy theories. When individuals sense a threat to their group, they may turn to conspiracy theories to explain the events in which the threat is experienced. This idea was later supported by experimental studies which found that when one's religious identity is made salient, during the experience of intergroup threat, one is more likely to endorse conspiracy theories (Mashuri & Zaduqisti, 2015).

v. Psychosocial

Since the cognitive factors are shaped by the social context, we now turn to a psychosocial focus. Insofar as they typically posit the existence of a group maliciously and secretly working to achieve an end, conspiracy theories are almost always social in the themes they address. Building on the above-mentioned role of perception of collective threat and given that social threat is a significant element of our evolutionary history, itis plausible that social threat may be important to the development of conspiracy theories. Societal crises – like that created by the pandemic – often accentuate group differences that are built upon differing beliefs, opinions, and outcomes that highlight social and economic disparities. As these group differences are made salient, group affiliation become highlighted and the perception of threat from other groups appears to become a significant possibility.

As such, it's been proposed that the experience of social threat provokes cognitive mechanisms mentioned above (pattern perception and agency detection) to promote conspiracy beliefs. In other words, these cognitive processes, in a social context that includes threat, uncertainty, and anxiety, lead to conspiracy theories. Van Prooijen and van Vugt (2018) argue that since human evolution occurred in the context of social competition, cognitive abilities associated with social threat evolved as a cognitive adaptation. They call this the Adaptive Conspiracism Hypothesis (van Prooijen & van Vugt, 2018). Thus, when people experience uncertainty and anxiety associated with social crisis, cognitive systems which work to detect threat are put on alert to make sense of the world around them and to identify the source of threat. For our environment to feel less anxiety-inducing, we rely on these processes to make the world more predictable. This is where conspiracy theories come into play; they express a social threat and provide explanations of events.

Building on these ideas, van Prooijen (van Prooijen, 2020) proposes an Existential Threat Model of Conspiracy Theories. The model posits that times of societal conflict bring about uncertainty which stimulates sense-making processes in individuals. These sense-making processes induce individuals to adopt belief systems that render the world around more understandable. These processes include pattern perception and agency detection. By perceiving patterns in the world around us, we are better able to ascribe meaning to events. When an antagonist out-group is made salient, however, this will result in conspiracy beliefs. According to this model, the antagonist out-group act as a "critical ingredient" in how these sense-making processes lead to conspiracy beliefs. In short, when societal conflict is coupled with the presence of an antagonist out-group, the environment becomes fertile ground for conspiracy theories. This proposed process is represented in Figure 1. The Existential Threat Model of Conspiracy Theories seems to be particularly relevant to the pandemic and thus informs much of the foundation of the current project.

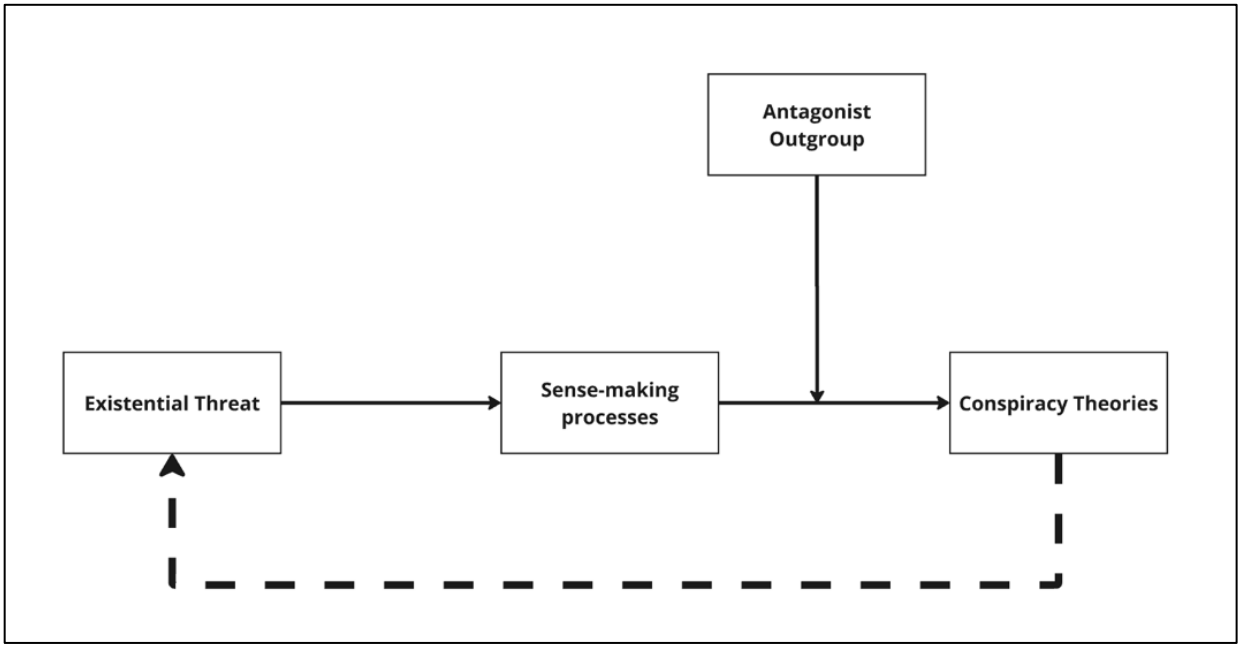

Figure 1: Existential Threat Model of Conspiracy Theories (van Prooijen, 2020)

This theoretical perspective supports the idea that some of the social and psychological factors that contributed to the endorsement of conspiracy theories during the pandemic might be related to a perception of some kind of social threat. *Social Identity Theory* (Tajfel & Turner, 1979) mentioned above provides support to this suggestion.. According to the theory, we categorize ourselves and others into groups based on both meaningful and arbitrary characteristics. We also have a need to view ourselves and our groups as more positive. This leads to in-group favoritism and out-group discrimination to enhance our own social identity and distinguish our group positively. Since conspiracy theories by definition attribute negative intention to the out-group (the group with malicious intent), this could potentially act as a defense mechanism if the positive self-view of our in-group is threatened (Douglas et al., 2017). An example of this is collective narcissism, an exaggerated sense of the in-groups' self-image, which also predicts belief in conspiracy theories (Cichocka et al., 2016).

b. Conspiracy Theories, Vaccine Hesitancy, & Public Health Compliance

A substantial body of research into anti-vaccination attitudes existed prior to the COVID-19 pandemic although that literature was primarily concerned with parental decision-making about their children's vaccinations. Anti-vaccinations beliefs have been proposed to be a reflection of a broader conspiracy mentality (Goldberg & Richey, 2020). In both correlational and experimental studies, exposure to anti-vaccine conspiracy theories has been shown to negatively affect intentions to vaccinate (Jolley & Douglas, 2014, 2017). Indeed, in one study, conspiracy beliefs were found to be one of the strongest predictors of antivaccination attitudes (Hornsey et al., 2018), and perception of the severity of COVID-19 was negatively correlated with conspiracy beliefs (Romer & Jamieson, 2020). Conspiracy theories are also associated with increased vaccine hesitancy (Bertin et al., 2020; Milošević Đorđević et al., 2021). Beyond vaccination attitudes,

conspiracy theories have been associated with reduced preventative measures such as mask-wearing (Pavela Banai et al., 2022; Romer & Jamieson, 2020). Further, during the COVID-19 pandemic, those who more strongly endorsed conspiracy theories were less likely to be vaccinated (Nefes et al., 2023), and arguments against conspiracy theories seem to have a limited effect on people's intentions to vaccinate if they've already been exposed to conspiracy theories (Jolley & Douglas, 2017). Finally, conspiracist ideation is linked to a general rejection of science (Lewandowsky et al., 2013).

More broadly, these theories are associated with a reduction in trust in government (Rieger & Wang, 2022), which also mediates the link between conspiracy beliefs and compliance with preventative measures (Pavela Banai et al., 2022). Conspiracy theories may thus lead individuals to flout the guidelines designed to protect them. Other work has provided evidence that mistrust in institutions, rather than mistrust in other individuals, is associated with increased vaccine hesitancy (Krastev et al., 2023) and conspiracy theories (Martinez et al., 2022).

Although not explicitly part of the objective of this study, the effects of belief on vaccine hesitancy is an important implication. In the light of the evidence, there is some reason to believe that conspiracy theories increase the risk of infection during COVID-19. In general, non-compliance with health measures poses a direct challenge to the imperative of public health and well-being, and some public health policies have faced significant resistance from a substantial portion of the population. An ongoing lack of trust in government policy poses a significant risk in the event of a future pandemic and a persistent public policy challenge. Understanding these beliefs is thus a public health priority.

c. Methodology in the conspiracy theory literature

Psychological studies of conspiracy theories have predominantly used correlational and survey-based methods (Douglas et al., 2019). Despite the virtues of these methods, they have some well-known shortcomings, and qualitative methods would provide a useful methodological complement. Survey based methods reduces individual experience into a response, and ultimately a score. In their work, Truijens and colleagues (2023) argue that these measurements are not only capturing the response of the individual but also encompasses the "process of meaning making". In other words, certain nuances of experiences are missed when relying on the face validity of self-reported measures. They argue for the importance of accounting for the data collection process and the narratives attached to the process, through qualitative work.

Nevertheless, very few qualitative studies of conspiracy theories have been carried out. The handful of qualitative studies have provided some interesting insights. These studies provide evidence that when given the opportunity to articulate their views at length, conspiracy beliefs appear to be expressions of personal narratives that reflect values and beliefs (Raab et al., 2013) and complex worldviews (Franks et al., 2017). They also suggest that conspiracy beliefs shape the identities of those who hold them by providing meaning to different contexts (Harambam & Aupers, 2017). Qualitative methods have also been used to investigate the endorsement of contradictory conspiracy theories. One study (Lukić et al., 2019) found that conspiracy theorists are more invested in the theories' expression of a skepticism of the official narrative of events rather than the literal content of the conspiracy theory. This suggests that the meaning of conspiracy theories may be less straightforward than is sometime assumed (Lednický et al., 2023).

Human beings are complex social creatures whose beliefs are shaped by an interplay of many other mental states, including other beliefs, interests, desires, and values. A virtue of qualitative methods is that they are better suited to exploring the nuanced ways in which this complex of mental states might interact to shape conspiracy theories. In turn, insights gathered from qualitative studies of conspiracy theories are not only likely to deepen our understanding of conspiracy theories but may suggest novel strategies for combatting the public health challenges posed by conspiracy ideation.

d. Rationale for the Study

In order to explore the complex of attitudes underlying COVID-19 conspiracy theories, therefore, we carried out an extended qualitative study. We aimed to explore themes that most strongly influenced people's beliefs regarding the pandemic and COVID-19 vaccines. In order to give participants ample opportunity to express their views, we conducted six interviews with them over a period of five to six months. To our knowledge, this is the first study to do so. By engaging in dialogue with participants more than once, we hoped to foster a trusting relationship that would create the conditions for deeper conversation.

Drawing on the Adaptive Conspiracism Hypothesis, and the Existential Threat Model discussed above, we hypothesized that themes of social threat will be prevalent in interviews and will in some part explain endorsement of conspiracy theories. We designed our interviews to enable us to focus on the concept of social threat during the pandemic which we postulated would be critical to understanding the psychology of conspiracy theories in the social context of the COVID-19 pandemic.

3. METHODS

a. Recruitment

Participants were recruited from a database of 1511 foreign-born Canadians and 509 native-born Canadians developed for a larger study on vaccine hesitancy. Individuals who scored highest on a 5-point Likert scale on 14-items consisting of 7 of the most popular conspiracy theories circulating at the time of the study (June 2024) and a modified version of the 7-item Vaccine Conspiracy Belief Scale (Shapiro et al., 2016) to the statement of "*please rate your level of agreement for each of the following statements"* (see Table 1).

Table 1: Conspiracy Theory Items

1	COVID-19 was purposefully created by a larger governing body
2	COVID-19 was created/engineered in a lab
3	COVID-19 is a hoax, and scientists are lying to us
4	A large governing body planned to implant microchips for global surveillance through the COVID-19 vaccination plan
5	George Soros has played a role in creating the pandemic or is benefiting from it in some way
6	The COVID-19 vaccines have caused an increase in sudden deaths around the world
7	New COVID-19 strains have been engineered by pharmaceutical companies to create new vaccines
8	Vaccine safety data is often fabricated
9	Immunizing children is harmful, and this fact is covered up
10	Pharmaceutical companies cover up the dangers of vaccines
11	People are deceived about vaccine efficacy
12	Vaccine efficacy data is often fabricated
13	People are deceived about vaccine safety
14	The government is trying to cover up the link between vaccines and autism

Participants were invited to take part in follow-up interviews. Consent was obtained prior to the start of the first interview. The study was approved by the Research Ethics Board of McGill University.

We began by recruiting individuals with the highest scores on the two conspiracy belief scales mentioned above. When interviews began, a discrepancy came to light. Some of the participants—including some of those who had maximal scores on the conspiracy questionnaires—expressed views that appeared to be at odds with the beliefs they had endorsed on these measures. This was to be expected to some extent given the constraints of quantitative surveys. However, the discrepancy in participants' opinions appeared to be dramatic and was particularly important given that our aim was to explore the beliefs expressed in the surveys. We therefore adapted our inclusion criteria. To ensure that the participants in the study did in fact hold conspiratorial beliefs, we drew on the characterization of conspiracy theories as "explanations of significant events as the secret malicious plot of a powerful group." We reasoned that this characterization should imply, at a minimum, some level of mistrust towards those in power. We therefore opted to include *mistrust in government* as an ad hoc inclusion criterion. We chose the government as a target of mistrust on the grounds that public health measures during the pandemic were salient and objectionable to many. We established that participants satisfied this new inclusion criterion by asking them what they thought about the way the government handled the pandemic.

b. Data Collection

Serial in-depth semi-structured interviews were conducted virtually. The decision to opt for virtual interviews was taken (1) to provide participants the ability to speak in the comfort of their own home, which we believed would be conducive to their more freely sharing opinions (Oliffe et al., 2021) and (2) because participants were recruited from across Canada. Interviews were audio- and video-recorded for transcription purposes. Six interviews were planned with each participant, with one interview every couple of weeks to a month. The exact number of interviews was determined by data saturation; interviews continued until no new relevant concepts emerged. We first were

using Otter.ai transcription services to transcribe the interviews, however we eventually switched to Microsoft Teams after we worried about the concern of cloud-based transcription services. Transcriptions were corrected manually using the recordings. Participants were compensated an increasing amount at the end of each interview to promote retention.

There were two goals of the extended interview paradigm. Firstly, we hoped it would contribute to building a more trusting relationship between interviewer and participant, one that emphasized the importance of human dialogue. Secondly, it allowed for the researcher to reflect on responses and tailor future interviews according to what was most salient for each individual participant.

c. Data Analysis

Transcripts were analyzed by applying the principles of "grounded theory," specifically open coding (Corbin & Strauss, 2008) which involves reading the transcripts and assigning codes or concepts that describe different segments of the data. This allows for concepts to emerge from the data. All transcripts underwent open coding by two independent coders using MAXQDA software (VERBI, 2021) to ensure intercoder reliability. This was then followed by a thematic analysis as outlined by Braun and Clarke (2006), in which codes were grouped together into categories based on conceptual patterns and meanings, reflecting recurring ideas within the data, giving rise to themes. Themes were determined based on both relevance and frequency, as they represented most significant patterns that emerged from the data in terms of most recurring concepts, while also representing the data in terms of relevance to the topic. Discrepancies in coding were discussed by the two coders, and final themes were refined accordingly.

The final step of the thematic analysis was producing summaries of the meanings of each theme. Themes were then analyzed through the lens of the frameworks that the study was built on: Social

Identity Theory, the Existential Threat Model of Conspiracy Theories, and the Adaptive Conspiracism Hypothesis described above. This was done by examining how these themes connect to each other and to existing frameworks, providing us with a lens of interpretation grounded on theoretical foundations that exist. In this way, we performed a middle-range analysis in that it combined both an "emic" and an "etic" approach. The emic approach focusses on the participants' perspective, and the etic approach makes use of a theory or conceptual framework to interpret findings. Our goal was thus to capture the complexity of individuals' beliefs while contextualizing them within existing theoretical ideas in the literature.

4. RESULTS

a. Participants

15 participants consented to take part in the study. All 15 completed at least two interviews. If a participant did not meet the ad hoc criterion of mistrust of government during the initial two interviews, they were excluded from the study, and a new participant was recruited. 8 participants [32 yrs – 70 yrs; mean age 48.8 yrs] completed the study. Demographic information is provided in *Table 2.*

Table 2: Participant Demographics

Participant	Sex	Age	Province	Native-born vs Foreign-born Canadian	Level of Education
CB_01	Female	42	Ontario	Foreign-born	Technical college, community college, or Collège d'enseignement general et professionnel (CEGEP)[1]
CB_04	Male	32	Nova Scotia	Foreign-born	University graduate
CB_07	Male	61	Ontario	Foreign-born	Completed post-graduate school
CB_08	Male	53	Ontario	Foreign-born	University graduate
CB_09	Male	45	British Columbia	Canadian-born	Technical college, community college, or CEGEP
CB_10	Male	70	Saskatchewan	Foreign-born	Technical college, community college, or CEGEP
CB_13	Female	34	Ontario	Foreign-born	University graduate
CB_15	Male	54	Manitoba	Canadian-born	Technical college, community college, or CEGEP

[1] Collège d'enseignement general et professionnel (CEGEP) [General and professional teaching college] is a public college in Quebec which offers first level post-secondary education

b. Interviews

The purpose of the first interview was to get to know the participants and to learn about their lives, their social relationships, their childhoods, and the like. In the second interview, participants were asked to recall their pandemic experience, the ongoing effects of the pandemic on them, and their views on vaccines. The following one or two interviews were guided by participants' previous responses and centered on whichever element of the pandemic was most salient to them. The last interview focused on remaining questions and concluding remarks.

The main goal of this method of interviewing was to capture the unique ways that the pandemic affected different individuals. Appreciating the diversity in beliefs and opinions surrounding the pandemic and vaccines, we wanted to ensure that the participants were able to discuss the aspects of the pandemic most relevant to their own experiences, including their unique frustrations and concerns. The interviews revealed that participants did indeed vary in their positions. Some had concerns about feeling forced to take the vaccine. Others felt that mandates were haphazard. Others expressed a general disdain toward authority.

Quotes presented in this thesis were lightly edited to remove repeated and filler words and minor edits for grammatical clarity while preserving the intended meaning of the quote.

c. Confirmation of Survey Responses in Interviews

In the second-to-last interview, the interviewer took the participant through the survey responses on the basis of which they were recruited. This was done for two reasons. Firstly, although all of the participants satisfied the ad hoc inclusion criterion of mistrust in government, some did not seem to be as conspiratorial in their outlook as expected. To ensure that their answers on the

instruments used to recruit them were accurate, we reviewed their responses with them. Secondly, we wanted to provide participants with the opportunity to discuss and elaborate on their responses. When discussing the conspiracy items, participants were asked if they still believed their answers and if they had anything more to add. Once all the items were discussed, participants were also asked to share their thoughts on the fact that the beliefs in question are known as "conspiracy theories." Our goal was to assess participants' conception of the label.

5. Analysis

The following section focuses on the themes identified in the interviews and their interpretation. In the Discussion section that follows, we elaborate on the overall implications of the findings.

a. Themes

Analysis identified six themes that fell under two superordinate themes. The first superordinate theme was ***identity, beliefs, and worldviews***, and encompassed the themes of (1) attitudes, (2) affect, and (3) groups. The second superordinate theme was ***trust and agency in the pandemic*** and encompassed the themes of (1) institutional mistrust, (2) autonomy, and (3) pandemic outcomes. The thematic map is represented in Figure 2. Each theme will now be explored in isolation, and in context of the superordinate theme that it falls under. Some codes and categories overlap within themes, but each theme captures a unique aspect of the data. The overlap represents the interconnectedness of these nuances are described below.

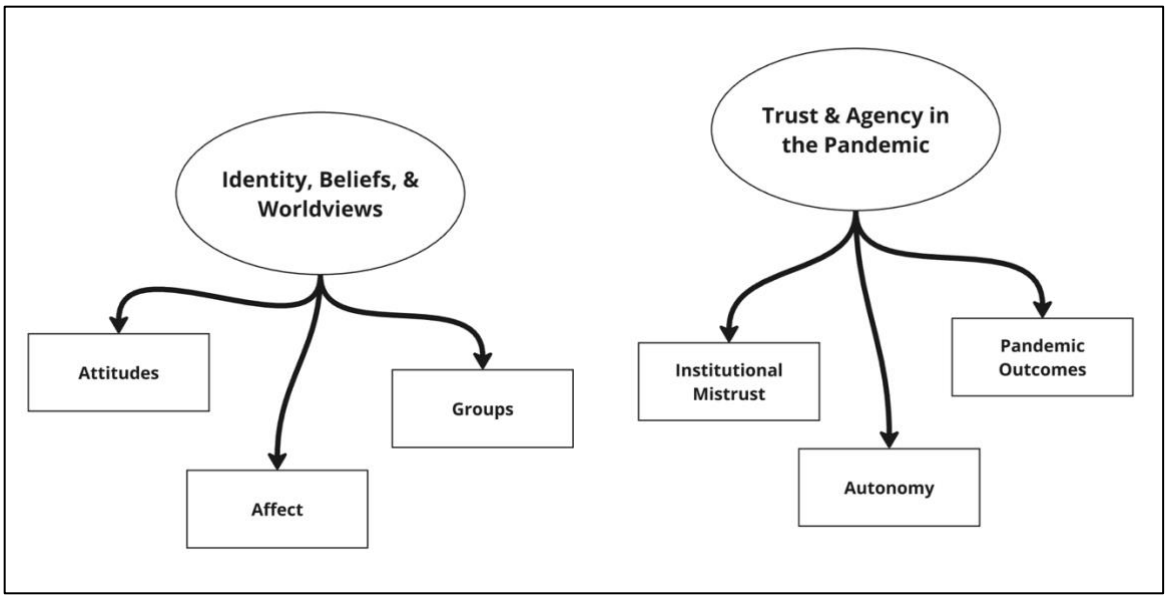

Figure 2: Thematic Map

i. Theme: Identity, Beliefs, and Worldviews

The first superordinate theme was identity, beliefs, and worldviews. Perspectives, behaviors, and beliefs surrounding the pandemic was naturally shaped to some extend by pre-existing notions of participants' identities, their beliefs, and the worldviews they operate. This included (1) their attitudes, (2) their affects, and (3) the groups they belonged to.

Theme 1: Identity, Beliefs, and Worldviews - ***Attitudes***

The first of the themes that shaped their worldviews was attitudes. This theme captured perceptions of the world, including views on society, culture, environment, and the government. It also captures how these perceptions and views were shaped by their personal histories of unique experiences and sociocultural context they grew up in. This theme proved particularly important in understanding the roots of participants' beliefs. To understand specific views people hold and interpret them within broader contexts, we have to know something about their general outlooks

and worldviews. This provides essential context for interpreting their initial attitudes to the pandemic, their mistrust of institutions, and their views of vaccination. Current worldviews inform future beliefs in similar contexts, as evidenced by justifications given by participants of past governmental behaviors that proved to be harmful to explain their mistrust.

Their perspectives on the performance of social institutions during the pandemic were shaped by their general perspectives on human nature and authority. A common belief, for example, was that people in power aim to control and maintain their authority at the expense of the public. For example, one participant describes: "governments have never released power, they've never relinquished power back to the people […] once they've taken it and they've taken most of our freedoms" (CB_09). As such, his belief was that certain mandates, particularly vaccine mandates, were related to the intention of maintaining power. This strongly related to their views on freedom, or what it means to live freely within society. Although often expressed in relation to events of the pandemic, his was not limited to the pandemic, but was also deeply rooted in broader views of governance and personal rights. As another participant put it:

> True freedom would be being able to do whatever you want so that doesn't hurt anyone or impose. For me, I think, for example, losing freedom would be like getting forced to take a vaccine. […] You know, if you've faced repercussions for voicing your opinion, that is freedom being taken away there. (CB_04)

The pandemic proved to him that "[those in power] have complete and total control. There is no freedom. There is no freedom. So, freedom is an illusion" (CB_04). Events of the pandemic influenced broader views on freedom. This was echoed by another participant: *"*it's turning out that if it keeps going, we don't have freedoms anymore in Canada. Not at all" (CB_09).

Views of the pandemic were also influenced by personal history, as their past experiences often shaped how they interpreted and responded to events. For example, one participant reflected on her upbringing, describing her lack of adequate communication with her parents while growing up. As a result, she supported those who expressed themselves: “I was not against [trucker convoys]. I was literally like, thank you somebody actually stood up. Why can’t I question it [i.e. rules or restrictions]?” (CB_01). Her experience of losing control during the pandemic had a personal resonance: “[my parents] never allowed us to share our opinions and just be expressive and none of that it was allowed” (CB_01).

Another participant compared his experience of the pandemic to living through political unrest in his home country, explaining how it shaped his views on authority: “I was in that generation that we were with other people to [create] something [called] a revolution but is not... it was not revolution. It was something manipulated by the other powers, and we were just dogs to do the same” (CB_07). His reference to being “just dogs” reflects his feeling of being used as a pawn and tool for a larger political agenda. His sense of being manipulated and loss of agency shaped his current perceptions of the government in Canada. Similarly, for another participant, past negative experiences with law enforcement, like being “beaten up by a police officer actually.... for no good reason” (CB_08), influenced his current views on authority, “so I have absolutely no respect. Absolutely” (CB_08).

Another participant asserted his skepticism of those in power, questioning the true motives behind events as he reflected on past events. In his questioning of whether the government would deliberately orchestrate an event to take away our freedoms, he says: “I approach things with more of a logical. Would they do something? Would they knock down the World Trade Center? So that they could pass they basically take away our privacy? Absolutely (CB_09).” This illustrates his

broader mistrust in motives of institutions and highlights a worldview shaped by general suspicion of authority based on past events.

Theme 1: Identity, Beliefs, and Worldviews - ***Affect***

Moving on to the second of the themes that shaped their worldviews, affect seemed particularly important in influencing how participants viewed the events of the pandemic. Affect here refers to emotional responses. These emotions played a role in constructing worldviews and reinforcing them. They also included emotional responses to events of the pandemic in particular. These feelings and emotions were divided into three categories: (1) disillusionment, (2) contempt, and (3) worries. They will each be explained in isolation below.

Disillusionment

This affective category refers to a general sense of hopelessness, disappointment, and emotional exhaustion. This was most evidently conveyed by one participant's comparison of those who lived through the pandemic with caged animals. He explains how the lack of autonomy during the pandemic reminded him of animals in cages, drawing a parallel between the lives of these animals with the restrictions imposed on people:

> Have you ever seen the eyes of […] pets, that when they obligated to live in, for example, living, they cannot choose their family member? […] So, you push them in like a cage. […] concentrate on their face and on their eyes […], they are just restrained, and they have no choice to choose. I had several research jobs, for example, with rats or with rabbits as a research project, and I always see their face their eyes that all of their life was just in a small cage. […] When I see their eyes, I see the same reaction in our eyes during everything

> like vaccination [with] those kinds of restriction. […] I believe that we are kind of pets with very limited options to choose. (CB_07)

This quote highlights the deep emotional response this participant had to the pandemic, evoking a sense of helplessness and confinement. This alludes to how this emotion contributed to a broader worldview of our state under authority.

The sense of futility often led to cynicism: "Well, what could we do about it, like there's literally nothing" (CB_04). For some participants, the failure of social institutions undermined their hope for a successful resolution of the pandemic and led to a feeling of indifference, emotional exhaustion, and a sense of the futility of political dissent: "I really wish I never would have taken the vaccine or whatever, but I can't, there's nothing I can do about it now" (CB_15). Even those individuals who were relatively hopeful in the early stages of the pandemic experienced deep disappointment in how they fared in the pandemic despite complying with public health requirements: "I followed everything. And I lost everything" (CB_08). This illustrates the emotional toll of expecting a more positive outcome from following the rules, highlighting a sense of betrayal and disappointment.

Contempt

The affective category of contempt refers to a strong disdain towards authority due to their display of hypocrisy and abuse of power. These emotions fueled further interpretation of subsequent mandates during the pandemic. In other words, strongly influenced how they viewed the way the government handled the pandemic. Participants expressed the view that those in a position of power and the institutions they serve are corrupt by nature and that this justified an attitude of contempt towards them: "those [billionaires who are part of the World Economic Forum], a bunch

of Nazis, fascist, they got stupid ideas" (CB_10). This quote captures the intensity of the resentment that some participants felt towards those with power. This sense of disdain was exacerbated by what participants believed were disproportionate measures to the virus. Suspicion and skepticism were rooted in the belief that there were dishonest motives at play, a misuse of power, and hypocrisy. One participant expressed frustration at an apparent double standard:

> [About Fauci revealed to not be wearing masks while promoting the mask mandate] Okay, well, you said this, but you're doing this. What does that mean? Does that mean there's rules for you, and then rules for me? I think that's kind of where the value started changing, where they said, 'okay, well, why are you special and I'm not?' (CB_15)

This illustrates the fact that participants were frustrated at having been told to follow rules that those who put them in place were not following. This sense of inequality fostered resentment, leading to questioning of intentions.

Concern

The last of these affective emotions, concern, captures worries surrounding what the events of the pandemic mean for our future. Some participants articulated feelings of anxiety regarding decisions made throughout the pandemic. Some of the worry concerned the virus itself when the pandemic first came about: "It definitely felt like the world was ending" (CB_04). This worry eventually concerned the broader consequences of mandates, leading to concerns about governmental overreach:

> The fact that they can now decide that you know what, 'we feel that you're probably part of a terrorist organization and we can seize your bank account. And we can cut you out.'

> And they don't need the proof. All they need is a suspicion. And boom, your bank accounts froze and you're starving. You know and they did those multiple times. The fact that they are, they pushed this without actually giving us the proof or the reasons. You know, they literally pushed a narrative is scary. You know that our government would do that. (CB_09)

The participant was worried about what their use of power means for potential future abuses of power.

In sum, these emotions of disillusionment, contempt, and concern contributed to a worldview that those in power ultimately have the final say, with little to no limits to their power. This deepened skepticism and mistrust of institutions.

Theme 1: Identity, Beliefs, and Worldviews – ***Groups***

The hypothesized role for social threat in conspiracy theories led us to explore the theme of the social environment when coding the interviews. This theme turned out to be more complex than we predicted. The initial expectation was that group dynamics – particularly social circles – would play a more prominent role in shaping beliefs. This was based on Social Identity Theory, where behavior and beliefs are shaped to some extent by the groups to which people belong. Accordingly, participants were asked about their social circles.

However, for most participants, the value of personal choice trumped their desire to have members of their social circle agree with their views. So, contrary to our expectations, the relevant social factors were not about group dynamics. They were instead more related to individual autonomy, as will be discussed below, taking a more individualistic angle. Some participants expressed this in terms of the value of independent decision-making rather than agreement within the group. One

participant put it this way: “in other ways of changing their minds on, you know, ‘I think you should or shouldn’t do the vaccine. I think you should vote for whomever. I think you should be a Christian rather than a Hindu.’ No. I would not do that. That’s not me. (CB_01).” This illustrates how the view of imposing on someone’s choice to not receive the vaccine during the pandemic is in the same vein as commenting on political votes and religious beliefs.

Despite the lower importance of social group dynamics in terms of relationships and social circles, social divisions were expressed as a consequence of the events of the pandemic. One source of these divisions was that mandates affected some more than others: “so that’s just that, you know, at any moment people can just like be so divided over anything mask no mask, vaccine, no vaccine, you know, six feet or not six feet away” (CB_04).

Participants importantly also described a divide between those in power and the rest of the population. This is particularly significant for its link to conspiracy theories. The government and powerful institutions were painted as the enemy and framed as the “other”, akin to an out-group in Social Identity Theory. However, it is broader in terms of its boundaries of an out-group. The categorization of the “other” refers to those who represent institutions with decision-making powers within the pandemic and beyond. A strong sense of membership with the “us” group of those affected by mandates was also conveyed in several interviews.

These references to an us vs them dynamic are saliently expressed by this participant’s explanation:

> It’s always same across the globe. Literally, across the globe. It’s all the same. It’s different color, different currency, different language, but generally, nobody is free. Nobody is free. We’re all slaves. Just not we just don’t see your shackles. […] These people in power,

> they've been clinging to power since the beginning of time. They will not let go of it. Like their whole job like you know, you have a nine to five job. Their whole job from the time they wake up till the time you go to sleep, is to figure out how they can stay in power and how they can make sure that nobody ever takes your spot. Not now, not in a million years. That's their whole job nine to five they're thinking about how to cripple the world and keep themselves at the top. And if they have to, I'm sure they have underground tunnels and stuff. bunkers that literally just nuke everybody and start all over. (CB_04)

In essence, the theme of social environment turned out to be more about autonomy and distrust of those in power than about group conformity. The boundaries between an in-group and an out-group were more broad and less clear than expected, but in general was expressed as those in power as "them", and the rest of the people as "us".

ii. Theme 2: Trust and Agency

Participants' attitudes to vaccines, beliefs, and values were shaped by three main themes: (1) institutional mistrust; (2) autonomy; and (3) pandemic outcomes that contributed to their pervasive skepticism and frustrations about the events of the pandemic. Each of these contributed individually and also interconnectedly to feelings of trust and agency throughout the pandemic. This had its implication on beliefs and behaviors, such as vaccine hesitancy.

Theme 2: Trust and Agency: ***Institutional Mistrust***

The first of these themes – institutional mistrust – captured pervasive mistrust and skepticism to institutions at large. This included government, healthcare, education, the pharmaceutical industry, police, and science. This theme was characterized by a pervasive skepticism about, and mistrust

towards, authority. One participant said, “I’ve completely lost any faith I ever had in our government, because of this COVID, because of the pandemic” (CB_09). COVID-19 vaccines were a large source of suspicion and mistrust for the participants. In particular, participants found contradictory advice from government and health authorities to be a reason for suspicion towards the vaccine. Regarding the speed of its production, one participant asked:

> Why didn’t they do the trial? They even said they didn’t even [go] through the procedures. They didn’t do this. They didn’t do that. They just rushed them out. We are taking the manufacturers words on face value. (CB_10)

This highlights one example of how specific moments during the pandemic contributed this widespread skepticism, leading to mistrust. Another participant suggested that this speed of vaccine production, for example, implied foreknowledge of the pandemic: “I don’t know who, the people or system that predict these viruses coming and then right away prepare the vaccine” (CB_07).

Events during the pandemic both contributed to the erosion of trust in participants who were initially less mistrustful while simultaneously reinforcing a mistrustful attitude towards these institutions in others. As one participant puts it: “my distrust for government did not stem from COVID. COVID was... imagine the government was being tested in my brain. Like I was putting them into the test to see how truthful they are” (CB_04).

Importantly, mistrust was generally rooted in both perceived (1) incompetence of these institutions, and in (2) perceived malicious intent behind their actions.

Regarding the first element of mistrust, namely, incompetence of institutions, participants believed that institutions were apathetic or indifferent during the pandemic, acting in ways characterized by neglect. They expressed frustration with what they viewed as failed or inadequate responses from institutions during the pandemic. It is worth noting that this perception of incompetence was not only expressed as a form of an earnest attempt from the government that fell short. Rather, the incompetence and haphazard governance stemmed from institutions not caring enough, rooted in apathy, neglect, lack of concern for the public, and higher concern with public appearance.

For example, one participant suggested that

> They got to have something to calm their mass… otherwise it's going to be riot here riot there, the government is going to be in big trouble. Whoever's in power, they want to keep themselves in power. So [to] keep themselves in power, they tell you something and they hide whole bunch of other stuff, they lie about other stuff. So at least it looks good to the people, "Hey we're doing something for you" Right? Here is this serum for COVID, take it. (CB_10)

This example illustrates that the concern with "calming the masses" was done with the ultimate goal of maintaining power. This highlights how the perception of government and institutions' incompetence moved beyond a frustration of simple mismanagement to actual mistrust and suspicion.

The second element of mistrust was one due to perceptions of malicious intent. A recurring theme was that of institutions deliberately misleading the public. In contrast to a lack of trust in the competence of institutions, this mistrust stemmed from the attribution of intentional malice that was more direct than one linked to haphazard governance as described above. Mistrust here was

rooted in the belief that actions were intentional and self-serving. Policy decisions, including mandates, were seen as having been imposed to further the interest of these institutions, with no regard to the real-world consequences on citizens. One participant describes their mistrust by saying:

> [Justin Trudeau] said 'we know that we are infringing on your rights as Canadians, but we don't care. We're going to do it anyways.' That single statement right there completely destroyed any faith I have in our government. They don't care. […] If they decide that they're going to do something, they will just do it anyways. (CB_09)

As such, participants believed that the pandemic was an opportunity for the government to manipulate and control the populace. Acting in self-interest and with no accountability, these institutions were taken to have lost the public's trust. One participant expresses "how come the politicians are not accountable for their actions. […] I think that they should be accountable. It has left me really angry" (CB_08). These views of malicious intent were mostly expressed in connections to specific events in the pandemic. As one participant explained the vaccines in this way: "if it's a legitimate thing, then it shouldn't – you shouldn't have to force it on people because people would want it if it's legitimate" (CB_04). The same participant expressed the view that the mandating of the vaccine was part of a larger agenda: "that's how I knew that when it got to the point of forcing people through work, that it was an agenda. It wasn't related to protecting your family or yourself or your community or nothing. It was just about getting everybody to comply forcefully whether they like it or not" (CB_04).

Participants expressed the view that people in positions of authority will adopt extreme measures to remain in control, abusing their power, often for financial gain, "Basically I think it what it what

it all boils down to is money […] once you follow the money, that's exactly what's going to happen. You're going to find all your answers" (CB_15). For these participants, the financial incentive was a clear indication that selfish motives were at play.

Participants emphasized that the public was being misled, and that events of the pandemic signalled hidden agendas at play. One recurring idea was the pandemic as a test of whether citizens would comply with government mandates: "It was an experiment to see what they could get away with, how far they could push us, how… And they totally orchestrated COVID-19" (CB_09). Another participant said that

> Everybody calls it a pandemic, I believe it's called it was a *plandemic*. Just because of certain things that were said the way they rolled it out and then things that happened during that happened I don't... it was almost like they wanted us to do something. And we they pushed us to see how far they could go. (CB_15)

The belief in a "plandemic" suggests that the pandemic was viewed as an opportunity for these institutions to test their power, emphasizing calculated motives.

Overall, the theme of institutional mistrust conveyed participants' beliefs in both their incompetence, marked by neglect, and their malice, marked by manipulation. These elements combined contributed to mistrust in institutions. Participants viewed institutions not only failing but acting to work against the public's interests and a desire for control.

Theme 2: Trust and Agency**: *Autonomy***

The second of the themes that contributed to trust and agency was autonomy. This theme was particularly salient in the interviews. It captured experiences where personal agency was

threatened, and frustrations grew over specific events such as restrictions and mandates where participants felt that their ability to make their own decisions were undermined. It is noteworthy to mention that this differs from the concept of freedom discussed above in the attitudes theme, as freedom referred to participants' broader perspectives on what it means to be free, while autonomy here refers to experiencing a direct threat to one's autonomy.

Restrictions to autonomy was experienced through several ways. This included lockdowns, limitations on flights and gatherings, and vaccine mandates. They were frustrated with the use of threats to livelihood and job security, the loss of social connections, and freedom of movement as tactics to pressure them into taking the vaccine. One participant describes how they felt there was no option not to take the vaccine: "And if it came down to, I would have lost my job" (CB_09).

For some, being required to take the vaccine was a unique threat to their autonomy:

> If they forced me to put a mask on, I could've lived with that. You force me to do anything else, I can live with it, but you force me to put something in my body that I am not wishing to put in my body. That's the difference. It's no different than someone strapping me to a chair and like shoving alcohol down my throat. (CB_04)

Even though resistance to vaccination varied across participants, many took it reluctantly, expressing compliance despite mistrust: "I will still take it. I'm not afraid to die. I will still take it also for the greater good. I don't not have a medical background to say no. Right, so I will take it for the greater good of the population. But if it was completely up to me, I probably wouldn't take it" (CB_08). The mistrust was for this participant accompanied with the acknowledgement that his own knowledge is limited, and his dissent was overridden by his sense of obligation. Nonetheless, there is an emphasis on not taking it if the choice was given. This theme was strongly linked to the

theme of mistrust. For example, for one participant, pandemic was seen as an opportunity that these institutions took to infringe on autonomy, reinforcing the mistrust in the government's intentions:

> They put you in this situation where it's like a moral like conundrum and you're like, in gray areas. So, you're not sure and that's why I think to that, it's also always a plot because of that, as they put people in the situation where they weren't sure if their freedoms and liberties were being infringed. They weren't because it's a pandemic. Because it's deadly. Because it's all over the world. Because you're protecting your family and friends. (CB_04)

Generally, it seemed like concerns over autonomy was usually expressed as one of two ways: (1) concerns over not being treated as competent enough to be autonomous, and (2) concerns over autonomy being a right.

At the core of the first of these – namely, concerns over not being treated as competent enough to be autonomous – was feelings of being patronized and infantilized by institutions, specifically the government. Participants expressed a desire to be treated as capable individuals rather than being infantilized by shallow assurances about the efficacy of the vaccines. Participants felt that governments did not give them adequate information about the vaccines because they were not capable of using it to make a satisfactory decision, to make an educated and informed decision. As one participant put it: "as far as [I'm] concerned, I'd like to know exactly what's going on so I can make an informed decision. I don't need this lip service" (CB_10).

Participants valued being given the chance to draw on their own research to make informed decisions, and they felt unhappy with what they viewed as government withholding information

about the vaccines. The fact that a decision not to take the vaccine was not respected made some feel that they were not being taken seriously.

The second of these concerns was surrounding viewing autonomy as a right. Frustrations with restrictions to autonomy sometimes stemmed from the belief that individuals have an inherent right to make their own choices. When asked what it was about the loss of autonomy that worries him for example, one participant explained:

> Well, you are no longer in control of what you think. You're almost like a robot after that. That takes away what it means to be human if being human you're free to make choices, whether right or wrong, you have to live with those consequences. But you still have that choice. Taking away that choice, you might as well not be human anymore. (CB_15)

This illustrates that the very nature of what it means to be human to some participants is the ability to make your own choices. One participant explains: "the government should only be governing you to the extent of things that are for your good that you can't do yourself" (CB_04). They felt that this right had been threatened by challenges to employment, freedom of movement, and social life. While accepting some restrictions on personal freedoms, they believed that the role of the government should not extend to vaccination by coercion: "because you cornered people... you forced their hand. It's like they had no other alternative, but to do this" (CB_01).

In sum, autonomy emerged as a key theme in the study contributing to trust and agency in the pandemic. Frustrations concerned feeling patronized and denied the right to make independent choices. The perception of autonomy as a right extended to also viewing it as a deeply ingrained human principle. Restrictions and mandates were viewed as direct threats to this autonomy,

causing participants to feel coerced. The theme of autonomy was intricately tied to mistrust in institutions, highlighting what they viewed as governmental overreach.

Theme 2: Trust and Agency: ***Pandemic Outcomes***

The third of the themes that contributed to feelings of trust and agency was the theme of pandemic outcomes. This theme captures how life changes experienced during the pandemic were directly tied to participants' feelings of trust and agency. Various challenges brought about by the pandemic – economic stress, mental health, relationship strains – all contributed to frustration, concern, and uncertainty about the future. Worries about the long-term effects of mandates such as lockdowns and masks on children, healthcare systems, and human relationships, for example, contributed to skepticism towards institutions and reinforced the belief that they failed to protect and support us. As a result, frustrations influence trust in institutions and willingness to comply, contributing to resistance towards the mandates and skepticism about the intentions behind them: "Yeah, at this point I have very, very little faith in our government not to lie to us. […] This pandemic has just made it that much worse" (CB_09).

When asked about what it would take to rebuild her trust, one participant references the pandemic outcomes that contributed to the mistrust:

> If you had just come clean and say guys listen, we have realized that, you know we have no understanding of this virus, we are learning as we go, you know, bear with us, you know, we apologize for all the major, you know, disturbances we have caused in your life and your livelihood […] and just be honest and truthful rather than just making everything law (CB_01).

This illustrates how participants viewed the consequences and disturbances of the pandemic as worthy of an apology from those they view as responsible, the institutions.

The pandemic's impact on the lives of the participants played a crucial role in shaping their trust and feelings of agency throughout. Some participants' reactions to the pandemic were directly linked to life changes they underwent. One participant described increased pressure and stress at work, which led to emotional exhaustion with the pandemic as a whole: "I saw that my level of energy [went] down after the pandemic, my mental and physical [energy]" (CB_08).

When recalling events of the pandemic, participants discussed the challenges they faced, including economic struggles: "just for the pandemic the worst thing is my family's economy. That's the worst thing" (CB_07). Additionally, participants experienced mental health burdens: "[I] think it did a lot on people's mental health. I think […] our mental health was forsaken in place of the shutdown, and I'd be lying to say that my mental health wasn't affected" (CB_08). They also reported on significant life changes, such as being laid off from work.

Participants also expressed worry about unpredictable future consequences of the pandemic, especially for children: "most [of all] they were finding the kids going into the next grades didn't learn anything because the teachers face were covered, and all the students faces were covered" (CB_09). Some felt that for some children the pandemic years were "formative years. […] You'll never get that back" (CB_08).

The impact of the pandemic on healthcare and the economy were also recurring topics: "A lot of mom-and-pop shops basically rely on foot traffic. Now they can't have that. They kind of suffered for that or whatever. But meanwhile the big box stores can stay open" (CB_15).

Participants also expressed worries about regarding the effect of the pandemic on human relationships. One participant remarked that "[w]e did lose a lot of that that human connection, that compassion, just in the loss of individuals by losing your face" (CB_09). Another reflected on the inability of many even to mourn properly: "people weren't allowed to go to funeral homes and say goodbye to their loved ones […] I think that was the most like heartless thing you could ever do" (CB_01).

Throughout the interviews, it became clear that experiences during the pandemic were not trivial in their role of trust and agency during the pandemic. All these outcomes compounded to increase skepticism towards institutions. Participants felt not just that institutions had failed to protect them, but that they also enforced mandates that contributed to a more difficult life for the participants. This left them with a sense of mistrust that would possibly carry to future events.

b. Conspiracy theorist, or general skeptic?

As mentioned in the methods section, in the early stages of interviews, we noticed a discrepancy between endorsements on the recruitment survey, and what was being expressed in the interviews. This led to the adoption of our ad-hoc inclusion criterion of mistrust in government. Interestingly, even with participants who were retained after our ad hoc criterion, there still seemed to be a discrepancy in the strength of their endorsements to conspiracy items, and even the content of the conspiracy items, compared to the way they were expressing their perspectives in the interviews. While these individuals meet the technical criteria based on their scores, the interviews revealed a different picture. When engaging in conversations with the participants, what we noticed was concerns about trust, autonomy, and the role of money and financial gain for the government and institutions like the pharmaceutical companies. In some sense, these seemed to be concerns that

we can all relate to. These concerns, while often associated with conspiracy thinking, are also widely shared and are not inherently *conspiratorial.* Most of the time, participants did not seem to express any overtly conspiratorial in the way that the term *conspiracy theorist* might suggest. Even when expressing things such as: "I believe that the vaccine is actually a form of population reduction" (CB_09) or "part of me did know it was all a shame because I knew that it was an agenda […] it was an agenda and not just for public safety because I know the government doesn't care about our health" (CB_04).

In one of the final interviews, we decided to go through the questions of the recruitment survey with the participants, to confirm responses and provide them an opportunity to elaborate. We hoped this would bring insight into the divergence between their responses and their interview behavior, seeing as though they did not appear overtly conspiratorial as one would expect based on their survey responses. Table 3 shows their scores out of a possible score of 70 on the conspiracy items. Some participants did change their responses to lower levels of agreement on the Likert scale. Two participants claimed to not even know who George Soros when reflecting on the conspiracy survey item of: *George Soros has played a role in creating the pandemic or is benefiting from it in some way,* despite having responded with *strongly agree.* For responses that were kept the same during this interview, some participants provided detailed explanation for why they responded the way they did, giving context to their endorsements. Interestingly, however, some of those participants did not seem to express their endorsement as strongly as one would assume. One participant, for example, gave the items a quick scan before quickly responding with "yeah… yep… yes" (CB_04) when confirming his responses, and only provided context when asked about his thoughts on these items being labeled conspiracy theories, to which he responds "these things that cannot be proven […] it seems like if the ability is there to do this stop, what's

to stop someone from actually doing it" (CB_04). This description of *probability* was a recurring one. Although most participants confirmed that they continued to endorse their responses to most items, it appeared to be that the case that their interpretation of some of the questions was different from the interpretation normally ascribed to conspiracy theory instruments. When asked if they still "strongly agree" with an item on the survey, for example, participants sometimes used phrases that implied that their responses were less a reflection of certainty, and more a reflection of plausibility. They used phrases like "again… rumors... It's a possibility. Don't say I disagree with it. So, I would probably say strongly agree" (CB_01). Some participants decided to change their response to reflect this uncertainty, with one participant saying, "I think I would change it to like neither agree nor disagree because just because like I kind of agree with it but like at the same time it seems kind of weird if they like did that" (CB_13). Even some of those who confirmed their *strongly agree* responses did not seem to have as much to say about the belief as one might expect. This implication of this finding is discussed further below in the discussion section.

Table 3: Survey responses before and after interview

	Score before interview	**Score after interview**
CB_01	66	61
CB_04	68	68
CB_07	64	61
CB_08	60	54
CB_09	64	62
CB_10	60	54
CB_13	56	48
CB_15	66	69

6. DISCUSSION

The present study set out to explore factors associated with conspiracy beliefs associated with the COVID-19 pandemic, particularly how the pandemic as a social event may have influenced beliefs and behavior. The study draws on the Adaptive Conspiracism Hypothesis, the Existential Threat Model of Conspiracy Theories, and Social Identity Theory to understand the role of sense-making processes, social threat, and other possible factors in the development of conspiracy theories. The significance of the pandemic as a social crisis provided us with a natural experiment to explore this. Using a qualitative approach, we aimed to understand how lived experiences of the pandemic interacted with other motivations behind conspiracy beliefs.

a. Interpreting the Beliefs

An unanticipated finding of the study was the discrepancy between participants' survey responses and how they articulated their beliefs in the interviews. Out of a possible score of 70, our participants' scores on the conspiracy instrument ranged from 56 to 68. As a result, there is good reason for classifying these individuals as conspiracy theorists. Nevertheless, the beliefs, attitudes, and behaviors of our participants did not clearly correspond to those that would be identified as conspiracy theorists. We suspect that part of the explanation for this discrepancy is that beliefs that would be categorized as conspiracy theories appear less radical when placed in the context of the complex attitudes that contribute to their belief systems. A participant's claim such as, "I believe that the vaccine is actually a form of population reduction" (CB_09) overlook the larger context of healthcare experiences where concerns about vaccine side effects were dismissed. It also ignores his awareness of media reports discussing changing menstrual cycles, increases in cancer rates, and increases in COVID-related deaths. In isolation, the idea that the pandemic is "an agenda and

not just for public safety because I know the government doesn't care about our health" (CB_04) has the ring of a conspiracy belief; in the context of an individual's prior beliefs and lived experience, the status of the belief is less clear.

Background mental states — which we coded as *attitudes* — can alter one's interpretation of someone's belief and render it much less unusual than it might otherwise seem. Qualitative methods enable us to explore beliefs in relation to a larger understanding of the outlook of the individual, in one sense, this is hardly surprising. One's perspective is usually more nuanced than one is capable of articulating by answers on a survey.

As we note above, participants' concerns about trust, autonomy, and the financial interests of the government and other public institutions seemed to be quite widespread and not inherently conspiratorial. Indeed, the pandemic seemed to increase skepticism toward authority which was further heightened by how the pandemic unfolded. Apparently conspiratorial beliefs, therefore, were relatively mainstream and unremarkable in the pandemic context. Gorman (2024) argues that health-related conspiracy theories may arise from cognitive biases and social dynamics combined with mistrust of institutions designed to protect us. She suggests that belief in some conspiracy theories may reflect a broader conviction that these institutions are capable of harming us, and it is this that justifies the mistrust and leads to endorsing conspiracy theories. This discussion thus raises the critical question of whether our participants were, in fact, conspiracy theorists. It also raises the more general question of whether participants in other studies would appear to be less conspiratorial if their views were explored qualitatively. It is possible that survey-based findings are missing some important nuances, which can lead to misinterpreting the data on conspiracy theories. One possibility, noted by Lukic et al. (2019) is that this might indeed be the case because survey responses offer participants a forced choice. Qualitative work is thus essential to the study

of conspiracy theories, not least because it can provide us with a perspective on the meaning that individuals attribute to their views (Lednický et al., 2023). The current project adds to the limited number of qualitative reports on conspiracy theories and highlights the importance of understanding the complexity of beliefs. Qualitative methods thus appear to provide a useful adjunct to the methods that are currently used to investigate conspiracy theories.

An Epistemic Spectrum

As we note, even the participants who affirmed their responses on the conspiracy instrument expressed their affirmation by asserting the *plausibility*, rather than the certainty, of the claims in question. One possibility, therefore, is that beliefs exist on an epistemic spectrum from possibility to certainty. When participants assert their conviction that a CT is true, they may, in fact, merely be asserting that it is possible or plausible (Lin, 2022).

Central Themes

Our analysis revealed several key themes that appeared to be particularly relevant to the endorsement of conspiracy theories. In examining the relationship between these themes through the lens of the social psychological frameworks discussed above, it appears that the prior attitudes of participants combined with the events of the pandemic motivated beliefs about the government and public institutions and ultimately the endorsement of conspiracy theories.

Firstly, the theme of *attitudes* proved particularly important in understanding the roots of participants' beliefs, in particular their initial attitudes to the pandemic, their mistrust of institutions, and their views about vaccination. Participants often referenced what they took to be governmental misbehavior in the past as evidence for their mistrust of the government during the

pandemic. Themes of hypocrisy, double-standards, and malicious intent were common as justification for the suspicion some participants felt and reinforced their prior mistrust.

Secondly, the theme of *affect* allowed us to explore the emotional influences on beliefs. This theme overlapped with various concepts across different themes. Interestingly, different feelings were more prevalent in discussions about different beliefs. For example, frustration and contempt were more prevalent in discussions coded under mistrust and suspicion. These appeared to be associated primarily with *beliefs*, whereas emotions like futility and hopelessness were more common during discussion about government mandates and appeared to have more to do with *behavior*.

Thirdly, *institutional mistrust* emerged as a significant theme. Mistrust was rooted both in the perceived incompetence of institutions as well as their malicious intent. Mistrust was invoked by participants to justify their concerns about vaccinations and their anger at public health mandates. Because our ad hoc inclusion criterion was suspicion of government, it is not surprising that this theme was prominent. It is significant, however, that the mistrust expressed by our participants did not extend to individuals or smaller groups. When mistrust of a particular individual was expressed, it was typically because of a connection to an institution of the relevant kind. Moreover, institutional mistrust extended beyond government to other public bodies. Nonetheless, it is a limitation of the study that our inclusion criterion selected for participants who were mistrustful of the government and makes it difficult to interpret the importance of institutional mistrust as a theme. Our findings do, however, add further context to the nature and content of this mistrust.

b. Explanatory Model of Our Data

Social events that bring about uncertainty stimulate cognitive processes the function of which is to make sense of our environment. One of the most important features of the environment are

social threats. Van Prooijen's Existential Threat Model of Conspiracy Theories (2020) explains that in times of societal conflict, anxiety and uncertainty increase, inducing an existential threat. The detection of the threat causes sense-making processes to be stimulated which, in the presence of an antagonist out-group, leads to conspiracy theories. Some of the sense-making processes relevant here are agency detection and pattern perception.

Nevertheless, only some people develop conspiracy theories in the presence of an existential threat, even with the presence of what can be termed an antagonist outgroup, which was more of a collective experience in the pandemic. What I propose is that the participants in our study came to the pandemic with a higher level of sensitivity to threat due to their personal histories and pre-existing beliefs. This is captured in the theme of *attitudes.* This theme captures their dispositions and perspectives and their understanding of the world. By *attitudes*, therefore, we mean the views that interact with these sense-making processes to produce conspiracy beliefs. In short, we hypothesize that our participants were more mistrustful than others and thus more disposed to perceive threats and malicious intent during the pandemic. They thus approached government decisions, mandates, and other events of the pandemic skeptically. In turn, the perceived misbehaviour of public institutions reinforced their existing worldviews and disposed them to attribute malicious intent to the government and public institutions during the pandemic. Since conspiracy theories explain events as plots of powerful people with malicious intent, it seems reasonable that these individuals were more likely to endorse such beliefs.

In sum, then, participants who developed conspiracy theories encountered the pandemic already cynical and disillusioned about the state of the world and more specifically public institutions. Accordingly, they were likely to interpret social crises through a suspicious lens. This enhanced

their sensitivity to threat made them even more attuned to governmental misbehavior, and most importantly, more likely to attribute malicious intent to those in power.

c. The Role of Autonomy

Our findings suggest that a central concern of participants was the threat to personal autonomy. We propose that the existential threat experienced by participants in our study was precisely this threat to their autonomy. According to Self-Determination Theory (Deci & Ryan, 2008) autonomy is one of the three fundamental human needs in addition to relatedness, and competence. One would predict, therefore that a perceived assault on one of those needs would be experienced as demeaning or deeply threatening. This is what we found. Pandemic mandates reduced the autonomy of most people. It is therefore possible that for those already mistrustful of government and other public institutions, that this would have been experienced as an existential threat and a possible source of conspiracy theories. A threatened sense of autonomy could very well shake our sense of self agency that allows us to feel secure and fulfils a psychological need, as explained by SDT and Douglas' descriptions of the needs that conspiracy theories might fill (Douglas et al., 2017). In response, participants would have done their best to make sense of the threat and to understand its source. Further, they would have been sensitized to future threats. In this state of hypersensitivity, the government and institutions become highly salient as sources of threat that would have been seen as motivated by malicious intent. In this way, a positive feedback loop would have been established. On this model, conspiracy theories are the result.

It is noteworthy that a focus on government and other public institutions could be a unique feature of COVID-19 conspiracy theories. Where most conspiracy theories reflect a mistrust directed at a powerful group that influences the outcomes of events, COVID-19 conspiracy theories may reflect

mistrust directed at the primary group capable of infringing on our autonomy. The distinction between in-group and out-group in the traditional sense was not salient in our findings. As a result, Social Identity Theory appear not to be particularly useful in interpreting our results. Participants did not seem to feel strong belonging to specific groups and were often more focused on how the pandemic affected people more broadly. Even when discussing different beliefs held by people, they did not seem to be part of echo-chambers related to such conspiracy beliefs and were often unconcerned by people around them not sharing similar beliefs. This was captured by an emphasis on the idea that everyone should be able to make their own decisions. Nor did we find conventional references to out-groups based on occupation, race, class, etc. Instead, participants viewed institutions as a whole, including the government, as a collective out-group characterized by their power to impose restrictions and get away with bad behavior. What makes the pandemic sort of unique in the sense of group identity, is that collective in-group was characterized more by who was affected by such restrictions and bad behavior, rather than the traditional sense of in-group based more on characteristics such as community, race, and so on. In other words, the institutions, as an "out-group", were a threat to *all of us* as the "in-group". As van Prooijen, remarks, that "groups are subjective social-psychological constructions" (van Prooijen, 2020) and the borders that categorize an out-group are not always clear. Finally, while it is tempting to suggest that our finding about autonomy is similar to findings in the literature that conspiracy theories are linked to reduced feelings of control, we suspect that these two are different. In the literature, control is usually characterized as control over the *environment*. When one feels that they lack a sense of control over the environment, they rely on conspiracy theories to regain the feeling of control by generating an explanation for an event. For our participants, in contrast, autonomy refers to a sense

of control over *themselves* and, in particular, the choices they make. Our model is summarized in Figure 3.

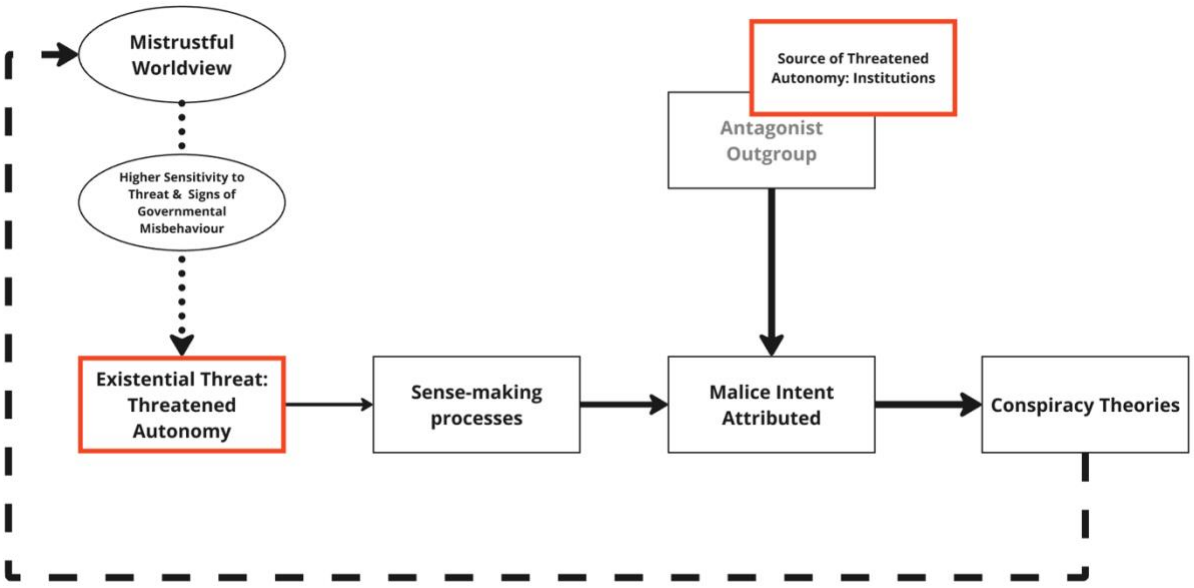

Figure 3: Proposed Explanatory Framework: A mistrustful worldview leads individuals to be more sensitive to threats. When autonomy is threatened, sense-making processes are activated. When the threat to autonomy is identified, malicious intent is attributed, leading to the endorsement of conspiracy theories. Conspiracy theories then further reinforce a mistrustful worldview.

Vaccine Hesitancy

Although it was not part of the objective of the study, our findings are relevant to the understanding of vaccine hesitancy. There is substantial evidence that believing conspiracy theories is a risk factor for vaccine hesitancy (Hornsey et al., 2018). It is perhaps not surprising that feeling that one's autonomy is being constrained might motivate resistance to vaccine mandates, resulting in vaccine hesitancy (Thai et al., 2024). The relationship of mistrust to actual vaccine behavior is an important one, though not one we addressed in this study. Conspiracy theories are determinants of

vaccine hesitancy, and previous research during the pandemic supports the view that institutional mistrust is a significant factor in vaccine hesitancy (Krastev et al., 2023).

7. LIMITATIONS

All participants were Canadian. Although mostly foreign-born Canadians, many of our participants spent a substantial portion of their life in Canada and have roots here. Because COVID-19 followed different trajectories in different places, our findings are unlikely to generalize. Further, cultural differences would significantly alter the model presented here. Cultural differences in attitudes to government, as well as differences in value placed on autonomy would produce different results to those presented here.

Participant age represents an additional limitation. The youngest participant was 32 years of age and the oldest was 70, and it is possible that different cohorts would have had different experiences with public institutions and thus different base levels of trust.

Participants were asked to reflect on their experiences in the COVID-19 pandemic three years after it started, and inaccurate memories of the event may have biased our findings.

Further, we were not able to assess what effect virtual interviews had on our participants. In-person interviews might have generated different insights.

Finally, because the COVID-19 pandemic was a unique cultural event, one cannot be confident that the model of conspiracy theories presented here would generalize to other social crises.

8. CONCLUSION

The present study set out to explore themes relevant to social threat experienced during the COVID-19 pandemic. By conducting serial in-depth interviews with participants over a period of five to six months, we aimed to foster deeper conversations and add dialogue to the field of conspiracy theories. Our study was unique in its extended engagement with participants over time, giving us the opportunity to get to know participants on a deeper level. Drawing on Adaptive Conspiracism Hypothesis and Existential Threat Model of Conspiracy Theories, we hypothesized that social threat would play a central role in shaping beliefs. We present a model based on van Prooijen's Existential Threat Model of Conspiracy Theories. Our model takes infringement of autonomy as the social threat that induces existential threat and also clarifies the perception of an out-group as it relates to COVID-19 conspiracy theories. As such, our results provide partial confirmation of his model. While autonomy is emphasized as a distinguishing feature of COVID-19 conspiracy theories, we are not arguing that COVID-19 conspiracy theories were the only group of conspiracy theories to involve the notion of autonomy. It does, however, seem to be a core element given the unique circumstances of the pandemic such as lockdowns, mask mandates, and vaccinations directly affected the collective. Despite that is true that other conspiracy theories such as political ones that involve fears over government outreach or other medical conspiracy theories do involve the notion of autonomy, it is more of an implied notion rather than a uniquely relevant one in other conspiracy theories. Most conspiracy theories rather focus on control, which is more of an external conceptualization of this idea, rather than autonomy, which is more of an internal conceptualization, as expressed through self-determination.

By emphasizing the lived experiences of individuals, this study provides much needed context in the field of conspiracy theories, giving us greater insight into the psychological and social dynamics that fueled conspiracy beliefs.

The study highlights some implications for the relationship between conspiracy theories and public health compliance. Given the central role of autonomy in COVID-19 related conspiracy theories, strategies to enhance people's sense of agency are essential for future health crises. Additionally, given that the worldview participants held included a deep-rooted mistrust towards institutions, efforts to increase social trust and social capital more generally is essential.

Finally, the qualitative paradigm we successfully carried out and provided useful context for understanding conspiracy theories or beliefs on a conspiracy theory spectrum. This suggests that future research on conspiracy theories that employs qualitative methods might prove fruitful. By understanding not just what people believe, but why they believe it, we may be able to work towards efforts that promote dialogue, trust, and change.

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