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HOW DO DIFFERENT THREAT TYPES CAUSED BY COVID-19 AFFECT TRUST IN SCIENCE THROUGH ISSUE OWNERSHIP BELIEFS?

SÜMEYRA BENGİSU AKKURT

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Sümeyra Bengisu Akkurt

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SÜMEYRA BENGİSU AKKURT

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APPROVAL

This thesis titled HOW DO DIFFERENT THREAT TYPES CAUSED BY COVID-19 AFFECT TRUST IN SCIENCE THROUGH ISSUE OWNERSHIP BELIEFS? submitted by SÜMEYRA BENGİSI AKKURT, in partial fulfillment of the requirements for the degree of Master of Arts in Psychological Sciences is approved by

Assoc. Prof. Onurcan Yılmaz (Advisor)   …………………..
Kadir Has University

Prof. Adil Sarıbay   …………………..
Kadir Has University

Assoc. Prof. Sinan Alper   …………………..
Yaşar University

I confirm that the signatures above belong to the aforementioned faculty members.

Prof. Dr. Mehmet Timur Aydemir
Director of the School of Graduate Studies
Date of Approval: 24.06.2022

DECLARATION ON RESEARCH ETHICS AND PUBLISHING METHODS

I, SÜMEYRA BENGİSU AKKURT; hereby declare

- that this Master of Arts Thesis that I have submitted is entirely my own work and I have cited and referenced all material and results that are not my own in accordance with the rules;

- that this Master of Arts Thesis does not contain any material from any research submitted or accepted to obtain a degree or diploma at another educational institution;

- and that I commit and undertake to follow the "Kadir Has University Academic Codes of Conduct" prepared in accordance with the "Higher Education Council Codes of Conduct".

In addition, I acknowledge that any claim of irregularity that may arise in relation to this work will result in a disciplinary action in accordance with the university legislation.

Sümeyra Bengisu Akkurt

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24/06/2022

To My Loved Ones...

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HOW DO DIFFERENT THREAT TYPES CAUSED BY COVID-19 AFFECT TRUST IN SCIENCE THROUGH ISSUE OWNERSHIP BELIEFS?

ABSTRACT

The recent findings suggest that people's reactions vary based on the type of threat, and the mixed results on the relationship between threat and political reactions might stem from this variation in the threat types. Eadeh and Chang (2020) employed the issue ownership model to explain these mixed results, which is based on the notion that certain parties are perceived as more competent to deal with specific problems as the owner of a particular issue. Although the COVID-19 pandemic invokes different types of threats (e.g., health, scarcity, or social isolation), few experimental studies have been conducted to determine whether different threat types caused by the pandemic lead to different outcomes. In the current study, we experimentally tested the issue ownership model in the COVID-19 context. Using a similar approach to Eadeh and Chang, we investigated the degree to which scientific advancements and/or the governments are viewed as issue owners for resolving different threats posed by COVID-19. We also examined how different threats influence belief in different conspiracy theories ("COVID-19 as a hoax" and "COVID-19 as a bioweapon") and trust in science. We developed scenarios to manipulate the economic, health, and social threats and investigated how people react to them. Afterward, participants were asked to write open-ended statements to express their feelings while imagining themselves facing one of these threats. Finally, we presented a manipulation refresher and a manipulation check question to the participants. The findings indicated no significant difference between the threat conditions and the control condition in terms of participants' issue ownership beliefs, conspiracy beliefs, and trust in science, and the manipulation was not effective. Overall, the findings suggest that manipulating threat experimentally during a pandemic is more complicated than previously assumed in the political psychology literature since the baseline threat level are already at the peak.

Keywords: Conspiracy Theories, Trust In Science, COVID-19, Issue Ownership Model

COVİD-19'UN NEDEN OLDUĞU FARKLI TEHDİT TÜRLERİ, SORUNA VAKIFLIK İNANÇLARIYLA BİLİME GÜVENİ NASIL ETKİLİYOR?

ÖZET

Tehdit ve siyasi ideoloji arasındaki ilişkiye dair güncel araştırma bulguları birbiriyle çelişen sonuçlar içermektedir. Literatürdeki bulgular, insanların tepkilerinin karşı karşıya kaldıkları tehdidin türüne göre değişiklik gösterdiğini ve bu çelişkili bulguların, tehdit türlerindeki çeşitlilikten kaynaklanabileceğini düşündürmektedir. Eadeh ve Chang (2020), belirli problemlerin çözümü için spesifik politik partilerin daha yetkin ve sorumlu görüldüğü kavramına dayanan soruna vakıflık modelini kullanmıştır. COVID-19 pandemisi de pek çok farklı türden tehdidi (örn. sağlık, kıtlık ya da sosyal izolasyon) tetiklemiş olsa da pandeminin neden olduğu farklı tehdit türlerinin farklı sonuçlara yol açıp açmadığını belirlemek için yürütülen deneysel çalışmalar sınırlıdır. Bu çalışmada, COVID-19 krizi bağlamında soruna vakıflık modelini deneysel olarak test ettik. Eadeh ve Chang (2020) ile benzer bir yaklaşım kullanarak, COVID-19'un neden olduğu farklı tehditleri çözmek için bilimsel gelişmelerin ve/veya hükümetlerin soruna vakıf görülme derecelerini karşılaştırdık. Bu çalışmada ayrıca pandeminin neden olduğu farklı tehditlerin farklı komplo teorilerine olan inancı ("aldatmaca olarak COVID-19" ve "biyo-silah olarak COVID-19") ve bilime olan güveni nasıl etkilediğini inceledik. Pandeminin neden olduğu ekonomik, sağlığa yönelik ve sosyal tehditleri manipüle etmek için senaryolar geliştirdik ve katılımcıların bunlara nasıl tepki verdiğini inceledik. Manipülasyonun ardından, katılımcılardan kendilerini bu tehditlerden biriyle karşı karşıya kaldıklarını hayal ettiklerinde nasıl hissettiklerini ifade eden açık uçlu cümleler yazmalarını istedik. Tüm ölçeklerin sonunda, katılımcılara manipülasyon etkisini tazeleyecek bir hatırlatmada bulunduk ve manipülasyonun etkili olup olmadığını kontrol eden bir soru sorduk. Analiz sonuçları, katılımcıların algılanan tehdit düzeyi, soruna vakıflık inançları, komplo teorisi inançları ve bilime olan güvenleri açısından, deneysel koşullara atanan katılımcılar ile kontrol koşuluna atanan katılımcılar arasında anlamlı bir fark olmadığını göstermiştir. Ayrıca bulgular manipülasyon yönteminin de etkili olmadığını göstermiştir. Genel olarak bulgular, pandemi gibi büyük bir kriz esnasında

duyulan tehdit hissi zaten zirvede olduğundan, tehdidi deneysel olarak manipüle etmenin siyaset psikolojisi literatüründe varsayıldığından daha zor olduğuna işaret etmektedir.

Anahtar Sözcükler: Komplo Teorileri, Bilime Güven, COVID-19, Soruna Vakıflık Modeli

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LIST OF ACRONYMS AND ABBREVIATIONS

APA: American Psychological Association

DTA: death-thought accessibility

MSC: motivated social cognition

MS: mortality salience

TMT: terror management theory

WEIRD: Western, educated, industrialized, rich, democratic

WHO: World Health Organization

1. INTRODUCTION

Since the first human cases of the new coronavirus were recorded in Wuhan, China, in December 2019, more than 518,000,000 people have been infected, and more than 6,280,000 people have lost their lives (Worldometer, n.d.) as a result of COVID-19. When the first cases were reported, the risk posed by the virus has been underestimated and did not capture intense global attention because how contagious and how deadly the virus was not yet empirically well known (Momtazmanesh et al., 2020); therefore, its spread across countries in a short time could not be prevented. When COVID-19 was declared as an outbreak (January 30th, 2020) and after a while as a pandemic (on March 11th, 2020), the virus has already been recorded in more than 110 nations, and there were over 118,000 known cases. In brief, the new coronavirus spread over approximately all regions and nations in about four months.

Depending on the rapid spread of COVID-19 and the deaths of millions of people worldwide, Niemi et al. (2020) reported that the danger posed by COVID-19 as a cause of death is perceived to be significantly greater than the mortality threat posed by many other prevalent reasons such as traffic accidents and the seasonal flu. Another study by Schneider et al. (2021) supports this account, showing that the number of reported COVID-19 cases daily during the data collection phase, as an objective assessment of the risk posed by the virus, is less predictive than the psychological components of the risk perception. However, the threat of death is not the only threat stimulated by COVID-19. The pandemic has created situations that could be perceived as threats in many other ways. It decreased hours spent outside, lowered earnings, increased depressive symptoms, and reduced life satisfaction (Sugawara, 2020).

Like many other pandemics in history, the COVID-19 pandemic has played a drastic role in increasing economic inequality, primarily due to wage cuts and job losses encountered by low-income workers (Aspachs et al., 2021). As part of COVID-19 measures, several workplaces experienced periods of interruptions during lockdowns (Martin et al., 2020). The overall household incomes have decreased in many countries (Ettman et al., 2020,

Mahmud & Riley, 2021; Singh et al., 2021). Besides, although it is one of the most critical measures recommended to prevent the spread of the pandemic (Center for Disease Control and Prevention, 2020; Kaur et al., 2020), the 'social distancing' rule and curfew restrictions increased people's feeling of loneliness and augmented the morbidity of several mental problems such as depression, anxiety, emotional dysregulation, and sleep disorders (Elmer et al., 2020; Groarke et al., 2020; Hawkley & Cacioppo, 2010). Overall, general health, social and emotional well-being were adversely affected by the pandemic (Esain et al., 2021). In the current study, I clustered the primary threats caused by COVID-19 into three groups (health threats, economic threats, and social threats) to examine their impacts on the participants' issue ownership beliefs (e.g., issue of the government), opinions about the origin and the authenticity of the virus, as well as their trust in science and trust in institutions that are active in combating the pandemic.

In this study, the issue ownership model (Petrocik, 1996) was used as a theoretical framework to understand the relationship between threat and political reaction. However, it is necessary to review other prominent theoretical models that explain the relationship between threat and political ideology before explaining why the issue ownership model is employed among these different approaches. One of the most substantial models regarding the relationship between political ideology and threat, the motivated social cognition model of conservatism (MSC; Jost et al., 2003), argues that perceived threat makes people react more politically conservative. Furthermore, the 'reactive liberal hypothesis' (Nail et al., 2009) expects that the impact of the conservative shift will be more substantial among liberals. On the other hand, as another dominant approach to explaining threat and political ideology relation, the terror management theory (TMT) suggests that people consolidate their existing worldviews when threatened (Greenberg et al., 1986). Although the existing literature usually presents evidence that threat leads to an increased level of political conservatism (Burke et al., 2013), there are instances that threat led to a liberal shift (Eadeh & Chang, 2020) based on different sort of threats (Brandt et al., 2020) and how they are perceived. The reason behind why existing literature usually demonstrated a conservative shift in the face of threat might be that the previous literature predominantly relied on the psychological consequences of threat of terrorism as an operationalization of psychological threat, which biased the existing literature (e.g., Akay et al., 2020; Bonanno & Jost, 2006; Finseraas & Listhaug, 2013;

Ullrich & Cohrs, 2007; Van de Vyver et al., 2016). Likewise, Crawford (2017) drew attention to how the threat is defined and operationalized in the experiments influences the observed reactions of the participants. He presented evidence that the experiments operationalizing threats as physical harm have strengthened the threat-conservatism link.

Furthermore, Eadeh and Chang (2020) employed the 'issue ownership' model, which is widely used in the political science literature, to provide a functional theoretical framework for reconciling the inconsistent findings in the literature. The concept of issue ownership has been an important topic in political science literature to better understand the voter-party dynamics, and it was originally defined as how voters view a party's ability to handle a particular problem. (e.g., Lefevere et al., 2015; Petrocik, 1996). Using the perspective of the issue ownership model, Eadeh and Chang (2020) hypothesized that the scope and direction of the political shift would vary based on threat type presented in the studies. They claimed that a conservative shift would be observed for a particular threat that the conservatives are seen as the solution, while a liberal shift would be seen for a threat that liberals are seen as the remedy. The terror threat and the environmental threat were employed in their experiment as threats that conservative and liberal parties would be viewed as the issue owner. The findings revealed that manipulating threats to pollution, access to healthcare, and corporate misconduct led participants to show more liberal responses. Consequently, these findings provided significant empirical data that challenged the widespread idea in the literature that threat almost always leads to a conservative shift, and provided important evidence that threat may in some respects strengthen political liberalism.

After investigating the relationship between the threats posed by the pandemic and the political reaction, another focus of this study is to understand the belief in conspiracy theories regarding the COVID-19. Conspiracy theories are defined as inaccurate explanations of events or persons based on the assumption that a group of malevolent people works behind the scenes to achieve some evil goal (Van Prooijen, 2018). The belief in conspiracy theories is one of the central themes of this study since people are more likely to believe in conspiracy theories when their perceived threat level is high (e.g., Newheiser et al., 2011; Parsons et al., 1999; Van Prooijen & Douglas, 2017; Van Prooijen, 2020). However, it is not entirely clear whether different threat types affect the

belief in conspiracy theories in different ways. Conspiracy theory belief is not uncommon, with nearly half of people showing some level of conspiracy theory endorsement (Pierre, 2020). Besides, although several correlational studies have already shown how COVID-19 related threats are associated with belief in conspiracy theories (Bertin et al., 2020; Braud et al., 2021; Georgiou et al., 2020), there is a dearth of experimental investigations on this topic.

When it comes to why conspiracy theories are widespread, existing literature suggests that conspiracy theories provide simple narratives that are easy to make sense in the face of complex threats and crises (Greenberg et al., 2004). The idea that the various crises developing in complex contexts are only the result of the actions of a group with simple malicious goals provides basic *patterns* to the conspiracy believers by establishing causal associations between some physical stimuli, actors, and activities, as well as providing *agency* that supposes an intention and actor behind threatening situations (Abalakina-Paap et al., 1999; Hofstadter, 1966). Based on the knowledge that there is a strong relationship between the perceived lack of control (Van Prooijen & Acker, 2015; Whitson & Galinsky, 2008), feelings of powerlessness (Abalakina-Paap et al., 1999; Pratt, 2003; Zarefsky, 2014) and belief in conspiracy theories, conspiracy theories can be regarded as basic explanatory mechanisms intended to explain the intricate circumstances causing the anxiety of existential threats.

According to previous research, it is not a novel incidence that a pandemic may cause a rise in conspiracy ideas. To illustrate, there is a prevalent belief that the HIV/AIDS virus is artificially produced to reduce the Black population, and research shows that this belief is negatively correlated with complying with the recommended measures such as using condoms to avoid HIV/AIDS (e.g., Bogart & Thorburn, 2005; Bogart et al., 2010). In the context of the COVID-19 outbreak, the virus provided a very suitable ground for the spread of a wide range of conspiracy theories, with the many health, economic and social threats it caused. Moreover, numerous fake news about the pandemic is in circulation, and the rapid spread of this news also accelerated the production and dissemination of conspiracy theories. The Director-General of the World Health Organization (WHO) cautioned the public in February 2020 that we are confronting an "infodemic" besides the pandemic, highlighting the quick circulation of fake news (WHO, 2020). Supporting this

warning, approximately out of every 5 Americans, according to a survey conducted in the United States (US) in March 2020, have been exposed to some fake news about the virus (Mitchell & Oliphant, 2020).

Besides, COVID-19 related knowledge was mainly learned via social media by the general public in the US (Sarria-Guzmán et al., 2021), which can be more prone to fake news circulation than scientific and institutional sources. In support of this, it was found that social media usage was positively correlated with the tendency of embracing conspiracy theories (Erisen, 2022). Although it may vary from country to country, research shows that around one in every three to four people seem to believe in COVID-19 conspiracy theories to some extent (Freeman et al., 2020; Juanchich, 2021; Kooistra & Rooij, 2020). When considered together, belief in COVID-19 conspiracy theories was usually found to be linked to the compliance with relevant preventive measures (Motta et al., 2020; Pavela Banai, 2021) and anti-vaccination attitudes (Bertin et al., 2020), which shows that this issue needs further research attention. Furthermore, as the case for the relationship between threat and political ideology, there is not much empirical research in the literature on which types of threats affect beliefs in conspiracy theories in what ways.

Trust in science is another substantial research topic in the context of COVID-19 pandemic since there is a negative relationship between belief in conspiracy theories and scientific trust (e.g., Imhoff & Bruder, 2014; Imhoff et al., 2018; Sayın & Bozkurt, 2021). Studying the factors related to the trust in science is important in the current context as most studies in the literature suggests that higher trust in science predicts higher compliance with the preventive behaviors against the spread of the virus (Pavela Banai, 2021; Plohl & Musil, 2021), which was also found to be, at least in part, mediated by belief in conspiracy theories (Plohl & Musil, 2021). Another study supported the finding that one of the predictors of compliance with the protective health guidelines is trust in scientists and confidence in the government, and belief in COVID-19 related conspiracy theories (Van Mulukom, 2020). The recent findings reported by Šrol et al. (2021) also indicated that COVID-19 conspiracy beliefs were linked to general conspiracy and pseudoscientific views, which were also linked to a perceived lack of control and decreased trust in institutions. Although data show that trust in science has increased

slightly in some countries following the pandemic relative to pre-pandemic levels (Sibley et al., 2020), the situation may differ by region for various reasons. Science can be seen as a remedy to restrain and end the outbreak in the long term, since vaccines and treatment methods are the products of intensive scientific studies. Hence, using the perspective from the issue ownership model, we anticipate that trust in science would improve in the face of the health threats COVID-19 poses. However, the scientific community is less likely to be regarded as the solution to the economic and social threats posed by the pandemic. In other words, scientists will probably not be perceived as a solution toward the resource scarcity threat caused by the pandemic and the consequent financial concerns as well as social isolation threat (e.g., feeling lonely due to the restrictions) caused by the pandemic. In this case, the issue ownership model in the pandemic context would not expect a rise in trust in science due to COVID-19 related financial threat as well as social threat.

Despite the fact that many studies in the literature conceptualize and measure belief in conspiracy theories as "general conspiracist belief," the conspiracy theories about the COVID-19 pandemic cover a broad spectrum. Furthermore, the scales developed to assess COVID-19 related conspiracy theories, which have been employed in a number of studies, are usually insufficient to capture the wide range of conspiracy beliefs (Kazun, 2018). There are widespread misinformation and conspiracy theories casting suspicion about the virus's very existence. Some of these theories claim that the virus was originally an artificial bioweapon, while others argue that the virus is overestimated despite acknowledging its existence, and yet others argue that scientifically authorized preventative methods including the COVID vaccines are ineffective or dangerous (e.g., Abutaleb et al.,2020; Hartman et al., 2021; Stein et al., 2021, Uscinski et al., 2020). Therefore, all these unfounded beliefs pose a serious threat to public health.

Notwithstanding the substantial diversity in COVID-19 conspiracy theories, there has been little experimental evidence on how different conspiracy theories affect various attitudinal and behavioral variables. In this regard, Oleksy et al. (2021a; 2021b) pointed out this inadequacy in the literature and stated that only a small number of research had been conducted to see if the endorsement of preventive health behaviors and other social effects of conspiracy theories are influenced by the content of the particular conspiracy beliefs (e.g., general and government-related conspiracy theories). Rothmund et al.

(2022) further claimed that conspiracy beliefs cannot be explained in relation to a monolithic motivational structure as they result from several complex motivational resources. As another evidence to why a single explanation will not be sufficient to understand the belief in COVID-19 conspiracy theories, some studies provide evidence that essentially contradictory and incompatible conspiracy theories were sometimes simultaneously admitted and spread by the same agencies (Miller et al., 2020). Although it is impossible to experimentally investigate all prevalent COVID-19 conspiracy theories in a single study, the current study operationalizes the COVID-19 conspiracy theories in multiple dimensions based on Imhoff and Lamberty's (2020) definition.

Imhoff and Lamberty (2020) provided evidence that compiling scientifically valid preventive intentions against the virus is affected by the type and content of the conspiracy theory in question. They examined the COVID-19 conspiracy theories by dividing them into two main groups: conspiracy theories considering COVID-19 as a "hoax" and conspiracy theories arguing that the COVID-19 is artificially produced as a "bioweapon." Their results suggested that conspiracy theories arguing that the COVID-19 is a human-made bioweapon appeared to motivate engagement in more self-focused preventive health behaviors, whereas conspiracy theories regarding COVID-19 as a "hoax" and claiming the risk of the virus is exaggerated were found to be predictive for the failure of engaging in preventive health behaviors in general. Similarly, in the current study, belief in different COVID-19 conspiracy theories were operationalized as (1)"COVID-19 as a hoax" and (2) "COVID-19 as a bioweapon" conspiracy theories. This kind of distinction also seems appropriate when we consider how widespread such conspiracy theories are. According to the results of Miller (2020), approximately half of the participants reported that they believe that China either artificially manufactured or unintentionally unleashed the coronavirus. Other studies on the 'COVID-19 as a hoax' argument indicate that around 25% of the participants believe that the virus is a hoax (Bruder & Kunert, 2021). These rates, for sure, may vary depending on where and when the data is collected.

To provide a timely contribution to research on the relationship between threat and unfounded beliefs such as conspiracy theories, the current study investigates how each of the different threat types related to COVID-19 affects trust in science and belief in

COVID-19 conspiracy theories using the perspective of the issue ownership model. To do this, I experimentally activated different threats caused by the COVID-19 pandemic, which are the financial threats, the health threats, and the social threats (compared to a control condition), via relevant manipulation scenarios created in a Turkish sample. The participants were then asked a series of questions to determine to what extent scientific authorities and government are stereotypically seen as solutions to these threats as well as their conspiracy beliefs regarding the COVID-19. The findings are interpreted with the theoretical framework presented by the issue ownership model. Since different groups would be seen as a solution to various COVID-19 related threats, I aim to test possible differences across different threat types to see if different threats increase the issue ownership perception for scientists or the government as well as different types of conspiracy beliefs regarding COVID-19.

I predict that manipulating health threats caused by the virus enhances participants' trust in science while priming the financial and social threats results in a decrease, compared to the control condition. Considering the difference in "COVID-19 as a hoax" and "COVID-19 as a bioweapon" conspiracy theories, I hypothesized that the health threat manipulation reduces belief in conspiracy theories compared to the control condition. This effect is expected to be stronger for the belief that COVID-19 is a hoax compared to the belief that COVID-19 is a bioweapon. Because health threat will highlight the risk perception about the virus, it will reduce belief in conspiracy theories arguing that covid 19 is a hoax. Similarly, I expected that financial and social threat manipulations strengthen belief in conspiracy theories. I also expect that both effects are expected to be seen as more vital for the claim that COVID-19 is a hoax compared to the belief that COVID-19 is an artificial bioweapon. Because economic and social threats are indirect consequences of the virus, unlike the health threat, the risk perception for the virus may not immediately increase. Therefore, when the social and economic threats of the pandemic are primed, belief in conspiracy theories that COVID-19 is a hoax might be more widespread in comparison to the health threat condition. As currently, the COVID-19 outbreak is what people are actively processing in their minds; while the pandemic's negative consequences are still being felt worldwide, it is expected that it is relatively easy to manipulate the threats posed by the pandemic experimentally. As a result, the findings would tell us whether economic threats, health threats, and social threats are

perceived to be the issue of the science and/or government and how these threats influence participants' belief in different COVID-19 conspiracy theories as well as their trust in science.

1.1 Different Types of Threats Caused by COVID-19 Pandemic

Globally, strict measures have been implemented by governments against the COVID-19 pandemic. These pandemic policies have been involved (Hale et al., 2021) suspending face-to-face education in schools and universities, travel restrictions, limitations to public gatherings, intermittent lockdowns, quarantine practices for COVID-19 positive individuals and their contacts, and several other interventions to reduce the spread of the virus and to control its negative impacts on the health services and economic systems. Furthermore, the precautions recommended by experts to be protected against the COVID-19 —compliance with some of these has also been made legally mandatory in most countries— directly and drastically affected people's everyday activities. These alterations involved wearing a mask outside, keeping a safe distance with other people, not hugging, or shaking hands, not attending social gatherings, spending time mostly at home, avoiding touching surfaces when being outside, avoiding public transportation as possible, and working/studying online (Ozdemir et al., 2020). As a result, the measures taken by governments and the recommendations of scientists against the COVID-19 resulted in numerous undesirable and unfamiliar alterations in daily practices that can easily be perceived as a threat. According to a recent study (Hughes et al., 2022), participants were most concerned about their financial situation, personal health, freedom, media integrity, and causing health risks to others during the pandemic.

Even though following the social distance rule was found to be one of the most prevalent protective measures against the COVID-19 (Center for Disease Control and Prevention, 2020; Chu et al., 2020; Kaur et al., 2020), the incidence of many mental health issues like anxiety disorders, depression, stress, panic attack, emotion-regulation problems, somatization, or sleep disorders (Elmer et al., 2020; Groarke et al., 2020; Hawkley & Cacioppo, 2010; Hossain et al., 2020) has significantly increased compared to the pre-pandemic period as a result of lockdowns, and the social distancing applications. In this regard, other studies also indicated that the social and emotional well-being of the participants, as well as their general health (Esain et al., 2021) and overall life satisfaction (Mahmud & Riley, 2021; Sugawara, 2020), have been unfavorably influenced by the

outcomes of the outbreak in relation with less time spent outside, poor mental health, and reduced income.

The COVID-19 pandemic, like other pandemics throughout history, caused a growth in economic inequality worldwide. Increased inequality has been mainly because of the job losses and wage deductions that especially low-income groups experienced (Aspachs et al., 2021; Nicola et al., 2020). Many worksites were disrupted under the recommended prevention methods along with the lockdowns (Martin et al., 2020). A study on the relationship between economic activities and social distancing presented evidence that the economic activities have been harshly affected by the rising number of lockdown days, monetary policy tendencies, and overseas travel restrictions (Ozili & Arun, 2020). Overall, household earnings have critically declined (Ettman et al., 2020, Mahmud & Riley, 2021; Singh et al., 2021) in many countries. In the current study, based on our reviews on studies investigating the types of threats caused by COVID-19, the main threat types are addressed as health threats, economic threats, and social threats, which will be summarized in the next section.

1.1.1. Health threats

The most direct threats posed by the new type of coronavirus that causes COVID-19, are undoubtedly health threats. Our evolved biological defense mechanisms are more vulnerable to the novel coronavirus (Seitz et al., 2020), and unfortunately, millions of individuals lost their lives all around the world in consequence. Early physical symptoms of COVID-19 involved fever, cough, lymphopenia, dyspnoea, muscle pain, and fatigue (Huang et al., 2020; Wang et al., 2020). Although the most extensive symptoms of the virus were fever and cough during the patient admittance and hospitalization (Guan et al., 2020), the COVID-19 has a broad spectrum of clinical manifestations, starting from asymptomatic upper respiratory tract symptoms to the heaviest consequences, such as the failure of multiple organs and even death (Chen et al., 2020; Guan et al., 2020; Huang et al., 2020). According to the results of one study (Khan et al., 2020) on the risk factors that may increase the severity of the virus, some of the independent risk factors were reported as older age, being male, having cardiovascular disease, chronic respiratory diseases, and having comorbidities.

The new coronavirus, indeed, poses a hazard to more than simply physical health. Since the risks of COVID-19 and the deaths it causes have been on the agenda for a very long time, the risk of COVID-19 as a cause of death has been perceived significantly higher than other common causes of death compared to the pre-pandemic period (Niemi, 2020). In relation to this information, the current research findings show that the high rates of perceived threat towards infectious diseases constitute a base for several psychological problems (Duncan et al., 2009), and in this regard, the COVID-19 is no exception. There is evidence that (Omary, 2020) the perception that the COVID-19 is a potentially lethal virus was positively correlated with various mental health issues.

COVID-19 has the potential to endanger mental health almost as much as physical health. A large-scale study conducted during the early stages of the pandemic in the Republic of Ireland (Hyland et al., 2020) to assess the prevalence of rates for the common mental health problems showed that around 23% of the participants get a diagnosis for depression, 20% for generalized anxiety, and almost 28% with anxiety/depression. These are incredibly high rates, indicating that COVID-19 has a significant impact on mental health. The same trend can be seen in the case of a study by Ettman et al. (2020) investigating depression rates before and after the COVID-19 pandemic. According to their results, during the new coronavirus outbreak, the reported incidence of depression symptoms was found to be more than three times higher than the pre-pandemic times. The findings of another study carried out by Yildirim et al. (2022) pointed out that the fear of coronavirus and its perceived risk were positive predictors of depression, anxiety, and stress, as resilience was found to be a negative predictor of these psychological problems. The same study results also remarked that the connection between perceived risk and resilience, sadness, anxiety, and stress seemed to be, at least in part, mediated by fear of the COVID-19. The existing studies on the mental health during the pandemic demonstrates that (Hossain et al., 2020) individuals who are affected by the pandemic are more likely to be vulnerable against several mental health issues such as stress, depression, anxiety disorders, panic attack, impulsivity, sleep disorders, and even suicidal behavior (Rajkumar, 2020).

Several studies have showed that during the pandemic, people reported higher levels of perceived loneliness, and symptoms related to anxiety, depression, sleep disorders, and

issues with emotion regulation (e.g., Blasco-Belled, 2022; Porter et al., 2021; Salari et al., 2020) on a global scale, and these symptoms were predicted by the perceived threat of the pandemic (Van Mulukom et al, 2021). For example, one study conducted in the United Kingdom (UK) by Daly et al. (2020) demonstrated that the incidence of mental health disorders in the general population was overall 24.3% between 2017 to 2019, and the percentage expanded to 37.8% in April 2020 with the occurrence of the new coronavirus. As another noteworthy study on the subject, Ayers et al. (2020) examined the internet searches in the United States (US) regarding the indicative symptoms of acute anxiety problems. They observed that internet searches significantly rose during the early times of the pandemic.

Although the mental health of all socioeconomic groups seems to be influenced by the negative impacts of the pandemic (Daly et al., 2020), some risk factors are positively associated with the higher likelihood of mental health problems Some of these risk factors, according to the research findings, are as follows: female gender, pregnancy, higher income level, higher educational level, 65+ age, and being a healthcare worker (Almeida et al., 2020: Daly et al., 2020; Hylan et al., 2020; Xu et al., 2020). However, these trends may vary from country to country, depending on several contextual factors.

Additionally, one other factor increasing the risk for mental health problems during the pandemic can be decreased physical activities due to lockdowns, "staying at home" advice, and working/studying online. The study of Ali and Kunugi (2020) supported this account, arguing that the pandemic endangers physical and mental health by encouraging physical laziness. Moreover, students are another risk group for developing mental health illnesses since many students' educational and social routines drastically changed due to either partially or entirely online education periods. The current findings suggest that stress, anxiety, depression, and posttraumatic stress disorder (PTSD) were ubiquitous in university students in the earlier phases of the pandemic (Cam et al., 2021). The findings pointed out that more than 50% of the students showed symptoms consistent with anxiety/depression (54.5%), and they expressed a higher need for psychological support services than they used to. Overall, the studies discussed in this section have clearly demonstrated COVID-19 virus directly harms physical health while indirectly threatens

mental health. Besides the negative impact of the pandemic on physical and mental health, the economic challenges posed by COVID-19 will be addressed in the following section.

1.1.2 Economic threats

The new coronavirus outbreak initially triggered a public health emergency. However, in a short period, this crisis expanded into a global economic crisis. Ozili and Arun's study (2020) concerning the pandemic's influence on the global economy provides two central answers to the question of how a health crisis quickly turned into an economic conjuncture. First of all, applying the social distancing rule, which officially means keeping a distance of at least 6 feet from other individuals who are not from the same household in both interior and exterior places (Center for Disease Control and Prevention, 2020), indirectly caused many financial markets, workplaces, and companies, to go bankrupt, or to get into heavy debts. As the second reason, the researchers stated that the lack of reliable predictions on how bad the pandemic conditions might get and how long it will last, as well as the rapid spread of the virus, investors, global trade partners, and consumers started to behave more conservative concerning their consumption and investment activities. To draw a general framework of the current economic crisis resulted from the COVID-19, a descriptive study conducted by Khan et al. (2021) demonstrated that the pandemic has had a substantial impact on significant economic factors such as the economic boost, unemployment and underemployment, international trade, foreign direct investment, health service areas, tourism sector, and travel industry. Similarly, recent research indicated that (Fernandes, 2020), global financial markets have experienced significant drops during the current pandemic, and economic instability has reached, or surpassed levels witnessed during the 2008/9 financial crisis.

There are several studies on how the global and local economies have been harshly affected by the social distancing applications as part of prevention measures. Applying the preventive measures advised by the scientists, governments introduced mandatory lockdowns that took months in total, and numerous workplaces were subverted during the curfew periods (Martin et al., 2020). For instance, Martin et al. (2020) concluded that the business interruptions and bankruptcies induced by the social-distancing practices have created a tremendous and global economic shock. The findings of Ozili and Arun

(2020) also provided empirical evidence that the efficacy of economic activities as well as the opening, closing, and the upper and lower limits of the stock prices in the major stock market indices were significantly affected by the duration of lockdown periods, tendencies in the monetary policy, and the travel restrictions.

Orhan and Tırman's (2020) study on the pandemic's influence on the different economic sectors in Turkey remarked that the danger in all industries has risen during the early phase of the COVID-19 pandemic compared to the same timeframe in 2019 and 2018. Another study (Bodrud-Doza, 2020) conducted in Bangladesh on the socioeconomic crisis resulting from the outbreak pointed out that the gross domestic product (GDP) has fallen while the economic and healthcare crisis are outgrowing during the intermittent curfew periods. As predicted in one of the first studies to examine the effects of the COVID-19 pandemic on the economy (Ayittey et al., 2020), the severe economic consequences of the pandemic have been tremendous beyond China, where the virus first appeared, regarding the contraction in trade and tourism sectors, loss of business, as well as the massive effects on global supply networks. The findings of Verschuur et al. (2021) demonstrated that China, the Middle East, and Western Europe were recorded to have the highest total losses in terms of extensive trade losses at the port level, concerning the downfall of supply chains.

The economic catastrophe brought on by the COVID-19 pandemic impacted all agents of the economic system, in almost all sectors. Several industries around the world, including agriculture, transportation, tourism, health care, and sports, were forced to reduce or halt their operations, resulting in large lost profits (e.g., Olufadewa et al., 2021; Yeldan et al., 2021). The results shared by Acikgoz and Gunay (2020) depicted that the pandemic had severe and adverse implications for the customers, employees, distribution network, and the financial markets; therefore, they predicted a global financial decline.

The atmosphere created by the pandemic has altered both consumer habits and production processes as well. A study (Fernandes, 2020) conducted in the earlier days of the pandemic showed that the overall consumption has decreased, and the production activities have been disrupted due to the long curfew periods imposed in China. Although overall consumption appears to have declined, pandemic conditions resulted in significant

rises in consumption of certain products. The consumption of essential goods has increased significantly compared to the pre-pandemic state, based on the uncertainties that come with the outbreak (Orhan & Tırman, 2020). As a result of these alterations in consumption habits, many necessary products such as food, daily supplies, cleaning, and self-care products, have been in short supply in supermarkets' shelves across the world, including Japan, Australia, Italy, Spain, UK, USA and many other (Sim et al., 2020). This phenomenon was called "panic buying," and according to Sim et al.'s (2000) findings, in previous outbreaks (such as SARS epidemic and H1N1 pandemic), this tendency had not been as noticeable.

The pandemic may pose more considerable hazards to countries with poor economic conditions prior to the outbreak. Verschuur et al. (2021) indicated that low-income nations and developing countries had seen the most significant relative trade losses, especially in their production. For instance, Bodrud-Doza et al. (2020) demonstrated that the gross domestic product (GDP) has fallen while the economic and healthcare crisis is outgrowing during the intermittent curfew periods, especially for those from the lowest socioeconomic level in Bangladesh. However, the COVID-19 pandemic has caused more significant harm than previous pandemics, even in the world's biggest and most powerful economies, such as the U.S. This impact is evident in Baker et al.'s (2020) study that the stock market in the U.S. reacted to the COVID-19 pandemic far more aggressively than it did to prior pandemics that hit the country in 1918–1919, 1957–1958, and 1968.

Another common consequence of the economic crises caused by the pandemic is loss of income. A recent study conducted in Uganda provides very striking data on this context that the household income dropped by 60% in comparison with the pre-lockdown conditions, mainly due to the pandemic's negative impact on workplaces and salary cuts (Mahmud & Riley, 2021). Moreover, the results suggested a 50% rise in meal skipping risk and buying half as much food per person. Sugawara et al. (2020) also reported overall decreased income levels in Japan during the COVID-19 pandemic. Another recent study conducted by Singh et al. (2021) in India demonstrated that around 60% of the participants stated that they had lost money during the curfew periods, 38% of them stated job loss, 28% reported that they had cut back on their fruit and vegetable consumption. Highly dramatically more than 80% of them said that they experienced hardship to access

healthcare services. The same trend is exemplified in the study conducted by Jones et al. (2021) with university students in New York during the pandemic. According to the results, most respondents (more than 80%) stated that they had lost household income, and approximately half of them said they were concerned about losing accommodation. The most significant indicators of anxiety/depression were identified as the level of insecurity regarding accommodation and nourishment. Supporting this, Ettman et al. (2020) pointed out that there has been an upsurge in mental illness among the adult population in the US due to the negative implications of the pandemic on financial security.

To conclude, COVID-19 is the pandemic that has had the most significant and most detrimental impact on the global economy in recent years compared to other pandemics in world history. The main reasons behind why the economic impact of the current pandemic is more severe than the others can be the damage caused by the economic stagnation caused by the strict precautionary decisions taken by the governments, such as the social distance rule, and the lockdowns. Many businesses were forced to close or suffer from heavy debt as a result of the pandemic. Countless people lost their employment, and many countries experienced significant economic losses. Although the pandemic had the greatest economic impact on countries that did not have a strong and stable economy before to the outbreak, even the world's strongest economies were heavily struck during the pandemic. The pandemic not only had a negative impact on the economies of both countries and individuals, but it also resulted in drastic changes in social life. The following section would cover the social threats posed by the pandemic.

1.1.3. Social threats

The alterations brought along by the COVID-19 outbreak in our daily lives resulted in a social catastrophe in addition to a health and economic crisis. Social distancing rules, quarantine applications, and government-implemented lockdown measures have been proved to be some of the most efficient strategies to restrict the virus's spread, and it is known that the ratio of infected cases is higher in countries that were late in implementing the social distance rule in the early stages of the pandemic (Kaur et al., 2020). Nevertheless, these practices also had many adverse outcomes in terms of social

functioning. In this part, how the measures taken against the COVID-19 and the general threat environment created by the pandemic affect our social relations, the feeling of social isolation created by social distancing and related mental problems, and how the threat of pathogen affects our social perception and interpersonal relations will be discussed.

Humans are highly social creatures, and the human brain needs social environments and social relationships to develop and maintain its existence in a healthy way (Gage & Baars, 2018). The overall psychological well-being and the chance to access social opportunities have been all shown to be strongly associated with the presence of social interactions in our lives (Alradhawi et al., 2020). Social connections have been shown to help people regulate their emotions, cope with stress, and maintain resiliency through difficult times (Williams et al., 2018). Feeling lonely and socially isolated, on the other hand, increases the burden of stress and has a negative impact on mental, immune, and cardiovascular health (Hawkley & Cacioppo, 2010). Therefore, any condition that restricts or prevents people from engaging in healthy social interactions can be a significant cause of stress, make them feel lonely, and negatively impact their overall well-being.

Some of the preventive measures applied during the pandemic, such as social distancing, quarantine, lockdown, and staying at home as much as possible, contain risks limiting individuals' social life, although they have been vital to prevent the spread of the infection. A recent study by Philpot et al. (2021) provided evidence that participants reported a heightened need for emotional and instrumental support while their perceived feeling of loneliness and perceived hostility has increased, and their feelings of friendship get weakened depending on the social distancing. According to several other assessments, perceived loneliness has significantly grown by 20% to 30% during the COVID-19 outbreak (Groarke et al., 2020; Holt-Lundstad, 2021). This ratio is alarming as it is known that (Moieni & Eisenberg, 2020) our mental health, physical health, and mortality risk are all negatively impacted by the perceived social isolation.

One of the most challenging aspects of social life during the pandemic has been that people can see their loved ones, friends, and close and distant social circles less than they desire. A study conducted in Italy by Villani et al. (2021) revealed striking statistics on

the issue that more than 70% of the participants reported being unable to see their friends and partners in person. The researchers also confirmed that being physically distant from a romantic partner and the sense of being away from coworkers are positively and significantly associated with the escalated level of anxiety. A similar result can be seen in the study of Rauschenberg et al. (2020) that as the participants' reported levels of social isolation increased during the pandemic, so did their levels of psychological stress. In another cross-cultural study (Mækelæ et al., 2020), it was concluded that countries with stricter and more extended lockdown periods had higher levels of distress. These findings highlight how the pandemic has hampered social life and interpersonal connections and how stressful the repercussions have been.

The existing findings suggest that earlier pandemics in history have also caused millions of individuals to experience immense fear, worry, loneliness, and mental health problems (Alradhawi et al., 2020). Compared to previous pandemics, in terms of scale and impact, the COVID-19 pandemic poses the same and even more considerable risks to endanger the psycho-social well-being of millions worldwide. Peterson et al. (2021) emphasized and provided evidence for this tremendous risk that compared to the data from previous pandemics, the incidence of depressive symptoms and anxiety has steadily increased, and people's general mood has been negatively affected by social distancing practices and the resulting social isolation. Besides, the study conducted by Chandola et al. (2020) illustrated that in the initial months of lockdown, a greater number of people have been suffering from common mental disorders in the UK compared to the pre-pandemic rate, and this increase in the case numbers was found to be linked to the stressors related to the pandemic and mandatory lockdowns.

People who already have high levels of loneliness before the pandemic may be more vulnerable to the social implications of the COVID-19 measures. In support of this argument, the results reported by Okruszek et al. (2020) showed that lonelier people were more concerned about social isolation and a higher risk assessment of financial difficulties. According to the Holt-Lunstad (2020) findings from the UK, even before the pandemic, many people felt socially isolated and/or lonely. To highlight the difference between "social isolation" and "'loneliness" concepts, the "social isolation" was defined as physically being alone, having a limited number of relationships, or occasionally

having social encounters, whereas "loneliness" was defined as the subjective feeling of being alone or the gap between one's desired and actual level of vitality in people's social lives. It was also supported by the results reported by Bu et al. (2020) that the perceived level of loneliness augmented in the loneliest group and remained roughly stable in the middle groups, while reduced in for the group with the lowest loneliness, based on their prior self-reports. These studies show that social distancing practices might be riskier than average for people who are already feeling lonely.

Despite the fact that multiple studies have demonstrated the pandemic's harmful consequences on social life and psycho-social well-being, other experts believe that the pandemic may positively affect social life and interpersonal communication. As an example of these researchers who took a more optimistic viewpoint, Zaki (2020) interpreted the people's adherence to recommended behaviors to be protected from COVID-19, which also means people protecting each other via social distancing and quarantine, as one of the most notable acts of cooperation has ever been seen in the world. According to this phenomenon, which Zaki named "catastrophe compassion, " people may exhibit more prosocial and altruistic behaviors under the influence of the crisis caused by the pandemic. In support of this account, Brooks et al. (2020) claimed that emphasizing the benefits of following the quarantine rule for the public may make them more willing to comply with the measures and adopting a more altruistic mindset. In another study conducted by Jordan et al. (2020), it was found that when people are informed about the importance of the recommended measures for public health to be protected from the pandemic, they are more inclined to follow these rules than when they are reminded about the importance of those measures for protecting their personal health. Pfattheicher et al. (2020) additionally suggested that this effect can be strengthened when people are encouraged to empathize more. Similarly, Hussein (2020) claimed that people's anxiety and fear of their families and group members being harmed by the virus is a factor slowing down the spread of the virus.

Although there are some studies focusing on the pandemic's positive impact on social life and social behaviors, such as the ones described above, some other psychologists are skeptical of such optimistic perspectives. For instance, Seitz et al. (2020) pointed out some of the conceptual and theoretical research problems in the previous literature

emphasizing the pandemic's positive social aspects. According to Seitz et al. (2020), it is ambiguous in some studies whether COVID-19 preventive behaviors such as social distancing practically represent a motivation to cooperate. The researchers also argued that most of the studies concluding an altruistic impact of the pandemic did not measure the actual social distancing behavior but intensions to adhere to the measures. Therefore, the authors claimed that this might be because people give self-reports that match the socially desirable norms rather than their inherent intention to be part of a collective action to protect society. These arguments, listed by Seitz et al. (2020), are a good summary of the criticisms brought to the research emphasizing the positive social effects of the pandemic.

In brief, the COVID-19 pandemic has caused not only a health and economic crises but also a social crisis. For more than a year, practices such as social distancing, quarantine, and lockdowns, which are implemented and promoted as part of pandemic preparedness, have caused drastic changes in people's social lives. These preventive measures resulted in less interpersonal communication, increased level of perceived loneliness, and social isolation. Therefore, since a healthy social life is needed for healthy functioning, the social restrictions caused by the pandemic have been significant stress and anxiety factor on people, increasing the incidence of many mental diseases. Apart from the mental problems it causes, pathogen/disease prevalence during the pandemic has also caused substantial changes in people's social perception and social cognition. Although most of the research focused on the negative aspects of these changes in terms of interpersonal relations, some researchers also approached the current situation more positively, considering the collective compliance of people to the necessary precautions during the pandemic period as a kind of cooperative behavior. Despite the availability of such positive approaches, it is undeniable that limited time spent outside the home and limited social interactions are essential sources of stress for people and are linked to various psychological problems. Following a detailed description of the pandemic's health, economic, and social threats, it will be discussed how these threats can influence political reactions. Existing findings and theoretical approaches on the relationship between threat and political ideology will be briefly described in the following section, and then these findings and approaches will be discussed in the context of the current pandemic.

1.2. Explaining the Relationship between Threat and Political Ideology

As briefly outlined in the beginning of the Introduction, how the threat is perceived and how it affects people's perception, cognition, and behaviors has been the most significant interest to social psychologists. Threats can manifest themselves in a variety of ways. For instance, individuals, groups to which the individuals belong, or a much larger community may be affected by a threat. The threatening factors can also come from either a natural or an artificial source. Whether the threat is caused by an intentional agent can be another important variable. Another distinction can be made based on which aspect of human life the threat has the greatest impact on, such as health, social life, or financial state.

Some of the economic, social, and health threats that increased during the pandemic are directly caused by the COVID-19 itself, and some are caused by the coercive changes in people's daily lives caused by the preventive measures recommended by scientists and preventive policies implemented by governments to be protected against the virus. For example, while the presence of the virus directly threatens people's physical and psychological health (e.g., Ettman et al., 2020; Guan et al., 2020; Huang et al., 2020; Hyland et al., 2020; Sugawara, 2020), applications such as social distancing, quarantine, and lockdown, indirectly caused a social crisis (e.g., Alradhawi et al., 2020; Bu et al., 2020; Holt-Lunstad, 2020; Okruszek, 2020; Rogers et al., 2020) by restricting people's social life. These factors also caused much damage by hindering various economic activities (e.g., Ayittey et al., 2020; Fernandes et al., 2020; Khan et al., 2021; Martin et al., 2020; Singh et al., 2021), and resulted in a financial crisis. These social, economic, and health threats, all interconnected and arising from the COVID-19 pandemic, certainly affected people's political thoughts and attitudes.

Due to the considerable variability stemming from the nature of the threat, existing research exploring the relationship between threat and political attitude yielded inconsistent findings, which are attempted to be explained by various theoretical approaches. In the next section, the terror management theory (TMT; Greenberg et al., 1986), and motivated social cognition model of conservatism (MSC; Jost et al., 2003), which are the two of the most common theoretical approaches on the relationship between threat and political ideology, will be briefly described. Then, the issue ownership model (Eadeh and Chang, 2000), a relatively new approach that has emerged to explain this

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issue, will be briefly introduced, and its potential to provide a more comprehensive theoretical framework to clarify and reconcile the current mixed findings in the literature will be discussed.

1.2.1. Terror management theory

Terror management theory (TMT; Greenberg et al., 1986) is one of the most important and commonly recognized theories for describing how threat perception influences ideological beliefs. The TMT posits that when people are threatened, they become more attached to their current ideological ideas. Based on the works of Ernest Becker, Jeff Greenberg, Sheldon Solomon, and Tom Pyszczynski, American Psychological Association (APA) dictionary (n.d.) summarizes the mechanism behind why TMT expects people to cling to their existing worldviews when threatened: "…awareness of the inevitability of death (mortality salience) motivates people to maintain faith in the absolute validity of the cultural worldviews (i.e., beliefs and values) that give their lives meaning and to believe that they are living up to those standards.". The theory suggests that (e.g., Pyszczynski et al., 2004; Pyszczynski et al., 2015), the anxiety caused by the threat of death make people believe with greater certainty in existing worldviews because they try to keep their self-esteem high by living under these values to drive feelings of anxiety and worthlessness caused by death away. The role of self-esteem in TMT has been supported with empirical evidence by Pyszczynski et al. (2004) that mortality salience prime enhances people's desire for self-esteem and their ability to defend self-esteem against threats in various situations. Researchers also found evidence that having heightened self-esteem reduces the impact of mortality reminders on self-esteem and the degree of accessibility in ideas about death.

Ernest Becker (1973) and several other researchers have written in their works that people's desire to escape the threat of death has led to the establishment of many cultural and traditionalist institutions, as well as meaning systems such as religious and national narratives. He argued, the motivation behind this is humans' attempt to escape from the existential worries due to fear of mortality. According to Arndt et al. (1997), the consciousness of human mortality awakens the urge of self-preservation, and the combination of these two can almost paralyze people with fear. Terror management

theory (Greenberg et al., 1986; Greenberg et al., 1990; Rosenblatt et al., 1989) has also been developed based on this idea written by previous social scientists and has been used as a theoretical framework in political psychology research. Just as the anthropologist Ernest Becker (1973) states that societies take refuge in cultural institutions to escape the fear of death, according to TMT, individuals cling to their current views and cultural beliefs when the threat of death increases in order to protect themselves from the horrors of death and to give semantic integrity to the life they live. Further, Jost et al. (2003) stated that, due to individuals clinging to their views, their sympathy for people who think like them increases, while their prejudice against ideas that contradict their own and those who support those contradictory ideas gains strength, in several social and political settings.

The concepts of "mortality salience" (MS) and "death-thought accessibility (DTA)" are recurring concepts in research on death threat in the psychology literature (e.g., Greenberg et al., 1992, Hayes et al., 2010; Schindler et al., 2021). According to Florian et al. (2010), priming one's awareness of own mortality increases the accessibility of death-related, independent from participants' self-reports of how hardy they are towards the death threats. According to Pyszczynski et al. (2006), mortality salience is a severe threat regardless of individual differences because death is the greatest threat in life. It activates all psychological motives as it is the "negation of life itself." These studies have shown that the threat of death, which manifests itself in various ways, is a rigid threat and is highly effective on both the cognitive and behavioral state, including political beliefs.

Numerous studies have confirmed TMT's central hypothesis: the threat will lead to worldview defense. As one of the earliest findings, Pyszczynski et al. (1999) found that people's desire to maintain their self-esteem grows as their unconscious ideas about death become more accessible, as does their need for the sources providing symbolic sense of security. In turn, people become more loyal to their cultural worldviews and the institutions formed by these cultural beliefs, and they take a more defensive attitude towards them.

Like other threats that boost mortality salience, pathogen threat and parasite stress can drive people to become more socially conservative and engage in worldview defense.

Many studies indicate a positive link between parasite stress and social conservatism (e.g., Karwowski et al., 2020; Tybur et al., 2016; Terrizzi Jr et al., 2013). This relation is exemplified in work undertaken by Murray and Schaller (2011) on the impact of a perceived infectious disease threat on conformist attitudes and behavior. Compared to the control group, conformist attitudes and behaviors were significantly increased by experimental manipulation of a pathogen threat. Besides, people engage in worldview defense, and become more conformist, consistent with the parasite stress model emphasizing the behavioral immune system (Schaller & Murray, 2008; Schaller & Park, 2011). The model posits that people adopt relevant attitudes and behaviors that will protect them from the risk of transmission, preferring fewer risky activities for their health when there is a pathogen threat.

According to TMT, another consequence of the threat causing worldview defense is that while people's positive biases towards those who think like them increases, they show intolerance towards people who disagree with their opinions increases. According to TMT (e.g., Greenberg et al., 1990; Schindler et al., 2021), reminding people of their own mortality boosts attraction to individuals who are in consensus with their ideas and whereas weakening the attraction to those who challenge their world views. Further, Greenberg et al. (1992) demonstrated evidence that individuals' tolerance for social out-group members decreases as their perception of the mortality threat becomes more prominent. This outcome has been supported with the subsequent research (e.g., Pyszczynski et al., 2015) that when the perceived mortality salience is high, people take a more negative and defensive stance against others who are not socially in-group members.

Some studies on TMT indicate that whether the threat is perceived on the conscious or unconscious level may also impact the potential effects of the threat. Greenberg et al. (1994) drew attention to this point that the consequences of mortality salience are specific to death-oriented thoughts, and they essentially occur when these thoughts are highly available but not at the consciousness level. Arndt et al.'s (1997) findings also confirm the importance of the conscious-unconscious threat difference that the subliminal priming of death-related clues will promote the worldview defense. Additionally, a meta-analysis conducted by Burke et al. (2010) indicated that TMT's mortality salience hypothesis —

the threat of death affects beyond the consciousness — is found to be quite strong in attitudinal, cognitive, and behavioral measures across 277 experiments in the 64 articles involved in the meta-analysis.

Several meta-analyses have validated TMT's prediction that threat makes people to defend their worldviews and more socially conservative. For instance, Martens et al. (2011), in their meta-analysis on the mortality salience effect, have found that both mortality salience and meaning/certainty threats caused the worldview defense shortly after the threat was presented. However, it was discovered that the MS threat elicited stronger worldview defenses than the meaning/certainty threat once a more extended period has passed since the threat was presented. Interestingly, Burke et al. (2013) demonstrated evidence that MS has a significant impact on political views in increasing both the worldview defense as predicted by TMT and conservative shift effect as predicted by MSC. The results of these meta-analyses are essential findings in terms of demonstrating the validity of the mortality salience effect supporting both the TMT's and MSC's hypotheses in comparable effect sizes. Besides, in the current context of COVID-19, compared to their pre-pandemic state, people reported that they believed more in traditional gender roles and reacted in a way that fits these stereotypes after the pandemic (Rosenfeld & Tomiyama, 2022). In this study, it was seen that people did not experience a shift in political ideology but became more socially conservative in another aspect, in their views on gender roles, which can be considered as relative support to the TMT's hypothesis. This research shows that in addition to the findings of meta-analyses, the threat of death caused by the pandemic may affect conservatism in various aspects, in line with the literature.

Although there are many correlational and experimental studies and meta-analyses in the literature that directly and indirectly support the TMT hypothesis, there are also mixed results on the subject. In their meta-analysis, Burke et al. (2013) pointed out that some studies demonstrate a conservative shift independent of the individuals' current political views. Moreover, in their cross-cultural research with Australian and Japanese research samples, Kashima et al. (2004) claimed that the threat's nature and the cultural-political context might also play a role in the threat's possible consequences. In this study, the authors showed that priming the death threat as a collective mortality had a more

significant effect size in the Japanese sample than in the Australian sample compared to the situation in which it was personally primed. Although in line with TMT's prediction, threat raises the need for worldview defense and self-esteem raising in both cultures, this study is valuable in that it points to the impact of threat type and specific contexts on potential mixed findings.

There are also study findings that contradict terror management theory's fundamental principles and significant theoretical objections in the literature. For example, in the replication study of "Many Labs 4" (Klein et al., 2019), researchers could not replicate the original findings, regardless of whether the original author was included or not in the replication study. This outcome can be seen due to potential flaws that go unnoticed in the replication study and unacknowledged moderating influences between the initial and replication processes. However, another explanation is that the original research finding being spurious. Additionally, although the mortality salience (MS) effect was found to be significant in over 400 investigations, Sætrevik and Sjåstad (2019) pointed out that these studies usually employed the same experimental task, were done in similar cultural settings with small sample sizes; that's why there is a need for high-powered replications. Relatedly, in their preregistered replication study on the MS effect assessed via classic and innovative measures, the authors failed to replicate the original effect. This result raises the question that the MS effect described by the TMT literature may be less generalizable and potent than initially assumed.

There are also contradictory findings that do not confirm that mortality salience causes people to favour those who share their views and to be more biased against those who disagree with them. (e.g., Schindler et al., 2021). Since some of the recent replication attempts on the MS effect failed and naturally opened the value of this widely accepted theory to debate, Schindler et al. (2021) designed preregistered studies that directly test the worldview defense hypothesis. Overall, they found that MS had a very minor but non-significant effect. Along with these findings that the MS effect could not be replicated, there are also some theoretical criticisms of TMT. For instance, Martin and van den Bos (2014) criticized TMT by arguing that it is not a falsifiable theory, does not integrate conflicting findings in the literature well enough, and it is unreasonable to base people with complex cognition on a single core motive, that is fear of death as presented by TMT.

In support of this, Ryan and Deci (2004) also criticized TMT depending on the argument that it is not adequate to explain individuals' aspirations for meaning and significance solely based on the defensive processes since they are also the product of internal developmental processes.

To summarize, in the face of a threat, TMT predicts that people would engage in worldview defense, become more attached to their cultural worldview, and have a more favorable attitude toward those who share their ideas, as well as a negative attitude against those who do not. According to the theory, worldview defense occurs in the face of a threat because the threat of death causes people to hold on to their existing ideas even more tightly, which they perceive as a resource that will boost their self-esteem and provide them with a semantic framework. The COVID-19 pandemic, as a pathogen threat, impacted the entire world and resulted in the death of millions of people, increased the mortality salience and possibly the death thoughts accessibility. In this regard, thinking about the potential consequences of various COVID-19-related hazards from the standpoint of TMT is needed. According to the prediction of TMT, the increase in mortality salience by COVID-19 will cause worldview defense in people both on social and political levels. Although many experimental studies have supported the central premises of TMT over the years, some recent preregistered and high-powered studies failed to replicate the original findings. Therefore, one of the most acknowledged theories explaining how perceived threat influences individuals' cognitions and their political views have been challenged.

1.2.2. The motivated social cognition model of conservatism

The motivated social cognition model of conservatism (MSC; Jost et al., 2003) is one of the most prevalent theoretical approaches to understand how threat impacts political conduct. In its most basic form, MSC predicts that people will become more conservative when confronted with a threat. According to Jost et al.'s (2003) definition, the resistance to change and the rationalization of social inequities are at the heart of conservatism. The fundamental rationale for this conservative attitude is to cope with stress and anxiety experienced in the face of varied events and concepts that contain uncertainty and threat

by favoring the maintenance of the current state and order. The authors argue that MSC combines a wide range of theories, including personality theories, ideological rationalization, as well as epistemic and existential demands. Jost et al. (2003) emphasized the innovative aspects of their approach by highlighting how it considers both situational and personal tendencies that reveal conservatism, how the perspectives of previous approaches are synthesized, and how various motives mutually play a role in reducing anxiety in the face of threat. It has been supported by numerous empirical and correlational studies that threat induces a conservative shift in the face of a threat (e.g., Bonanno & Jost, 2006; Jost & Amodio, 2012), increases in-group loyalty while increasing out-group bias (e.g., Terrizzi et al., 2013; Thornhill et al., 2020), strengthens resistance to change and status quo advocacy (e.g., Jost et al., 2003; Jost et al., 2017), and makes people politically more fundamentalist, ethnocentric, and authoritarian (e.g., Jost et al., 2003).

The MSC account suggests that people who take a stand for the maintenance of the *status quo*, appraising to the current state over the novelty, to cope with the anxiety and fear created by uncertainty and various other threats tend to take a more conservative stance politically (Jost et al., 2003; Jost et al., 2017; Wu & Chang, 2012). The meta-analysis conducted by Jost et al. (2003) is a noteworthy and comprehensive study since it examines the numerous factors predicting why people become politically more conservative. According to the results of this study, in which 88 studies across 12 countries were examined, the factors significantly and positively predicting a more conservative political stance are fear of death, the anxiety of loss and threat, perceived system instability, dogmatism — intolerance to uncertainty —, and desire for order. In contrast, the negatively predicting variables were the tolerance for uncertainty, openness to new experiences, the need for integrative complexity, and self-esteem. Overall, the outcomes of the metanalysis suggested that people become less tolerant of ambiguity, more motivated to rationalize unjust economic systems, and more prone to dismiss science and accept fake news and conspiracy theories when confronted with threatening or uncertain situations.

Some behavioral and neuroscientific findings support Jost et al.'s (2003) motivated social cognition explanation of conservatism in the face of threat. For example, Jost and Amodio (2012) revealed that there is a positive correlation between conservatism and the demand

to decrease threats, uncertainties, ambiguities, and disgust, for both temporary and permanent settings when behavioral and neurological findings in the literature are reviewed. In addition, when researchers reviewed neurological and genetic findings, they found that the rightist political stance — compared to the leftist political view— is associated with increased neurological sensitivity to threat and higher volume in the amygdala, which plays a vital role in threat perception. Additionally, conservatism was associated with reduced volume in the anterior cingulate, which is linked to many sophisticated cognitive activities such as emotion regulation, decision-making, controlling impulses, and lower response conflict sensitivity. To sum up, Jost and Amodio (2012) concluded that the findings of their review supported the MSC model of conservatism and demonstrated the importance of utilizing all of the cognitive, behavioral, and neurological data by developing a more holistic approach when studying the relationship between threat perception and political opinions.

Terrorism and the prospect of a terrorist attack are the most prominent types of manipulation when investigating the relationship between perceived threat and political ideology in the past literature. Numerous research results have supported that there is a significant positive relationship between terrorist attacks and conservatism (Godefroidt, 2022). To illustrate, this phenomenon can be seen in the case of the 9/11 terrorist attacks (Bonanno & Jost, 2006) that participants who were directly affected by the assaults, became more conservative than they were before the incident, regardless of their political stance. As a similar example, in a study conducted after the bombings in London on July 7, 2005, it was demonstrated that people tend to show stronger in-group loyalty, less endorsement of fairness moral foundation, and increased negative prejudice against Muslims and immigrants one month after the bombings compared to their state six weeks before the terrorist attack (Van de Vyver et al., 2016). Another study (Echebarria-Echabe & Fernández-Guede, 2006) confirms the relationship between terrorist threat and conservative shift that, after the terrorist attack in Madrid on March 11, 2004, prejudice against not only Arabs — as the members of the radical group that carried out the attack were mostly Arabs— but also the Jews in general increased. Furthermore, while the participants' adherence to liberal principles weakened, their traditionalist and conservative opinions strengthened after the attack compared to before the bombings. These studies are substantial concerning how terrorist attacks can shift political opinions

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toward conservatism and negatively affect attitudes against out-group members, even when they are not related to the threat source.

Another large-scale study supporting the terrorist threat and conservative shift hypothesis is Akay et al.'s (2020) cross-cultural study that the motivation to vote for conservative parties had strengthened dramatically due to global terror. Consistent with the neurological findings of Jost and Amodio (2012) supporting the relationship between conservatism and higher sensitivity of risk perception, Akay et al. (2020) found evidence that people who are more emotionally affected by the prospect of a terrorist attack show stronger conservative shift in response to the threat than those less affected. Another meta-analysis (Jost, 2017) found that threat sources with higher long-term impacts, such as official warnings and racial demographic shifts, as well as the terror threat, led to a 'modest' conservative shift. As a methodologically innovative example, Adam-Troïan et al. (2019) have provided evidence via the first-time search volume indices (SVI) analysis that the collective saliency of the threat on the online platforms ('terrorist attack' as the keyword for the SVI) indicated steep declines in the support for equalitarian notions in SVI (e.g., "equality"). However, no significant changes were found in endorsing non-equalitarian values SVI (e.g., "liberty"). These findings reveal the powerful impact of terrorist threats and other objective threat categories on the conservative shift in large-scale, cross-cultural, and methodologically diverse investigations.

Another type of threat that has been studied frequently in the literature on the relationship between threat and political opinion is the threat posed by infectious diseases originating from a virus or bacteria, which is often referred to as 'pathogen threat' or 'parasite prevalence' in the literature. Results shared by Murray et al. (2013) supported the hypothesis that parasite prevalence predicts authoritarianism, which is associated with preserving the political status quo and conservatism. This trend is also evident in Zmigrod's (2020) study, which found that when perceived pathogen risk was high, authoritarian attitudes grew stronger, striving to avoid and reject unfamiliar social out-groups while favoring homogeneous and familiar in-groups.. As another example, Fincher and Thornhill (2012) discovered that people are more likely to socialize with their in-groups in places where the risk of transmission of a new pathogen is high than places where the danger of dissemination is low. This reaction is consistent with previous

findings in the literature, which show that the behavioral immune system's elicitation of group-centrism relates to conservatism's emphasis on inter-group loyalty (e.g., Graham et al., 2009; Jost et al., 2009; van Leeuwen et al., 2012).

As for the reasons why the pathogen threat caused authoritarianism, increased in-group loyalty, and negative prejudice toward the out-groups, social conservatism was found to be positively correlated with threat susceptibility, particularly fear of contamination and sensitivity to disgust (Terrizzi Jr et al., 2013). The authors described and measured social conservatism with the indicators such as religious fundamentalism, right-wing authoritarianism, political conservatism, and collectivism. In a recent study, Thornhill et al. (2020) reported that the perception of a higher risk of contracting a contagious disease was linked to more collective and autocratic attitudes and the perception of women as second-class compared to men's restrictive views about female sexuality. A similar result has also been seen in Wu and Chang's (2012) study that the manipulation of pathogen prime caused participants to conform more to the majority's views, in a task of rating abstract art pieces. These findings have shown that a real-life pathogen threat or its experimental manipulation increases conservatism, authoritarianism, in-group favorability, conformity, and out-group prejudice. As seen in other cases of pathogen threat, the threat of COVID-19 infection has also been demonstrated to cause a social and political conservative shift (Karwowski et al., 2020; Tabri et al., 2020).

Even though most research in the literature supports the MSC hypothesis, there are some mixed findings due to various methodological and theoretical factors. To illustrate, Sibley et al.'s (2012) meta-analysis on the personality and political orientation provided evidence that the level of perceived systematic threat may affect whether or not a conservative shift will occur. Onraet et al.'s (2013) study is another example of whether internal or external reasons cause a threat can be an influential factor in the ideological reaction to that threat. As a result of the meta-analysis, the authors concluded that external threats had a significant positive correlation with right-wing opinions, while internal threats only explained a small proportion of the variance in these views. Besides, a meta-analysis conducted by Burke et al. (2013) on how the threat of death (mortality salience) affects political ideology showed that, overall, the mortality salience factor has a strong impact on political ideology. Burke et al. (2013) did a meta-analysis on how the threat of death

influences political ideology and found that mortality salience has a significant impact on political ideology. While this alteration in political attitude was seen as a significant 'conservative shift' in some studies, the threat occurred as a substantial cause of the 'worldview defense' in some others.

Furthermore, while a specific threat may produce a shift in political opinion on a particular topic, another feature of the ideological view may not be affected by the same threat. For example, according to data collected by Castanho Silva (2018), before and after the 2015 Paris bombings, the terrorist threat prompted an ideological shift in some ways, but the participants' sentiments about immigration did not change significantly. According to the author, why attitudes towards immigrants have not changed is that European sentiments regarding immigration have settled in a way that is unaffected by even catastrophic occurrences like terrorist attacks. However, he also noted that whether ideological shifts are observed in the face of various threats might differ depending on the social context. Moreover, Crawford (2017) discovered evidence that while both liberals and conservatives are impacted and receptive to threats to the meaning-based threats (e.g., threats to one's existing worldviews), physical threats are impacted and responded to differently by conservatives, particularly by social conservatives probably due to their higher reliance on negativity bias (Hibbing et al., 2014). Besides, Finseraas and Listhaug (2013) emphasized that the perceived proximity of the threat can influence whether a conservative shift will be observed or not. In this study on how the Mumbai terror attacks influence political opinions in Western Europe, the researchers detected a conservative shift but it was not statistically significant. The authors' explanation was that the threat was not felt close enough to impact European participants significantly. To sum up, the inconsistent findings in the literature examining the relationship between threat and political ideology may be due to factors such as the type of threat, perceived threat level, whether the threat is based on internal or external sources, the involvement of existing political ideas, and varied contexts. In the next title, the reactive liberal hypothesis, which confirms the conservative shift hypothesis of MSC in the face of threat but claims that existing political attitudes have an effect on this shift, will be explained.

1.2.3. Reactive liberal hypothesis

The reactive liberal explanation of conservatism accepts the central hypothesis of the motivated social cognition account (Jost et al., 2003) that threat makes people more conservative and adds one more claim to the existing theory. The reactive liberal hypothesis (Nail et al., 2009) expects that the influence of conservative shift will be stronger among liberals than conservatives. It was illustrated in Nail et al.'s (2009) seminal study that after the manipulation of system justification and mortality salience threats, the participants in the experimental conditions displayed more conservative attitudes in several respects. In line with the prediction of motivated social cognition account, both liberals and conservatives grew more conservative following threat manipulation, but the degree of this effect was stronger for liberals.

A threat may cause a conservative shift or a reactive liberal reaction in some aspects of the political ideology but not some others, as discussed in the previous section on the motivated social cognition account. This is exemplified in Brouard et al.'s (2018) study on how political attitudes are influenced by terror threats that liberal participants became more conservative after the terrorist incident than those who were already conservative. This finding is also consistent with the reactive liberal hypothesis. However, this effect was only seen in ideological attitudes towards security, and participants' ideological views on immigration, moral values, or socio-economic issues were not affected by the terrorist threat posed by the explosion. This study is notable because it demonstrates the relevance of evaluating various sorts of threats and different components of political ideology in political psychology literature on the relationship between threats and the political reactions towards them.

While many studies support the reactive liberal hypothesis (e.g., Ferrin et al., 2020; Hetherington & Suhay, 2011), other findings contradicting this account. For example, Greenberg et al. (1990) found evidence that the threat of mortality salience caused the participants to develop more negative attitudes towards out-group members who are not found similar to themselves. The researchers argued that this effect was only seen for those with higher scores for political authoritarianism, and conservatism. Overall, as in

the MSC account, there are mixed findings in the literature regarding the reactive liberal hypothesis.

In summary, the literature on the link between threat and political reaction yields conflicting findings. Besides, several theoretical attempts to explaining these contradicting findings have been devised. TMT (Greenberg et al., 1986), one of the most well-known of these, claims that feeling threatened makes people more committed to their current worldviews. The MSC (Jost et al, 2003) is the second most prevalent approach to threat and political reaction, and it is founded on the idea that threat makes individuals more conservative. The reactive liberal hypothesis (Nail et al., 2009) backs with this assumption but further asserts that the conservative shift will be stronger for those who are more liberal before the threat. Although most studies have found evidence supporting MSC's assumption (Jost et al., 2003), a significant number of studies have been published reporting findings that support the claims for each of these theoretical approaches. In this context, the issue ownership model (Eadeh & Chang, 2020) provides a perspective that has the potential to explain the literature's complex findings. The type of the threat manipulation used in each study, according to this model, might be the cause for the mixed findings in the literature.

1.2.4. Issue ownership model

The origins of the concept of issue ownership in political psychology research are initially based on Budge and Farlie's (1983) studies. Although issue ownership theory was first articulated in the 1980s, it has only been in the last 20 years that the notion acquired traction in research on political party and voter behavior (Kazun, 2018; Lefevere et al., 2015). In recent years, it gained a prominent position in political psychology literature's analysis of the voter-party interaction and behavior. The concept of issue ownership was defined in Petrocik's (1996) early works that it is the capability to tackle a problem that voters are concerned about. The simplest explanation of issue ownership is the belief that voters believe certain parties are better equipped to deal with specific issues.

According to the prediction of the issue ownership theory, parties will be more favored in finding support for the problems they are seen as the 'issue owners' by the voters. As examples of issues associated with certain parties, in the context of European countries, while the issue of social security is seen as an issue that belongs to socialist or social democratic parties, the issue of immigration is mainly viewed as a concern for the right-wing or far-right parties, and the implementation of policies to protect the environment is considered to be an issue of Green parties (Lefevere et al., 2015). Additionally, Kraft (2016) shared evidence that right-wing parties, voters believe, are more successful in achieving budget balance than left-wing parties. However, there are also findings (Jakobsen & Listhaug, 2012) that an increase in the unemployment rate may cause the public to support more left-wing economic ideas when a left-wing party owns the government. Although there are contextual differences in which parties are perceived as owners of particular issues, the phenomena of voters considering parties as accountable for solving specific problems has been confirmed on multiple occasions in the literature.

Issue ownership opinions of the voters affect their voting behavior. Namely, if a voter regards a party as more accountable and capable of solving a specific problem, the likelihood of voting for that party increases (Bélanger & Meguid, 2008; Petrocik, 1996), especially when the threat associated with that problem is highlighted, and those issues are cared by the voters. As one of the early findings on this subject, Petrocik (1996) reported that politicians' particular pattern of concerns in presidential election campaigns has a statistically significant impact on voting behavior. Understanding the impact of the issue ownership on voting behavior over time has sparked political psychology researchers' interest and motivated conducting additional research on the topic. In their study reviewing the sample of publications published in Web of Science between 1990 and 2014, Lefevere et al. (2015) discovered that interest in issue ownership theory surged significantly after the early 2000s, compared to the 1990s.Political scientists' and psychologists' interest in this theory has not waned since 2014.

While most researchers working on issue ownership theory in political psychology literature focused on the relationship between issue ownership and voting behavior or party election campaigns, some studies focused on both research questions. Because the concept of issue ownership impacts voter decision-making in representative democracy

systems, parties have attempted to manipulate issues owned by both their own and competitor parties (Seeberg, 2019) and have organized campaigns to achieve these. To illustrate, Stubager and Seeberg (2016) found evidence in a study with a Danish sample that repeatedly emphasizing particular issues and succeeding effectively in resolving these issues can significantly enhance a party's issue ownership impression among voters. Nevertheless, in another study conducted by Eagen (2013), there is only a weak correlation between a party's position and their actual performance on the issue, which means that issue ownership is primarily established and maintained by concern and commitment. Several other studies (e.g., Damore, 2004; Sides, 2006) have been undertaken on the motivating elements that influence presidential candidates' agenda-setting processes for their election campaigns and why and how these issues have been selected.

Election behavior is one of the most studied contexts for the concept of issue ownership. Several individual-level studies revealed that how salient the voters perceive the issue is critical. For example, Bélanger and Meguid's (2008) study on voting behaviors implied that issue ownership influences voting decisions if respondents believe the issue in question is substantial. In support of this conclusion, Lachat (2014) discovered statistics indicating that for a party to have an edge in obtaining votes in the context of an issue, the issue must be viewed as necessary by voters during the campaign. These studies refer that the impact of issue ownership on election outcomes is influenced by how salient the voters perceive the issue. Besides, concerning the voting decision, Vliegenthart & Lefevere (2018) claimed that although issue ownership impressions of the voters play a role in deciding which party to support, the party preferences of the individuals may also affect their perception of issue ownership bidirectionally. In addition to these, Meyer (2015) also emphasized the "negative issue ownership" concept that is a party's lousy reputation or inability to provide a solution to any issue can also affect voters' decisions.

Although early research on issue ownership dealt with this concept in a more one-dimensional way, some current researchers took a more multi-dimensional approach to the notion. For example, Walgrave et al. (2012) examined the issue of ownership by dividing it into two basic dimensions as "competence" and "associative." Issue ownership, as operationally defined by the authors, implies that some political parties are associated

with specific concerns and are thought to be the most capable of dealing with them. As a result, they discovered that the associative issue ownership dimension influences people's voting behavior independently of the competence dimension. Similarly, a study (Green & Hobolt, 2008) examining the promotion strategies of parties and voters' voting decisions in the UK found that competence ownership of an issue has surpassed ideological stances in influencing voting behavior. Further, Lachat (2014) also addressed issue ownership on the same two dimensions and showed that the voters' views on an issue should significantly influence the issue judgment when a party is seen as the "associative owner" of the issue in question. When a party is considered the competent owner of an issue, however, the impact of spatial distances must be minimized. These findings indicate that associative issue ownership can be an independent determiner on the election results, and both associative and competence ownerships play a role in voters' decisions.

While there are still several theoretical and methodological debates on issue ownership in the literature (e.g., Kazun, 2018; Stubager, 2017), the theory has been attracting the research interest of psychologists and political scientists in recent years. Despite its controversial aspects, it can bring new perspectives to many existing research questions. An example of this potential can be seen in Eadeh and Chang's (2020) study applying the concept of issue ownership as a theoretical framework to re-evaluate the mixed findings and a wide variety of theoretical approaches in studies examining the relationship between threat and political ideology. The reason why such an innovative approach was needed is that, although most threat and political reaction studies find that people show a conservative shift in the face of threat (Burke et al., 2013), results such as world-view defense (e.g., Pyszczynski et al., 1999; Ullrich & Cohrs, 2007) or liberal shift (e.g., Eadeh & Chang, 2020) are also available in the literature.

Applying the perspective of the issue ownership model, Eadeh and Chang (2020) theorized that the extent and direction of the political change would differ depending on the characteristics of the threat. The authors argued, a conservative shift would be seen for a specific threat for which conservatives are viewed as the issue owner, while a liberal shift would be observed for a problem that liberals are viewed in charge. The study's hypothesis backed up with the findings that a liberal shift was seen as a reaction to the

environmental threats, whereas a terror threat resulted in a conservative shift. Crawford (2017), who provided the pioneering findings to ground Eadeh and Chang's (2020) theories, demonstrated that how people are affected politically by threat is dependent on how the threat is framed in study. Experiments that operationalized threats as physical harm had a higher potential to result in a more extensive threat-conservatism relationship, Crawford concluded. Although different threat types have a wide range of effects on political responses, some researchers (e.g., Akay et al., 2020; Bonanno & Jost, 2006; Finseraas & Listhaug, 2013) highlighted that the fact that most studies in the literature point to conservative shift may be that most of the existing research has used the threat of terrorist attack.

In a nutshell, issue ownership is a concept referring to voters' perceptions of which political party is better at dealing with a specific issue (Petrocik et al., 1996). According to the theory, the more a party is viewed as the "owner" of a particular issue, it is more likely that voters are supposed to support and vote for that party they see as the issue owner (e.g., Kraft, 2016; Lefevere et al., 2015; Meguid & Belanger, 2008; Petrocik, 1996). Researchers' interest in issue ownership has risen dramatically in recent years, with most studies focusing on political parties' election campaign approaches and voting preferences (Lefevere et al., 2015). Even though numerous experimental study results support the concept of problem ownership (e.g., Bélanger & Meguid, 2008; Lachat, 2014; Meyer, 2015; Stubager & Seeberg, 2016; Vliengethart & Lefevere, 2018), there are still a few theoretical and methodological inconsistencies in the literature (e.g., Kazun, 2018). Although the issue ownership model's application to psychology research is still relatively new, and there are still some inconsistencies, it provides a substantial and novel perspective to studies looking into the relationship between theoretical threat and political reaction.

Using the issue ownership model to answer how the threat explains political ideology, Eadeh and Chang (2020) stated that the types of threats used in the research matter. The model predicts that a liberal shift will be seen in the participants when liberals are seen as the issue owner of any threat, and a conservative shift will be observed when conservatives are seen as the owner of the issue. Although the concept of issue ownership has been studied in the literature primarily in terms of party election strategies, voting

behaviors, and which right-wing or left-wing parties are perceived to be the owners of specific issues, the current study uses issue ownership model as a more innovative and broader theoretical framework. The extent to which scientific developments or the government are perceived as the owners of issues resulting from the health, economic and social threats brought by COVID-19 will be investigated in this study. Participants will be asked whether they consider scientific developments or the government competent to resolve issues via how much they agree with the statements such as "I believe scientific developments can quickly resolve the health crisis created by COVID-19." or "I believe the government can quickly solve the social problems created by COVID-19." Although there is not a lot of existing study on this topic to infer causality, we expect that, when confronted with a health threat, participants will be more inclined to see scientific developments as a means of resolving the problem than the government as the issue owner. Likewise, although there is not enough evidence from the literature to draw any causality, it is expected that neither scientists nor the government will be seen as issue owners in the face of economic and social threats.

1.3. Belief in Conspiracy Theories and the COVID-19 Pandemic

According to numerous studies, conspiracy theories, which are inherently false beliefs, are surprisingly prevalent among the public (Oliver & Wood, 2014). Although roughly half of the society accepts conspiracy theories, and it is rarely observed that they include some truth, this does not change the reality that conspiracy theories are false ideas based on paranoid motifs (e.g., Freeman et al., 2020; Hughes & Machan, 2021; Kuhn et al., 2021; Pierre, 2020; Stasielowicz, 2022). Nevertheless, paranoia and conspiracist beliefs are not the same thing (Alsuhibani et al., 2022). Conspiracy theories are also common in the context of the COVID-19 outbreak. Although this rate might vary by country, it has been discovered that about half of respondents have at least partial conspiracy thinking in the context of COVID-19, with roughly 20% – 25% showing some level of endorsement (Freeman et al., 2020; Juanchich, 2021; Kuhn et al., 2021).

There is a positive and robust association between perceived threat level and belief in conspiracy theories in the literature (e.g., Newheiser et al., 2011; Parsons et al., 1999; Van Prooijen & Douglas, 2017; Van Prooijen, 2020). The finding that the COVID-19

pandemic, as a strong source of threat, strengthened the belief in the conspiracy theories has been supported by many studies (e.g., Bertin et al., 2020; Braud et al., 2021; Georgiou et al., 2020, Romer and Jamieson, 2020). A similar trend has been observed in other pandemics in the history, such as AIDS, H1N1, and Zika virus pandemics that the rate of conspiracy theory endorsement has increased (e.g., Bogart & Thorburn, 2005; Bogart et al., 2010; Klofstad et al., 2019; Smallman et al., 2015). Although the link between threat and belief in conspiracy theories seems to be evident, studies trying to explain its underlying structure and provide an explanation greatly vary in the literature.

Many studies have presented evidence that people are more likely to believe in conspiracy theories when faced with an existential threat, that is, when there is a chance that they may be unable to fulfill their existential demands without difficulties (e.g., Douglas et al., 2017; Jolley et al., 2018; Van Prooijen, 2020). Van Prooijen (2019) defines existential threats as occurrences that cause one's values, lifestyle, or even existence to be brought into doubt. Not surprisingly, as a result of existential needs being put at risk, individuals' perceived uncertainty increases (e.g., Van Prooijen, 2019; Van Prooijen, 2020), they feel a lack of control over the situations (e.g., Van Prooijen &Acker, 2015; Uscinski & Parent, 2014; Whitson & Galinsky, 2008), and they feel powerless compared to their normal state (e.g., Abalakina-Paap et al., 1999; Pratt, 2003; Zarefsky, 2014). As a result, people get anxious in the face of threat (e.g., Grzesiak-Feldman, 2013; Newheiser et al., 2011; Radnitz & Underwood, 2017). Conspiracy theories can be considered descriptive and simple narratives that people rely on to escape the tension caused by existential threats. They provide basic mechanisms for restoring the sense of control and safety that has been harmed due to the threat (e.g., Biddlestone et al., 2022; Douglas et al., 2017; Franks et al., 2013; Greenberg et al., 2004; Kruglanski et al., 2021; Pytlik, 2020).

In many cases, the existing literature suggests that believing in conspiracy theories is functional in terms of reducing anxiety, as it removes ambiguity and increases the sense of control with simple explanations it provides. However, according to the Adaptive Conspiracism Hypothesis, which has been validated by some researchers (e.g., Van Prooijen & Van Vugt, 2018), believing that a catastrophe is caused by a group of malevolent and powerful people is a source of the existential threat itself. Therefore, conspiracy theories as an existential threat ultimately might lead to an increase in

believing in more conspiracy theories. Some researchers claim that the tendency to believe in conspiracy theories evolved not to lessen but to heighten fear.

The findings of several studies show that belief in conspiracy theories is not driven by various conspiracy theories that directly support each other but by broader beliefs that support conspiracy theories in general (e.g., Uscinski and Parent, 2014; Wood et al., 2012). The evidence suggests that people might believe in these theories and promote contradicting and incompatible conspiracy theories at the same time (Enders et al., 2020; Miller et al., 2020; Wood et al., 2012; Petrovic & Zezelj, 2021). As an excellent example of holding contradictory conspiracy beliefs simultaneously, Wood et al. (2012) showed a positive correlation between the belief that Princess Diana arranged her fake death and another conspiracy theory arguing she was a murder victim. Surprisingly, even conspiracy theories that directly contradict each other can be held concurrently. Enders et al. (2020) proposed that the reason for this might be possessing a more general tendency that can be called conspiratorial thinking (or conspiracy mentality) and provided data supporting this account. Imhoff et al. (2022) defined conspiracy mentality as a fairly stable willingness to interpret events as the result of vicious secret plans, while individual conspiracy beliefs serve as manifest indicators. Another explanation for the fact that people who believe in one conspiracy theory are more likely to believe in others (Williams et al., 2022) is that believing in wide range of conspiracy theories reinforce one another in a mutually intertwined belief network.

It can be argued that one of the most important reasons why threat promotes conspiracy beliefs is the existence of notable information pollution and misconceptions concerning COVID-19. As an impressive example of the cause of misinformation about COVID-19, Stein et al. (2021) have shown that conspiratorial and sensationalist websites providing information about the pandemic received more user engagement than scientific statements from official authorities such as WHO or the US Centers for Disease Control. Several studies have been undertaken on the possible consequences of widespread misinformation and misconceptions regarding the COVID-19 pandemic. A study conducted by Van der Linden (2015) illustrated that participants were less likely to endorse an anti-global warming petition and donate to a non-governmental organization working for this purpose after watching a video inciting relevant conspiracy theories.

Similarly, the activation of conspiracy beliefs about COVID-19 may cause resistance to taking pandemic-prevention measures by activating various unfounded thoughts such as that COVID-19 is a bioweapon, although its genomic structure has been proven not to be produced artificially in a laboratory environment (WHO, 2021).

Most studies found that people who believe in COVID-19 conspiracy theories are less inclined to believe public health experts' precautions regarding the seriousness of the outbreak, according to Motta et al. (2020). Studies conducted with samples from various countries such as America, Spain, Turkey, and Bangladesh reported a negative relationship between belief in conspiracy theories about COVID-19 and the complying to the preventive measures against the virus (e.g., Allington et al., 2021; Barua et al., 2020; Bierwiaczonek et al., 2020; Hartmann & Müller, 2022; Hughes et al., 2022; Motta et al., 2020; Pavela Banai, 2021, Romer & Jamieson, 2020; Stanković et al., 2022; Zelič et al., 2022). Similarly, several study findings demonstrated that individuals who stated stronger support for conspiracy theories showed more vaccine hesitancy (e.g., Juanchich et al., 2021; Zelič et al., 2022) and engaged in more pseudoscientific practices (e.g., Stanković et al., 2022).

However, there are also inconsistent findings regarding belief in conspiracy theories and their role in preventive behavior and anti-vaccination. Some researchers did not report a significant relationship between conspiracist beliefs and compliance with preventive measures (e.g., Alper et al., 2020; Díaz and Cova, 2020; Plohl and Musil, 2021; Wang & Kim, 2021). The mixed findings in the literature were explained by highlighting the factors such as the sample size of the study, representativeness of the sample, cross-cultural differences, and the non-standard scales measuring conspiracy theories and COVID-19 preventive measures (Hornik et al., 2021). Oleksy et al. (2021) also attempted to explain the inconsistencies in the findings on this matter by examining whether the contents of conspiracy theories held by the participants might account for the different findings. Accordingly, it can be argued that conspiracy theory beliefs might have different determinants and consequences in different contexts, hence more cross-cultural and high-power studies should be conducted.

Although a substantial number of studies provided evidence that misinformation about the virus and belief in COVID-19 related conspiracy theories is influential in taking necessary prevention measures, some researchers argue that false information on COVID-19 is actually not as widely accepted as assumed to have a significant impact on preventive measures. For this account, Roozenbeek et al. (2020) presented evidence that only a small group of people thought that misinformation about the virus was reliable. In addition to the claim that misinformation about COVID-19 may not receive as much support as feared, Hornik et al. (2021) indicated that participants' belief in some false information about COVID-19 may not have a significant impact on the behavior of complying with the necessary protective measures. Juanchich et al. (2021) also unexpectedly observed in their research sample that COVID-19 conspiracy believers complied with proposed guidelines and health-protective precautions just as tightly as others, but they were significantly more resistant to vaccination and COVID-19 tests.

There have also been studies conducted on the impact of cultural, economic, and political contexts on conspiracy beliefs. Alper's (2021) findings supported that conspiracy ideation is higher in people who live in countries where the corruption is more prevalent, suggesting that a high level of corruption seen in the country fosters conspiracy beliefs and moderates the effect of tendency to belief in conspiracy theories. Furthermore, evidence indicates that conspiratorial thinking is more prevalent in contexts where economic inequality is high, and belief in conspiracy theories is also motivating to engage in collective action against economic inequality (Salvador Casara et al., 2022). Results of another meta-analysis study confirmed that there is a positive link between conspiracy theory beliefs, collectivism, and masculinity (Adam-Troian et al., 2021). All these findings emphasize that contextual factors should be given as much consideration in research as individual-level factors that influence conspiracy theory beliefs.

Although most studies on conspiracy theories have been one-dimensional and insufficient to assess variations in a broad spectrum, some of the recent studies have demonstrated the significance of studying conspiracy theories from a multidimensional perspective (Hartman et al., 2021). Furthermore, the study conducted by Rothmund et al. (2022) revealed that it is not possible to explain the rejection of the pandemic via a single pattern of psychological characteristics, and there is significant variation even among

respondents who have a high level of belief in COVID-19 conspiracy theories. Some of the conceptual distinctions used by the studies examining the concept of conspiracy theory from a multidimensional perspective are as follows: theories focusing on general and government-related conspiracy theories (Oleksy et al., 2021a; 2021b), in-group and outgroup related conspiracy theories (Gkinopoulos et al., 2022; Zhai & Yan, 2022), man-made theories and the business control theories (Ghaddar et al., 2022), plausible vs. implausible conspiracy theories (Hattersley et al., 2022), conspiracy theories regarding different epistemic needs (Van Mulukom, 2021), COVID-19 as a hoax vs. COVID-19 resources as a bioweapon (Imhoff & Lamberty, 2020). All these studies found significant differences in various aspects of different categories of conspiracy theory beliefs, demonstrating the necessity of looking at conspiracy beliefs from multiple dimensions. In the current study, as in the study of Imhoff and Lamberty (2020), therefore, I will measure the COVID-19 conspiracy theories in terms of two dimensions:"COVID-19 as a hoax" and "COVID-19 as bioweapon" conspiracy theories.

In conclusion, during the COVID-19 pandemic, numerous conspiracy theories have been produced and circulated, and almost 2 out of 5 people believed at least one conspiracy theory concerning the virus (Freeman et al., 2020; Juanchich, 2021; Kuhn et al., 2021). The most influential factor predicting belief in one conspiracy theory is the belief in another conspiracy theory and is generally associated with having a conspiracy mentality. Besides, in the face of existential threats, people feel weaker, perceive less control over the situations, and feel anxious and scared. According to the most common view, people might quickly adopt conspiracy theories when feeling threatened as they provide narratives that explain crises with the existence of a malicious group and remove ambiguity. Given that the COVID-19 pandemic is an intense death threat and poses numerous other risks to health, the economy, and social life, it is not unexpected that the pandemic has increased belief in conspiracy theories in the light of the current findings in the literature. Furthermore, because conspiracy theory ideas span a broad range, it is important to study them from multidimensional perspectives in order to have a better understanding of them.

1.4. COVID-19 and Trust in Science

In addition to the threat-political ideology relationship and belief in conspiracy theories, the current study examines how the different types of threats posed by COVID-19 affect trust in science. I investigated whether priming participants with financial, health, social, or control conditions influences their trust in science in different ways. Furthermore, how the relationship between trust in science and belief in conspiracy theories related to COVID-19 is affected by different types of threats and different conspiracy theory contents was examined.

In addition to the fact that several studies in the literature revealed a link between belief in conspiracy theories and adherence to COVID-19 prevention measures, trust in science is also one of the essential factors in predicting compliance with these procedures (Plohl et al., 2021). High trust in science was found to be positively connected to people wearing masks in the outdoors, following the social distance rule, and paying attention to hand hygiene in Turkey (Erisen, 2022). In response to the COVID-19 pandemic, Sibley et al. (2020) reported a slight rise in trust in science in the post-lockdown group compared to the pre-lockdown group, based on the self-report of participants in New Zealand. However, depending on the setting and time of data collection, how the pandemic affects scientific trust may vary. Furthermore, one of the factors affecting scientific trust might be which of the pandemic's risks is felt more keenly, and this assumption has not been tested in experimental settings to my knowledge.

Many studies have been conducted on the relationship between the theories of trust in science and belief in conspiracy. Not surprisingly, the available literature portraits a negative relationship between belief in conspiracy theories and biomedical treatments (e.g., Galliford & Furnham, 2017; Oliver & Wood, 2014), scientific and general trust (e.g., Erisen, 2022; Hartmann & Müller, 2022; Imhoff & Bruder, 2014; Imhoff et al., 2018; Sayin & Bozkurt, 2021) (e.g., Galliford & Furnham, 2017; Oliver & Wood, 2014). In other words, those who believe in conspiracy theories have less trust in science and scientists. As a result, they are less likely to follow scientific advice, which might have severe effects during the COVID-19 outbreak. On the other hand, research (Bensley et al., 2021) reports that scientific skepticism negatively predicts paranormal thoughts and conspiracy theory beliefs.

Numerous conspiracy theories generated during the pandemic have increased vaccine reluctance and opposition (Hotez, 2020). According to a study conducted in Spain during the early phases of the pandemic (Rodríguez-Blanco et al., 2021), before vaccination began, roughly 25% of participants were unwilling to be vaccinated, and approximately 27% would refuse to be vaccinated. According to another study conducted in New York in April 2020, approximately 59% of respondents stated that they would receive a COVID-19 vaccine, and 53% declared that they would vaccinate their children, Megget (2020). Results showed that almost all participants (97%) expressed at least one mistrust belief about COVID-19, and half of the participants supported at least one vaccine or treatment hesitation belief. Moreover, COVID-19 mistrust was found to be connected to increased vaccine and treatment apprehension.

There are various reasons why vaccination skepticism and opposition persist during the COVID-19 pandemic. In Turkey, trust in scientists and health experts was positively associated with the vaccination tendencies (Erisen, 2022). According to the study of Finney-Rutten et al. (2021), the most important reasons for this to continue were the rapid spread of false information about the virus on social media, the sociopolitical polarization regarding the vaccine, the rapid development and production of the COVID-19 vaccines and the complex challenges of running such a large-scale global vaccination campaign. Moreover, Rodríguez-Blanco et al. (2021) also revealed that the two leading causes for the lack of confidence in the vaccine were widespread disinformation and a perceived lack of political consensus on the vaccination. According to the findings of another study on the characteristics that predict vaccine hesitancy and resistance, Trump voters were the most COVID-19 vaccine-hesitant group in the United States, and vaccine resistance was also more salient/apparent than the national average among African Americans (Hotez, 2022). These findings suggest that important links might exist between vaccine hesitancy and trust in science and some ideological and social factors.

In addition to the several studies in the literature suggesting the association between trust in science and belief in conspiracy theories and resistance to vaccination, some also provided evidence that ideology and political identities may also affect trust in science. Kossowska et al. (2021) discovered a positive link between leftist political outlook and trust in scientists. The authors also claimed that trust in scientists indirectly affected

attitudes regarding vaccinations and vaccination policy. In support of Kossowska et al.'s conclusion, Koetke et al. (2021) also found that liberal participants reported a higher level of trust in science, and the level of trust in science plays a moderating role in complying behaviors with the social distance rule. That is, the ones with more conservative political views adhered to the social distance rule less. As another example of the politicization of science-related topics, Ruisch et al. (2021) found that more conservative respondents consistently expressed less concern about the COVID-19 virus. Thus, this condition produced an ideological gap in creating a response to take control of the pandemic. Kerr & Wilson (2021) also pointed out that although rejecting different scientific issues may be based on different ideological sources; these different reasons may be anchored in two central ideological attitudes: authoritarianism and equality (group-based dominance). These studies demonstrate that political attitudes and opinions can have a significant impact on scientific trust.

Social context is another factor that influences science skepticism and trust in science, according to the literature. Sturgis et al. (2021) found that people in nations with higher level of scientific trust have more favorable views of the vaccine, regardless of their individual scientific trust levels. They also discovered evidence that societal consensus on trust in science moderates these links on the individual and national levels. Similarly, according to Rutjens et al. (2021), individuals who are suspicious and opposed to the COVID-19 vaccine will most likely be among the groups with higher vaccine suspicion or vaccine opposition.

In short, trust in science is critical in order to avoid being misled at a time when misinformation and conspiracy theories are widely circulated. According to the literature, there is a negative association between trust in science and belief in conspiracy theories, as well as skepticism of vaccination and resistance to vaccination. The association between belief in conspiracy theories, anti-vaccination, and trust in science during the COVID-19 epidemic followed a similar pattern to earlier studies in the literature on scientific skepticism. At first glance, it might seem that anti-vaccination would decrease during the pandemic period, but this was not the case. With the impact of misinformation and conspiracy theories, which grew in popularity throughout the pandemic, vaccine

mistrust and anti-vaccination remained high. On the other hand, political ideology, social identities, and inter-group interactions are found to influence scientific trust.

1.5. COVID-19 and Trust in Government and Institutions

Another issue we investigated in the current study was institutional trust. The participants' level of trust in the Ministry of Health authorities, the Coronavirus Scientific Committee members, government officials, and the World Health Organization was assessed. The goal of examining institutional trust was to see how and to what extent the COVID-19 pandemic's health, economic, and social concerns affect the participants' trust in these four institutions. This section will cover how institutional trust and trust in government are related to trust in science, how belief in conspiracy theories influence trust in government, and how trust in government affect the compliance with preventive measures against COVID-19.

Many studies have indicated that people who have high trust in the government and institutions are more likely to follow the proposed rules for preventing the outbreak. It is known from the studies conducted during the Ebola outbreak that trust in the government was positively linked with the behavior of complying with the mandatory social distance rule (Blair et al., 2017). Similarly, in the context of the COVID-19 pandemic, Ozdemir et al. (2020) showed that people with higher trust in government were more likely to adhere to pandemic containment behaviors. Similarly, Bargain and Aminjonuv (2020) found that trust in the government was linked to whether individuals follow prescribed health norms during times of crisis like the pandemic. Based on data collected in March 2020, the researchers also found that participants with higher political trust were more likely to adhere to the recommendation, such as staying away from unnecessary travels or behaving pro-socially to prevent the virus from disseminating (e.g., social distancing). Consistent with the results of these studies, Oleksy et al. (2021b) observed that individuals who believed in more conspiracy theories about the government and hence had lower governmental trust were less likely to follow prevention strategies like social distancing or frequent hand washing. In addition to trust in government, trust in public health institutions and health professionals were also instrumental in following scientific health advice. In line with that, Rozek et al. (2021) found that having worries about acquiring a

COVID-19 vaccine was negatively linked with trust in healthcare organizations, healthcare practitioners, and scientists. These findings highlighted the significance of having a high level of trust in government and institutions in the public to properly follow scientific advice.

The literature indicates a significant relationship between belief in conspiracy theories, trust in government, and trust in institutions. The findings of Freeman et al. (2020) revealed that people with a firm belief in conspiracy theories had lower trust in government, public institutions, and public professions. Concerning this, the group, which had a firm belief in conspiracy theories, followed the rules recommended by the government less during the pandemic period and was more hesitant to get a COVID-19 tested to be vaccinated. Consistent with the conclusion of Freeman et al. (2020), Bruder and Kunert (2021) also found that trust in government mediated the relationship between adherence to recommended rules for protection from the virus and belief in conspiracy theories. A recent study in Belgium (van Oost et al., 2022) also revealed that government trust positively influenced COVID-19 vaccine decisions, while conspiracy endorsement had a negative impact on it. Likewise, Karić and Međedović (2021) showed that the tendency to believe in conspiracy theories was negatively associated with the rate of behaving in accordance with anti-dissemination measures, and this relationship was directly and indirectly related to low level of political trust. However, a recent study from Turkey (Erisen, 2022) indicated that trust in the Ministry of Health had no significant relationship with conspiracy theory endorsement. Furthermore, in a cross-cultural study performed in Belgium and France, Nera et al. (2022) found that conspiracy mentality mediated trust in medical personnel in the Belgian sample but not in the French sample. As a result, further research is needed to examine trust in the government and trust in various government institutions and officials in a cross-cultural and multidimensional way.

Furthermore, Pummerer et al. (2020) found that having a conspiracy mentality was one characteristic predicting low institutional trust. Aside from a general tendency to believe in conspiracy theories, the researchers discovered that exposure to COVID-19 conspiracy theories reduced respondents' institutional trust and made them less supportive of the government's COVID-19 prevention measures. Another study conducted by Van

Mulukom (2020) examined trust in government by dividing trust in populist governments and trust in non-populist governments. Participants who believed in the conspiracy idea that the virus was created in a lab environment as a bioweapon had lower trust in non-populist governments and higher trust in populist governments. Furthermore, Van Mulukom's findings suggested a negative relationship between the tendency to believe in conspiracy theories and trust in institutional websites that provide information about the virus (WHO, governmental, healthcare, and other scientific websites). In contrast, trust in social media platforms such as Facebook was high for those who hold more conspiracy beliefs. Another study (Šrol, 2021) indicated that belief in generic conspiracy theories, belief in COVID-19 conspiracy theories, and pseudoscientific beliefs affected institutional trust, by influencing the sense of lack of control.

It has been shown by other studies in the literature that trust in institutions and trust in government may be related to perceived threat level and various negative emotions. In another study by Šrol et al. (2021), it was found that high COVID-19 risk perception and low trust in institutions were linked to a sense of lack of control and anxiety. However, the low level of anxiety and depression were found to be linked to the high degree of confidence that the government is handling the pandemic well (Van Mulukom et al., 2021). Furthermore, based on the appraisal and affective intelligence theories of emotions, Erhardt et al. (2021) found that anger and fear are the two primary negative emotions that influence governmental trust. According to this, fear and trust in government have a positive link, whereas anger and trust in government have a negative relationship because the government is blamed for adverse conditions. Because these times of crisis enhance people's sentiments of uncertainty and fear, these feelings can influence people's trust in the government (Van Prooijen, 2020).

In short, trust in government and institutions is essential for people to trust information shared regarding the pandemic and to follow recommended protection guidelines. According to the literature, there is a negative relationship between belief in conspiracy theories and trust in government and institutional trust. Adherence to scientific advice offered by institutions and governments is negatively connected with having a conspiracy mentality in general and believing in conspiracy theories specific to COVID-19. Trust in institutions and government is also affected by how risky the pandemic is perceived, the

lack of control felt against the virus, and negative emotions such as anxiety, fear, and anger. Finally, to retain high trust in institutions and government, it is critical to interact with the public in a transparent, not politicized, up-to-date, regular, and open manner.

1.6. The Current Study

In the current study, I hope to contribute to the literature on several counts. To begin with, this study differs from many others in the literature in that it considers the types of threats (economic threats, health threats, and social threats) posed by COVID-19 from multiple viewpoints. Similarly, while many studies on conspiracy theory belief measure conspiracy theories as a single dimension, the current study also deals with conspiracy theories from multiple aspects: conspiracy theories claiming that COVID-19 is an artificially produced bioweapon and conspiracy theories claiming that COVID-19 is a hoax (based on the division by Imhoff & Lambert, 2020).

Another distinguishing feature of the present study is that it adds to the literature on the relationship between threat and political reactions in the context of the COVID-19 pandemic by providing experimental data. There are several contradictory findings and theoretical explanations for this relationship in the literature. According to The Motivated Social Cognition Model of Conservatism (MSC; Jost et al., 2003), which is one of the most important theories explaining the threat-political reaction relationship, people respond more conservatively when confronted with any threat. Furthermore, the Reactive Liberal Hypothesis (Nail et al., 2009) contends that the conservative shift occurs among people who stood at a more liberal point on the spectrum prior to a perceived threat. Terror management theory (TMT; Greenberg et al., 1986) acknowledges the relationship between threat and political reaction by stating people who feel threatened become more attached to their worldview prior to the threat perception.

Some recent studies indicate that conflicting findings in the literature may result from a variety of threats that are used as primed manipulation in studies. (Crawford, 2017; Eadeh & Chang, 2020). Eadeh and Chang (2020) drew on the background provided by the Issue Ownership Theory, which is mostly used in the political science and political psychology literature, to explain why different types of threats used in research can elicit different

political responses. This theory is simply based on the assertion that certain political parties are viewed as more competent and responsible, or "the issue owners," for the resolution of certain problems (e.g., Lefevere et al., 2015). In an experimental design, Eadeh and Chang (2020) demonstrated that priming with certain types of threats converges to more conservative political attitudes, whereas other threats result in more liberal attitude changes.

In the context of the current pandemic, the current study has brought a new approach to the "issue ownership" theory, which has mostly been studied on the right-left or conservatism-liberalism dualities. In fact, in order to resolve the pandemic-caused crisis, we tested whether the "scientific developments" account or the "government" account is viewed as the issue owner. Furthermore, it was investigated whether the manipulation of participants with various types of pandemic threats has an effect on how they evaluate "scientific developments" or "government" as the issue owner of the problem. In other words, I experimentally tested whether different kinds of pandemic threats will lead to different issue ownership subjects as a solution.

Overall, in the literature, there are not many experimental studies focusing on the role of different threat types in the context of the issue ownership model. Similarly, to my knowledge, no experimental study has been conducted to investigate whether different types of threats have different effects on belief in conspiracy theories and trust in science. With the current design, I aimed to understand how different COVID-19-related threats affect people's issue ownership views, belief in conspiracy theories, and trust in science in different ways.

Our preregistered hypotheses for this study were as follows:

> *H1*. Health threat will decrease belief in conspiracy theories compared to the control condition. The effect will be stronger for the belief that COVID-19 is a hoax compared to the belief that COVID-19 is a bioweapon.
> *H2*. Health threat will increase trust in science compared to the control condition.

H3. Economic and social threats will increase belief in conspiracy theories compared to the control condition. The effect will be stronger for the belief that COVID-19 is a hoax compared to the belief that COVID-19 is a bioweapon.

H4. Economic and social threats will decrease trust in science compared to the control condition.

In addition to these confirmatory hypotheses given above, I also conducted a number of exploratory analyses. I explored whether threat manipulation affects trust in science and whether trust in science mediates the effect of threat manipulation on COVID-19 conspiracy beliefs. I also examined whether experimentally activated health threats (rather than other conditions) underlined the perception that scientists (rather than the government) are the solution.

2. METHOD

2.1 Overview

In the current research, how people respond to health, economic and social threats caused by the COVID-19 pandemic, belief in various types of conspiracy theories about COVID-19, and how the trust in science is affected by these threats were empirically examined. In addition, the question of whether and to what extent people perceive scientific developments or the government as the issue owners of different COVID-19 related threats was investigated. In addition to the study's main research question, I also added the questions (respectively) assessing participants' trust in institutions and their positive and negative affect, together with a manipulation refresher question and manipulation check questions.

In the present study, I applied a between-subjects design. The independent variable was the different threat types caused by the COVID-19 pandemic, and it had four levels, including economic, social, and health threat conditions, as well as a control condition. Participants were randomly assigned to one of these four conditions. I created the manipulation tools for the present study, and participants were primed via created scenarios about economic threats, health threats, and social threats, as well as a neutral control condition. To amplify the manipulation, participants were asked to describe in four sentences how they felt after imagining themselves in the obstacles caused by the type of threat they were assigned. The dependent variable in the study was the belief in COVID-19 conspiracy theories, which was classified into two levels: conspiracy theories considering COVID-19 as a hoax and conspiracy theories claiming that COVID-19 is a human-made bioweapon. I also investigated how manipulating different types of threats affects trust in science.

The study was preregistered, and the hypotheses, materials, and the obtained data are accessible through the Open Science Framework (OSF; https://osf.io/x25s4). The data was collected between June 18 and 29, 2021. The data is available in the OSF, where further details about the method and the procedures can be accessed.

2.2 Participants

The *G*Power 3.1.9.2* software (Faul et al., 2007) was used for computing statistical power analysis to determine the optimal sample size. For our 4 (different threat types: health threat, social threat, economic threat, or control condition) x 2 (COVID-19 conspiracy beliefs: COVID-19 as a hoax and COVID-19 as a bioweapon) mixed design where the latter factor was within-subjects, I assumed a small interaction effect size ($f^2 = 0.10$) and estimated our planned sample size to be at least 428 using a mixed ANOVA model with $\alpha = 0.05$, $1 - \beta = 0.95$. Correlation among repeated measures was assigned a value of "0.51" based on the value shared by Imhoff and Lamberty (2020). Given the possibility of attrition, I projected that our target sample size should include at least 500 complete submissions.

The participants were recruited through two different channels. The first one is that I reached most of the participants via a panel created by the advisor's laboratory (Moral Intuitions Lab; the MINT Lab). The panel includes more than 2000 e-mail addresses of individuals who have participated in previous studies in the laboratory and gave their consent to be informed about potential studies. A second method was to make the study's participation link available to potential participants via social media accounts such as Twitter, Instagram, and personal contacts. As compensation, participants accessed via both channels were informed that a shopping voucher worth 100 TL would be given to 10 people chosen by drawing among those who completed the study.

The data was collected from Turkey via an online *Qualtrics* survey. All measurements included in the survey can be found in the *Materials* section. It took around 8 to 12 minutes to complete. In total, 902 participants responded to the online survey. However, as preregistered, submissions with incomplete main outcome measures (N = 278) were removed, and 624 submissions were included in the analysis. Participants were randomly assigned to four different conditions (health threat, economic threat, social threat, and control condition). The economic threat condition included 153 participants, the health threat condition had 153, the social threat condition had 163 and the control condition had 155.

Please note that the majority of the demographic questions on the form were not forced choices, and some participants did not provide their demographic details. The following are the characteristics of the participants who responded to the demographic questions: The mean age of the participants was 28.6 (age range: 18-63 years, *SD* = 9.01). 79% of the participants identified themselves as female (N = 470), and 21% as male (N = 127) while 0.2% (N = 1) selected the "other" option. More than half of the participants had a bachelor's degree (53%, N = 318), followed by high school graduates (25%, N = 150) and master's degree holders (14%, *N* = 85). About 2% of respondents had a doctoral degree (N = 10), and only 0.5% (N = 3) had less than high school education. Subjective socioeconomic status (SES) was assessed by asking respondents to rank themselves on a ladder from 1 to 10 (higher scores indicating higher status) when they considered the Turkey's average (Adler et al., 2000) and the mean SES was 5.65 (*SD* = 1.46). More than half of the participants (51 %, N = 306) rated their SES level as 5 or 6 out of 10. 84% of the participants (N = 500) stated their SES level was between 4 and 7. The sample responded to a single item measuring to what extent they identify themselves as religious, and the mean for religiosity was 3.53 (*SD* = 1.98) on a 7-level scale regarding the 596 respondents. The political orientation was assessed through a 7-level single-item question asking to what extent participants define themselves as leftist or rightist (1 indicating the most leftist value of the spectrum while 7 indicating the most rightist value), and the mean for political orientation was found 3.25 (*SD* = 1.38) for the 596 respondents. Sample characteristics for age, gender, education level, SES, religiosity, and political orientation are presented in Table 2.1.

Table 2.1 Sample characteristics I

	Age	Gender	Education Level	SES	Religiosity	Political Orientation
N	585	598	598	598	596	595
Missing	39	26	26	26	28	29
Mean	28.6	1.22	4.60	5.65	3.53	3.25
Median	25.0	1.00	5.00	6.00	4.00	3
Standard deviation	9.01	0.416	1.09	1.46	1.98	1.38

Table 2.1 Sample characteristics I

	Age	Gender	Education Level	SES	Religiosity	Political Orientation
Minimum	18.0	1	1	1	1	1
Maximum	63.0	3	7	10	7	7

Participants were also asked about their current employment status. More than 40% (N = 222) of the participants stated that they were employed, as 29% of them stated that they had no employment history (N = 172). While 27% (N = 163) of the participants selected the "other non-employed" option, 3% (N = 20) of the participants were retirees. Besides, they were asked one-item self-rated health (1 = poor, 5 = very good) questions; the means for a perceived general state of health was 3.88 (*SD* = .72) for the 597 respondents. Additionally, 92 out of 600 participants reported that they have previously tested positive for COVID-19. 257 of the 595 participants stated that at least one of their family members had previously received a COVID-19 diagnosis, and the mean for the number of family members who tested positive was 1.24 (*SD* = 1.95). 131 of the 590 participants indicated that at least one of their family members was on unpaid leave for a while due to the COVID-19 outbreak, and the mean for family members on unpaid leave was .36 (*SD* = 1.25). Finally, 244 of the 599 participants reported that they had the COVID-19 vaccine. 297 of the participants who were not vaccinated yet stated that they intended to get the vaccine. Sample characteristics for employment, health status, personal and family history of covid-19 diagnosis, whether there is an unpaid leave in the family due to the pandemic, vaccination status, and intention to be vaccinated are presented in Table 2.1.

Table 2.2 Sample characteristics II

	Employment	Health	COVID19	COVID19 Family History	Family Unpaid Leave	Vaccination	Vaccine Intention
N	597	597	598	593	588	597	354
Missing	27	27	26	31	36	27	270
Mean	2.73	3.88	1.85	1.22	0.359	1.59	1.16
Median	2	4	2.00	0	0.00	2	1.00
Standard deviation	1.58	0.723	0.358	1.93	1.26	0.492	0.371
Minimum	1	1	1	0	0	1	1
Maximum	5	5	2	11	26	2	2

2.3 Planned Analysis

I classified the analyses into two categories: confirmatory and exploratory.

2.3.1 Confirmatory analysis

For the confirmatory analysis, I employed a 4 (different threat types: health threat, social threat, economic threat, and control condition) x 2 (COVID-19 conspiracy beliefs: COVID-19 as a hoax & COVID-19 as a bioweapon) mixed ANOVA where the latter factor is within-subjects.

2.3.2 Exploratory analyses

I explored whether threat manipulation influences trust in science and whether trust in science mediates the effect of threat manipulation on conspiracy beliefs. I also tested whether threat manipulation influences emotions and trust in institutions. Additionally, I explored whether experimentally activated health threats (vs. other conditions) highlight the perception that scientists (compared to the government) are the solution.

I also added manipulation check questions to the study. For example, participants in the health threat experimental group were asked to answer how much they agreed with the statement: "I am worried that the coronavirus threatens my health." (5-point Likert scale). To analyze the manipulation check measure, I ran three one-way ANOVAs for each manipulation check question (i.e., economic threat, health threat, and social threat). I expected that the scores of participants who are primed with the economic threat should differ from the scores of the control group in the manipulation check question for the economic threat.

2.4. Materials and Procedure

In the manipulation phase, participants were asked to imagine themselves experiencing the provided scenario by reading a text that primes the type of threat in the given condition and then asked to express what the assigned scenario made them feel in four sentences. Additionally, there was a fourth and neutral control condition in which participants were requested to think about an ordinary object and express their feelings regarding the selected object. Following the manipulation scale, participants were given the issue ownership questionnaire, where they responded if they see government or the scientific developments as the issue owner of problems caused by different COVID-19 related threats. Then, they were asked to answer questions regarding their belief in COVID-19 conspiracy theories and trust in science. After that, respondents were asked how much they trusted the various institutions involved in pandemic management (Ministry of Health members, COVID-19 Science Board members, government officials, and WHO). Then, as a self-report affect measurement, they were given the Positive and Negative Affect Schedule (PANAS; Watson et al.,1988). After all scales were asked, a manipulation refresher was shown to the participants regarding the experimental condition they were assigned. Afterward, the manipulation check question was asked to control whether the applied manipulation was effective, based on the group to which each participant was assigned. Finally, participants answered demographic questions. At the end of the survey, along with the debriefing form, participants were asked to write down their personal e-mail addresses if they wished to join the drawing mentioned in the consent form.

The items on all scales used in the study were presented in a randomized order. Furthermore, the scales used to assess the study's main outcome measures were "forced-choice," which meant that participants had to answer all the questions on the scale to move on to the next page. Participants could, however, pass without answering any questions on scales that were not the study's main outcomes, such as PANAS or the Trust in Institutions Scale, as well as the entire demographic form.

2.4.1 Manipulation scenarios

There were three experimental and one control condition that participants were assigned. The researcher created the scenarios for the current study to be used as threat manipulations. Participants were given scenarios that manipulated economic, social or health threats caused by COVID-19. In the first condition of manipulating economic threats posed by COVID-19, participants were asked to imagine themselves in a scenario (Figure 2.1) in which they have been experiencing severe economic difficulties due to the coronavirus, that they have been fired and having difficulty paying their bills. The following are some examples of statements made by participants assigned to the economic threat condition: "When the pandemic is already causing problems, a lack of funds will exacerbate the situation.", "I would feel very embarrassed towards the people I was responsible for." "I would like to leave the country." "I would feel in need of the help of others." "I would feel that I am unable to provide for my family and myself."

- Please imagine how it feels to be facing **serious financial difficulties** as a result of the coronavirus, being fired, and having difficulty paying your bills. <u>In four sentences</u>, please describe how you would feel in that situation.
1) …
2) …
3) …
4) …

Figure 2.1 Scenario for the economic threat condition

The second condition highlighted the health threats posed by COVID-19, and participants were provided with a scenario (Figure 2.2) in which they were asked to imagine

themselves getting sick due to the virus, that they were showing severe symptoms, and their general health has been affected very negatively. Some of the statements written by the participants assigned to the health threat condition are as follows: "I used to be concerned about the consequences of this disease, wondering if it would jeopardies my health in the future.", "I would be afraid of dying and endangering those around me.", "I would think that I do not want to die", "I wish I had been more cautious about catching the virus.".

- Please imagine that **you have become ill due to the corona virus**, that you have suffered from the disease very seriously and that **your health has been adversely affected**. <u>In four sentences</u>, please describe how you would feel in that situation.
  1) …
  2) …
  3) …
  4) …

Figure 2.2 Scenario for the health threat condition

Participants assigned to the third condition were given a scenario (Figure 2.3) that they are in quarantine at home due to the coronavirus, have not seen their loved ones for a long time, and experience acute difficulties in their social life. After reading these scenarios, the participants were asked to express their feelings when they imagined themselves in the assigned scenarios in four sentences. The following statements are examples written by participants assigned to the social threat scenario: "I would feel lonely.", "I would miss traveling with my loved ones.", "I would feel the feeling of being separated from the world and the loneliness intensely.", "I would feel the sadness of not being able to hug and smell my family and the people I love."

- Please imagine that you are under quarantine at home due to the corona virus, that you have not seen your loved ones for a long time, and that you are experiencing **serious difficulties in your social life**. In four sentences, please describe how you would feel in that situation.

1) …

2) …

3) …

4) …

Figure 2.3 Scenario for the social threat condition

Finally, participants assigned to the control condition were given a neutral scenario (Figure 2.4) in which they needed to consider an object they see often or an object currently around themselves and express their thoughts about the object they picked in four sentences. For example, a participant who chose the phone as the object wrote the following statements: "It allows me to communicate.", "It allows me to pass the time when I am bored.", "It takes a lot of my time.", "I need to charge it". To proceed to the next question, participants were required to write four separate statements about how they felt after reading the scenario.

- Please consider **an object** that you see now or that you see frequently. In four sentences, please express your thoughts about this object.

1) …

2) …

3) …

4) …

Figure 2.4 Scenario for the control condition

2.4.2 Issue ownership scale

The issue ownership scale was developed by the researchers of the current study (Appendix D). It consists of 6 items (e.g., focusing on whether the participants see scientific developments or the state as a solution to the health, economic and social threats caused by COVID-19. The first three items include items assessing issue ownership of scientific developments regarding different COVID-19 related threat types (e.g., I believe that scientific developments can quickly resolve the health crisis resulting from the COVID-19.). In comparison, the last three items involve statements testing the perceived issue ownership of the government (e.g., I believe that the government can quickly resolve the economic crisis created by the COVID-19.). The items were rated with a 7-level scale (1 = strongly disagree, 7 = strongly agree). The internal consistency of the scale was sufficient (6 items, α = .78), when the scale composite score was used. Besides, the composite score for the issue ownership of scientific developments (3 items, α = .74) and the issue ownership of the state (3 items, α = .88) was computed. I also conducted a Confirmatory Factor Analysis (CFA) to see how well the a priori model fits the data. The goodness-of-fit of all CFA models in the current study was evaluated using RMSEA $\leq$ 0.06 (90% CI $\leq$ 0.06), SRMR $\leq$ 0.08, CFI $\geq$ 0.95, and TLI $\geq$ 0.95 (Hu & Bentler, 1999; Brown, 2015). Besides, the chi-square/df ratio $\leq$ 3 rule was controlled (Kline, 2016). Overall, fit indices revealed a relatively good fit to the data: ($X^2(8)$ = 103; p < .001) with RMSEA = 0.138 (90% CI = [0.12 – 0.16], SRMR = 0.05, CFI = 0.94, and TLI = 0.89. However, the chi-square/df ratio was not $\leq$ 3.

2.4.3 COVID-19 conspiracy beliefs

In order to assess belief in different COVID-19 conspiracy theories, the scale (Appendix E) developed by Imhoff and Lamberty (2020) was given to the participants. The scale involves six items that responded on a 7-level scale (1 = strongly disagree, 7 = strongly agree), and two items were reverse coded. The first three items consist of the first set of the scale referring to the conspiracy theories arguing that COVID-19 is an innocuous virus over-hyped for the selfish gain of a small group (COVID-19 as a hoax). The items in the first set of the scale were: "The virus is intentionally presented as dangerous in order to mislead the public.", "Experts intentionally mislead us for their own benefit, even though the virus is not worse than flu." and "We should believe experts when they say

that the virus is dangerous." (reverse-coded). The second set of last three items addressed another standard conspiracy theory based on the false idea that the virus is deliberately manufactured for the personal interest of a small group (COVID-19 as a human-made bioweapon). Participants' degree of agreement to this notion was asked via the following statements: "Corona was intentionally brought into the world to reduce the population.", "Dark forces want to use the virus to rule the world." and, "I think it is nonsense that the virus was created in a laboratory." (Reverse-coded). The scale was translated and adapted to Turkish by the current researcher and the internal consistency of the scale was satisfactory (6 items, α =.82), and a composite score of all items were created for the analyses. I also composed the composite scores for the COVID-19 as a hoax (3 items, α =.74) and the COVID-19 as a bioweapon (3 items, α =.83) subscales. Additionally, we conducted a CFA for the Turkish version of the scale ($X^2(8) = 25.3$; $p < .001$). The goodness-of-fit indices for the a priori model revealed a very good fit to the data: RMSEA = 0.059 (90% CI = [0.03 – 0.09], SRMR = 0.02, CFI = 0.99, and TLI = 0.99 (Hu & Bentler, 1999; Brown, 2015). Furthermore, the result was in accordance with the chi-square/df ratio ≤ 3 rule (Kline, 2016).

2.4.4 Trust in science

Participants' trust in science and scientists was measured with the Credibility of Science Scale (CoSS; Appendix F) developed by Hartman et al. (α = 0.94; 2017). It consists of 6 items with a 7-level Likert Scale (1 = disagree very strongly, 7 = agree very strongly). The CoSS is graded so that higher scores indicate fewer positive views of science as trustworthy (all items were reverse coded). Some sample statements from the scale are: "People trust scientists a lot more than they should." and "I am concerned by the amount of influence that scientists have in society.". The scale was translated and adapted into Turkish by the current researchers for this study. The internal consistency results of the adapted scale revealed high reliability (6 items, α =.84). For the analyses, a composite score of all items was used. Further, a CFA with one factor was conducted for the adapted scale. The exact fit of the model was significant, $X^2(9) = 92.9$; $p < .001$, and the goodness-of-fit measures showed a good fit to the data: RMSEA = 0.122 (90% CI = [0.10 – 0.15]),

SRMR = 0.04, CFI = 0.94, TLI = 0.90. However, the chi-square/df ratio was not ≤ 3 (Kline, 2016).

The goodness-of-fit indices for all Confirmatory Factor Analyses performed in this study (for the Issue Ownership Scale, COVID-19 Conspiracy Beliefs Scale, and the Issue Ownership Scale) are shown in Table 2.3 below.

Table 2.3 The goodness-of-fit indices for the confirmatory factor analyses

	RMSEA	SRMR	CFI	TLI	chi-square/df
Issue Ownership Scale	0.138	0.05	0.94	0.89	12.88
COVID-19 Conspiracy Beliefs Scale	0.059	0.02	0.99	0.99	3.16
Trust in Science Scale	0.122	0.04	0.94	0.90	10.32

2.4.5 Trust in institutions

This scale (Appendix G) was created for this study by the current researcher. The scale consisted of 4 items that measure the trust rate of participants towards the Ministry of Health officials, members of the Coronavirus Scientific Board, government authorities, and the World Health Organization. One item measured the trust in each of the institutions mentioned above on a 10-level Likert Scale (0 = Not at all; 10 = Very confident). This scale was used to check how the different threat types caused by COVID-19 were activated in the experiment affected participants' trust in institutions. The reliability score of the scale was sufficient (4 items, α = .73). The composite score of all four items was computed for analyzing trust in institutions. Furthermore, while the first three items assessed trust in local institutions (the Ministry of Health officials, members of the

Coronavirus Scientific Board, and government authorities) involved in the pandemic response, the final item assessed trust in an international institution (WHO). Therefore, I computed the first three items as the trust in local institutions factor ($\alpha = .84$).

2.4.6 Emotional state

The current emotional state of the participants was measured by the Positive and Negative Affect Scale (PANAS), initially developed by Watson et al. (1988). In the study, the version of the scale (Appendix H) adapted to Turkish by Gençöz (2000) was used. It consists of 20 items, including ten positive (e.g., attentive, excited, or interested) and ten negative (e.g., irritable, upset, or nervous) emotions. Participants were asked to rate each word from 1 (1=Slightly or not at all) to 5 (5=Too much) based on their current mood. This scale was used to determine which of the primed threats caused negative feelings among the participants. The composite score was computed for the items assessing the positive affect (10 items, $\alpha = .89$) and the negative affect (10 items, $\alpha = .88$).

2.4.7 Manipulation refresher

The current researchers developed the manipulation refresher questions (Figure 2.5; Figure 2.6; Figure 2.7), particularly for this study. The purpose of the manipulation refresher was to prevent manipulation from losing its effect after participants were given several scales. Participants assigned to the experimental condition were asked what the condition they had been assigned to was. Therefore, they were asked to choose one of the screenshots of the manipulation condition they had assigned, or the screenshot is shown in the control condition.

Which of the following was shown to you at the beginning of the experiment?

A)

Please imagine how it feels to be facing **serious financial difficulties** as a result of the coronavirus, being fired, and having difficulty paying your bills. In four sentences, please describe how you would feel in that situation.

1) …

2) …

3) …

4) …

B)

Please consider **an object** that you see now or that you see frequently. In four sentences, please express your thoughts about this object.

1) …

2) …

3) …

4) …

Figure 2.5 Manipulation refresher for the economic threat condition

Which of the following was shown to you at the beginning of the experiment?

A)

Please imagine that **you have become ill due to the corona virus**, that you have suffered from the disease very seriously and that **your health has been adversely affected**. In four sentences, please describe how you would feel in that situation.

1) …

2) …

3) …

4) …

B)

Please consider **an object** that you see now or that you see frequently. In four sentences, please express your thoughts about this object.

1) …

2) …

3) …

4) …

Figure 2.6 Manipulation refresher for the health threat condition

Which of the following was shown to you at the beginning of the experiment?

A)

Please imagine that you are under quarantine at home due to the corona virus, that you have not seen your loved ones for a long time, and that you are experiencing **serious difficulties in your social life**. <u>In four sentences</u>, please describe how you would feel in that situation.

1) ...

2) ...

3) ...

4) ...

B)

Please consider **an object** that you see now or that you see frequently. <u>In four sentences</u>, please express your thoughts about this object.

1) ...

2) ...

3) ...

4) ...

Figure 2.7 Manipulation refresher for the social threat condition

2.4.8 Manipulation check

The manipulation check question (Appendix K) was created by the current researchers for the present study. The scale consisted of 3 items aimed at measuring how much the participants were affected by the exposure to health, economic and social threats caused by COVID-19, which were primed as the manipulation depending on the threat condition they were assigned. Participants were asked to rate the items with a 5-level Likert Scale (1 = strongly disagree, 5 = strongly agree). The manipulation check question was used to learn whether the manipulation applied in the study successfully evoked the intended threat perception.

2.4.9 Demographic form

Participants were given a classical demographic form (Appendix A) designed by the current researcher to assess the demographic variables. Participants were requested to indicate their age, gender, and educational status. Subjective socioeconomic status (SES) was asked with the scale developed by Adler et al. (2000), requiring participants to place themselves on a scale-out of 1 to 10 on a ladder (more outstanding scores indicating a

higher social standing) in comparison with the other members of the society. The participants' religiosity was measured with a single item question, asking how much they regard themselves as religious on a 7-level scale, with higher scores indicating a higher level of religiosity. The political stance of the respondents was measured with a 7-level single item left-right (1 indicating the most leftist, while 7 indicating the most rightist stance) political ideology scale (Alper & Yilmaz, 2020; Saribay & Yilmaz, 2018), which has been used in some other studies in the Turkish context and found to be valid.

Besides, participants were also asked some other one-item questions relevant to the current study's research question for exploratory purposes. These questions are the current employment status (paid employment), perceived general state of health (1 = poor, 5 = very good), previous COVID-19 positive test result, number of people diagnosed with COVID-19 in the family, and the number of family members on unpaid leave, as well as the COVID-19 vaccination status and COVID- 19 vaccination intentions if they have not been vaccinated yet. The demographic form was given to the participants at the end of the study.

2.4.10 Debriefing

After answering demographic questions, participants were given a debriefing form describing how the goal of this study was to determine how some false and correct information about COVID-19 was related to individuals' psychological characteristics. In the debriefing form, they were also warned to consider that some of the statements they had seen in the survey were deliberately misinforming about COVID-19. In addition, the participants were asked to write their e-mail addresses if they wanted to participate in the drawing for a 100 TL grocery shopping voucher, which will be given to 10 people among the participants. They were informed that if they shared their e-mail addresses, their responses would not be matched with their e-mail address information, and this information would only be used for their participation in the draw. This page also included a thank you message to the participants for their contribution to the study. Furthermore, it was stated that those interested in receiving more detailed information about the study could contact the first author via e-mail as of August 1, 2021.

2.4.11 Data exclusion

In accordance with the pre-registration form, duplicate submissions and participants who did not respond to the main outcome measures (COVID-19 conspiracy beliefs and trust in science) of the experiment were not included in the analysis.

3. RESULTS

3.1 Data Analysis Strategy

The data analyses were conducted via *jamovi* 2.2.5.0 (The jamovi project, 2021). Following the pre-registration, responses without a main outcome measure (COVID-19 conspiracy beliefs and trust in science) were excluded from the analyses (N = 278). This dataset was used for analyses and reports that excluded participants who did not respond to the main DVs. The data, analyses, and the outcomes are all available in the jamovi file at this OSF link: https://osf.io/x3562/. Descriptive statistics of variables, the mediation analysis of indirect and total effects, and the correlations between the outcome variables can be found respectively in Table 3.1, Table 3.2, and Table 3.3.

3.2 Manipulation Check

To analyze the manipulation check questions, I ran three one-way ANOVAs for each question regarding the three manipulation conditions (health threat, economic threat, and social threat). A higher score on the manipulation check questions indicated a higher perceived level of perceived threat. I conducted the first one-way ANOVA to see if there is a statistically significant difference between the health threat condition and the control condition. The findings indicated that the four conditions did not show a significant difference, $F(3, 331) = 0.77$, $p = 0.513$, $d = -.11$. The Tukey HSD post-hoc test indices revealed that (all ps > .05) the health threat condition ($M = 4.00$, $SD = 1.00$, 95% CI [3.82, 4.14])) did not significantly differ from the control condition ($M = 4.01$, $SD = 1.05$, 95% CI [3.85, 4.17], $p = .043$), the economic condition ($M = 4.00$, $SD = 1.00$, 95% CI [3.84, 4.16]), and the social condition ($M = 4.13$, $SD = 0.98$, 95% CI [3.98, 4.29]). Since there was no significant difference between the conditions, when the participants assigned to all conditions were evaluated together, the average anxiety value of the participants was found to be 4.03 out of 5 ($SD = 0.082$).
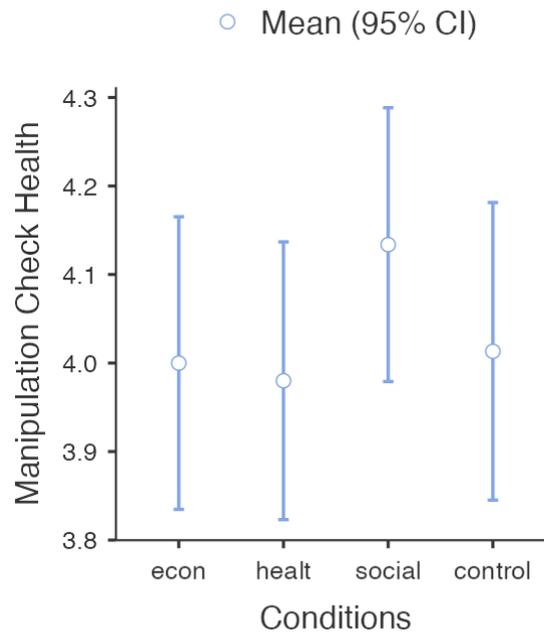
Figure 3.1 One-Way ANOVA for the manipulation check question of the health threat condition

Another one-way ANOVA was conducted to find out whether there is significant difference between the economic threat condition and the control condition. The results (Figure 3.2) suggested that there is not a significant difference neither between the four conditions, $F(3,330) = 2.24$, $p = 0.083$, $d = .17$. A Tukey HSD post-hoc test indicated that the economic threat group ($M = 3.90$, $SD = 0.083$, 95% CI [3.74, 4.07]) did not significantly differ (all $ps > .05$) from the control condition ($M = 3.74$, $SD = 0.135$, 95% CI [3.58, 3.89]), neither the health threat condition ($M = 4.01$, $SD = 0.934$, 95% CI [3.85, 4.17]) or the social threat condition ($M = 4.01$, $SD = 0.906$, 95% CI [3.86, 4.17]).
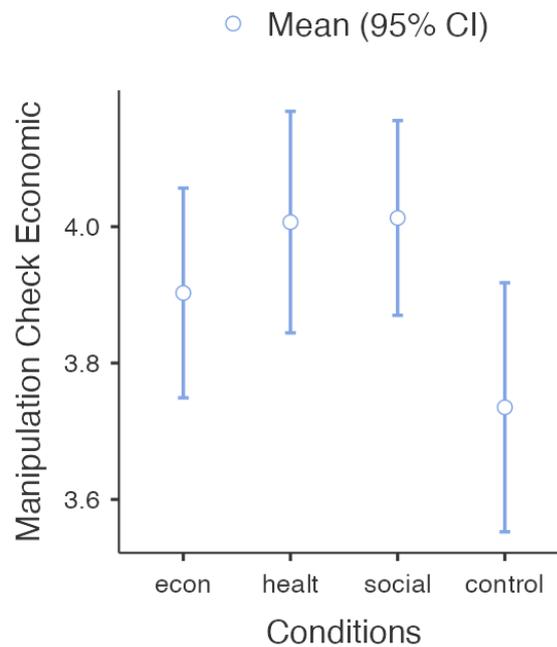
Figure 3.2 One-Way ANOVA for the manipulation check question of the economic threat condition

A final one-way ANOVA was conducted to control if the perceived threat level of the participants assigned to the social threat condition differs from the participants in the control condition. The results (Figure 3.3) indicated that there is no significant difference across the four conditions, $F(3, 331) = 3.48$, $p = 0.735$, $d = -.01$. A Tukey HSD post-hoc test showed that (all ps > .05) the social threat condition ($M = 4.19$, $SD = 0.87$, 95% CI [3.58, 3.89]) did not significantly differ from the control condition ($M = 4.20$, $SD = 1.026$, 95% CI [4.05, 4.35]), economic threat condition ($M = 4.19$, $SD = 0.86$, 95% CI [4.04, 4.35]), and the health threat condition ($M = 4.09$, $SD = 1.04$, 95% CI [3.93, 4.24]).
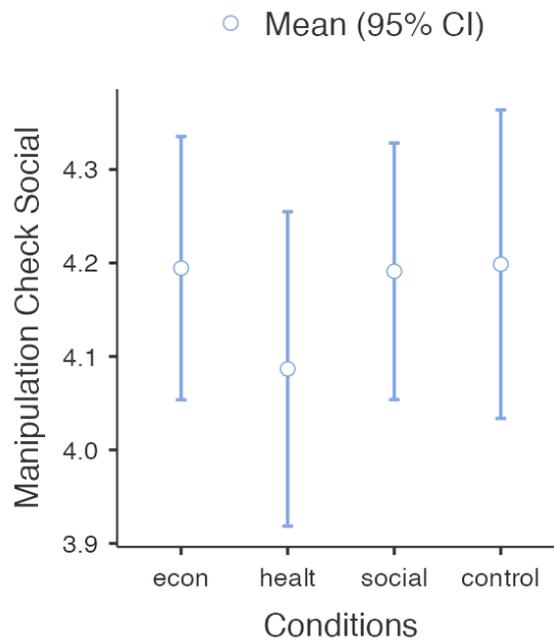
Figure 3.3 One-Way ANOVA for the manipulation check question of the social threat condition

Overall, the perceived threat levels of the participants who were asked to imagine the health, economic, or social life difficulties caused by the pandemic and to express their feelings in this situation did not differ from one another in terms of their perceived threat level regardless of their assigned condition. As a result, none of the manipulations designed to induce health, economic, or social threat were found statistically effective

Table 3.1 Descriptive statistics of variables

	Trust In Science	Covid19 Conspiracy Belief	COVID19 Conspiracy Hoax	Covid19 Conspiracy Bioweapon	Issue Ownership Science	Issue Ownership Government	Trust In Institutions	PANAS Positive	PANAS Negative
N	624	624	624	624	624	624	623	624	624
Mean	5.30	2.74	2.35	3.14	4.06	2.43	3.26	2.74	2.44
Median	5.50	2.58	2.00	3.00	4.00	2.00	3.00	2.70	2.40
Standard deviation	1.16	1.27	1.32	1.60	1.33	1.42	1.30	0.801	0.812
Minimum	1.17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Maximum	7.00	7.00	7.00	7.00	7.00	7.00	7.00	5.00	5.00
Skewness	-0.795	0.663	1.09	0.453	0.0894	1.18	0.506	0.241	0.410
Kurtosis	0.338	-0.0845	0.702	-0.737	-0.488	0.867	-0.335	-0.276	-0.390

Note. * $p < .05$, ** $p < .01$, *** $p < .00$

Table 3.1 Descriptive statistics of variables

	Trust In Science	COVID-19 Conspiracy Belief	COVID-19 Conspiracy Hoax	COVID-19 Conspiracy Bioweapon	Issue Ownership Science	Issue Ownership Government	Trust In Institutions	PANAS Positive	PANAS Negative
N	624	624	624	624	624	624	623	624	624
Mean	5.30	2.74	2.35	3.14	4.06	2.43	3.26	2.74	2.44
Median	5.50	2.58	2.00	3.00	4.00	2.00	3.00	2.70	2.40
Standard deviation	1.16	1.27	1.32	1.60	1.33	1.42	1.30	0.801	0.812
Minimum	1.17	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Maximum	7.00	7.00	7.00	7.00	7.00	7.00	7.00	5.00	5.00
Skewness	-0.795	0.663	1.09	0.453	0.0894	1.18	0.506	0.241	0.410
Kurtosis	0.338	-0.0845	0.702	-0.737	-0.488	0.867	-0.335	-0.276	-0.390

Note. $* p < .05, ** p < .01, *** p < .00$

3.3 Confirmatory Analyses

3.3.1 The impact of different threat types on conspiracy theory belief

As preregistered, I ran a 4 (different threat types: health threat, social threat, economic threat, and control condition) x 2 (COVID-19 conspiracy beliefs: COVID-19 as a hoax & COVID-19 as a bioweapon) mixed ANOVA with within-subjects as the second factor. I aimed to see if priming different types of threats posed by COVID-19 would activate belief in different types of COVID-19 conspiracy theories. The analyses revealed a significant main effect of conspiracy beliefs, $F(1, 620) = 178.3$, $p < .001$, $\eta^2_p = .223$) that participants believed more in conspiracy theories claiming COVID-19 was a human-made bioweapon ($M = 3.14$, 95% CI [3.01, 3.26] than in conspiracy theories claiming COVID-19 was a hoax ($M = 2.35$, 95% CI [2.25, 2.46] (Figure 3.4). However, there was not a significant interaction effect between the conspiracy beliefs and the threat manipulation ($F(3, 620) = .548$, $p = .649$, $\eta^2_p = .003$), meaning that any threat manipulation did not have a significant effect on believing in "hoax" or "bioweapon" conspiracy theories. Besides, I did not find a significant main effect of threat manipulation ($F(3, 620) = .253$, $p = .859$, $\eta^2_p = .001$).
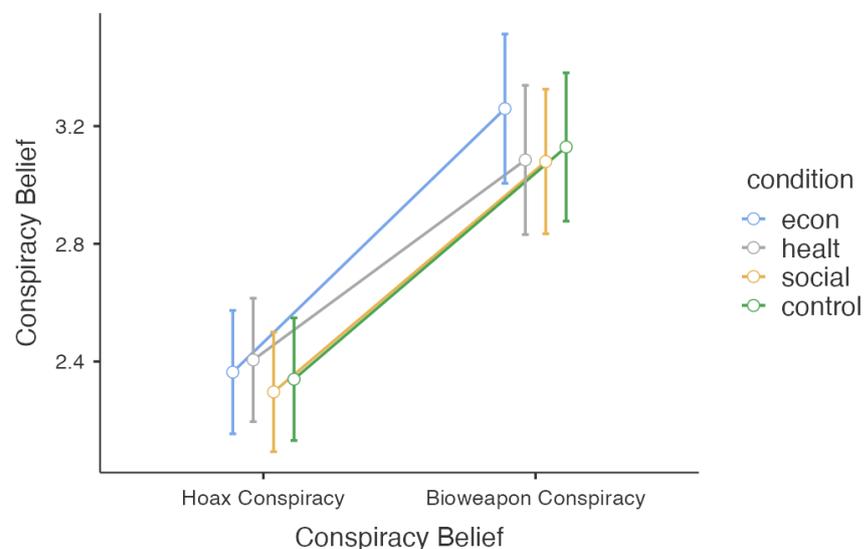
Figure 3.4 Mixed ANOVA estimated marginal means result testing the influence of threat manipulation on the issue ownership beliefs (issue ownership of the scientific developments vs. issue ownership of the government) regarding the COVID-19 pandemic

3.4 Exploratory Analyses

Exploratorily, I investigated if threat manipulation influences trust in science and whether trust in science mediates threat manipulation's effect on conspiracy beliefs. I also examined if threat manipulation affects emotion and trust in institutions. Besides, I tested whether experimentally activated health threats (as opposed to other conditions) will underline the perception that scientists (rather than the government) are the issue owner of the pandemic crisis resolution.

3.4.1 The influence of threat manipulation on trust in science

I exploratorily tested whether manipulating different threat types affect trust in science. Based on the one-way ANOVA results, I found no significant influence of threat manipulation on trust in science ($F(3, 344) = 1.12$, $p = 0.340$, $p = .340$, $d = -.06$), as seen in Figure 3.5. According to the Tukey HSD post-hoc test (all $ps > .05$), there was not a significant difference between the economic threat condition ($M = 5.19$, $SD = 1.11$, 95% CI [5.01, 5.38]), health threat condition ($M = 5.33$, $SD = 1.23$, 95% CI [5.15, 5.52]), social threat condition ($M = 5.41$, $SD = 1.16$) and the control condition ($M = 5.24$, $SD = 1.12$, 95% CI [5.23, 5.59]). In short, manipulating different COVID-19 caused threats (health, economic and social) had no significant effect on participants' trust in science.
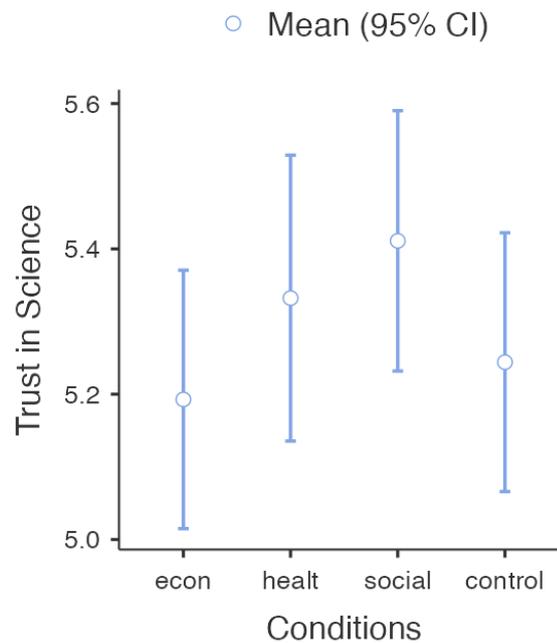
Figure 3.5 One-Way ANOVA testing the influence of threat manipulation on trust in science

3.4.2 Mediation analyses

As preregistered, a GLM mediation analysis was performed on jamovi's (2021) med-mode module to assess the mediating role of trust in science on the effect of threat manipulation on conspiracy beliefs. Controlling 95% bootstrapped confidence intervals with 1,000 resamples, the total effect of the model was not significant (β= .0043, SE= .1173, 95% CI: [-.217, .2424], p = .915). The direct effect of threat manipulation on the COVID-19 conspiracy beliefs was not significant (β= .0193, SE= .0957, 95% CI [-.134, .2488], p = .556). The indirect effect of the threat manipulation on the COVID-19 conspiracy beliefs was also not significant either (β= .0150, SE= .0656, 95% CI: [-.173, .0845], p = .504). Although the link between the trust in science and the belief in COVID-19 conspiracy theories is significant (β= .0721, SE= .0376, 95% CI: [-.699, .5511], p < .001), the relation between the threat manipulation and trust in science was not significant (β= .0262, SE= .1044, 95% CI: [-.134, .2751], p = .502). To conclude, as seen in Figure 3.6, trust in science did not significantly predict the link between the threat manipulation and conspiracy beliefs. Even, the total effect of threat manipulation on the COVID-19 conspiracy beliefs was not significant.

Table 3.2 The mediation analysis of indirect and total effects

Type	Effect	Estimate	95% C.I. (a)			β	z	p
			SE	Lower	Upper			
Indirect	Threat Manipulation⇒ Trust in Science ⇒ Covid-19 Conspiracy Belief		-0.173		0.0845	-0.01497	-0.668	0.504
Component	Threat Manipulation⇒ Trust in Science		-0.134		0.2751	0.02617	0.671	0.502
	Trust in Science ⇒ Covid-19 Conspiracy Belief		-0.699		-0.5511	-0.57209	-16.614	< .001

80

Table 3.2 The mediation analysis of indirect and total effects

Type	Effect	Estimate	SE	95% C.I. (a) Lower	95% C.I. (a) Upper	β	z	p
Direct	Threat Manipulation⇒ Covid-19 Conspiracy Belief		-0.134		0.2408	0.01927	0.589	0.556
Total	Threat Manipulation⇒ Covid-19 Conspiracy Belief		-0.217		0.2424	0.00430	0.107	0.915

Note. Confidence intervals computed with method: Parametric bootstrap

Note. Betas are completely standardized effect sizes
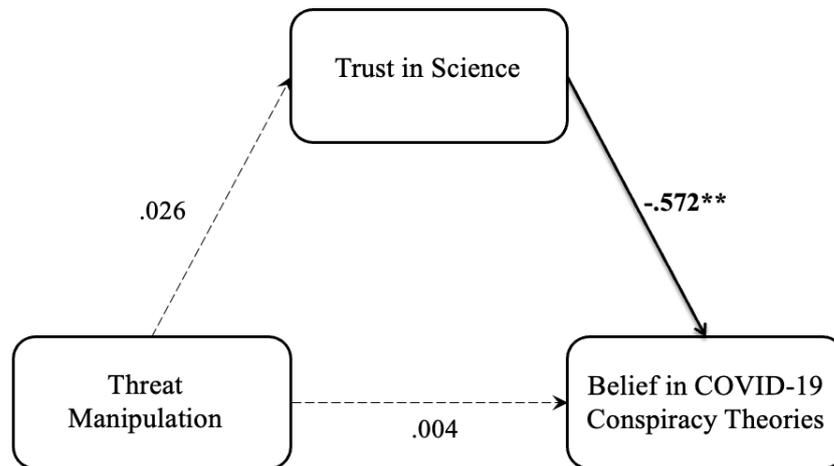
Figure 3.6 The mediation analyses testing the role of trust in science on the effect of threat manipulation on conspiracy beliefs

3.4.3 The influence of threat manipulation on emotions and trust in institutions

To exploratorily test whether threat manipulation influences emotions and trust in institutions, we performed a one-way ANOVA as preregistered. As can be seen respectively in Figure 3.7, Figure 3.8, and Figure 3.9, the results suggested that (all $ps >$ .05) threat manipulation did not significantly influence the positive affect ($F(3, 343) = 0.57$, $p = 0.638$, $d = .12$), negative affect ($F(3, 344) = 0.44$, $p = 0.723$, $d = -.04$), or the trust in institutions ($F(3, 343) = 1.28$, $p = 0.281$ $d = -.09$).
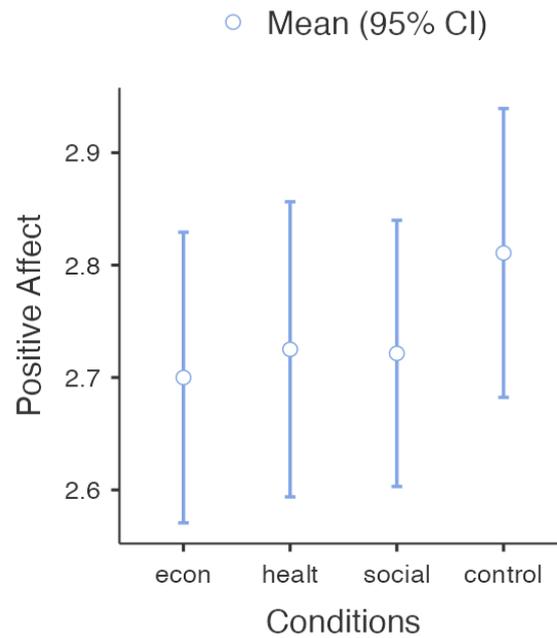
Figure 3.7 One-Way ANOVA testing the influence of threat manipulation on positive affect

The Tukey HSD post-hoc test (all ps > .05) revealed no significant difference between the economic threat condition (M = 2.70, SD = .81, 95% CI [-.36, .09]), health threat condition (M = 2.73, SD = .82. 95% CI [-.33, -.12]), social threat condition (M = 2.72, SD = .77, 95% CI [-.33, .11]) and the control condition (M = 2.81, SD = .81, 95% CI [-.06, .30]) for the positive affect of the participants.
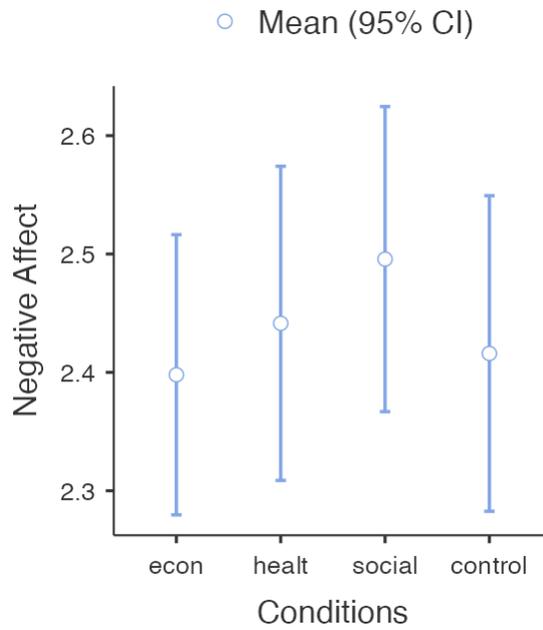
Figure 3.8 One-Way ANOVA testing the influence of threat manipulation on negative affect

The Tukey HSD post-hoc test (all *ps* > .05) indicated no significant difference between the economic threat condition (*M* = 2.40, *SD* = .74, 95% CI [-.25, .20]), health threat condition (*M* = 2.44, *SD* = .83, 95% CI [-.19, .26]), social threat condition (*M* = 2.50, *SD* = .83, 95% CI [-.12, .32]) and the control condition (*M* = 2.42, *SD* = .84, 95% CI [-.22, .15]) for the negative affect of the participants.
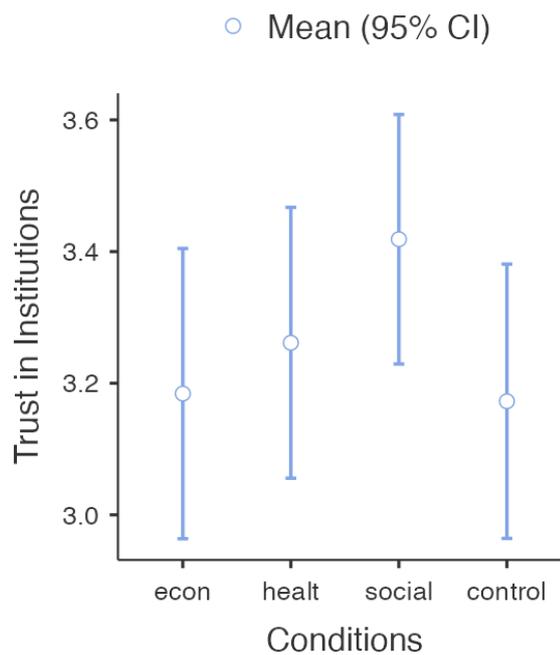
Figure 3.9 One-Way ANOVA testing the influence of threat manipulation on trust in institutions

The Tukey HSD post-hoc test (all ps > .05) showed no significant difference between the economic threat condition (M = 3.18, SD = 1.38, 95% CI [-.22, .23]), health threat condition (M = 3.26, SD = 1.29, 95% CI [-.16, .29]), social threat condition (M = 3.42, SD = 1.23, 95% CI [-.03, .41]) and the control condition (M = 3.17, SD = 1.31, 95% CI [-.27, .09]) for the participants' trust in institutions.

As a result, priming the participants with different types of threats (economic threat, health threat, and social threat) induced by the COVID-19 had no significant effect on their positive or negative affect or their trust in institutions that are active in the prevention and management of the pandemic (such as national COVID-19 Scientific Committee and WHO).

3.4.4 The influence of threat manipulation on the issue ownership for the resolution of the COVID-19 outbreak

In accordance with the pre-registration, we exploratorily tested whether experimentally activated health threats (vs. other conditions) highlight the perception that scientists (compared to the government) are the issue owner of the problem solution. Accordingly, we performed a 4 (different threat types: health threat, social threat, economic threat, and control condition) x 2 (issue ownership of the scientific developments vs. issue ownership of the government in the face of pandemic mixed ANOVA as the latter factor is within-subjects. The results indicated a significant main effect of the issue ownership factor ($F(1, 620)$ = 641.9, p < .001, η^2_p = .223) that participants regarded scientific developments (M = 4.06, 95% CI [3.96, 4.16] as the issue owner to solve the problems caused by the pandemic significantly more than the government's (M = 2.43, 95% CI [2.32, 2.55] issue ownership (Figure 3.10). Nevertheless, the interaction effect between the issue ownership and the threat manipulation (conditions) was not significant ($F(3, 620)$ = 1.40, p = .241, η^2_p = .007). Furthermore, the between subject main effect of the threat manipulation was not significant ($F(3, 620)$ = .481, p = .696, η^2_p = .002).

As a result, priming the participants with different types of threats (economic threat, health threat, and social threat) had no significant effect on their positive or negative affect or their trust in institutions working to prevent COVID-19. As seen in Figure 3.10, significantly, most participants regarded scientific developments (M = 4.06, 95% CI [3.96, 4.16] as the issue owner of the pandemic resolution, over the issue ownership of the government (M = 2.43, 95% CI [3.96, 4.16].
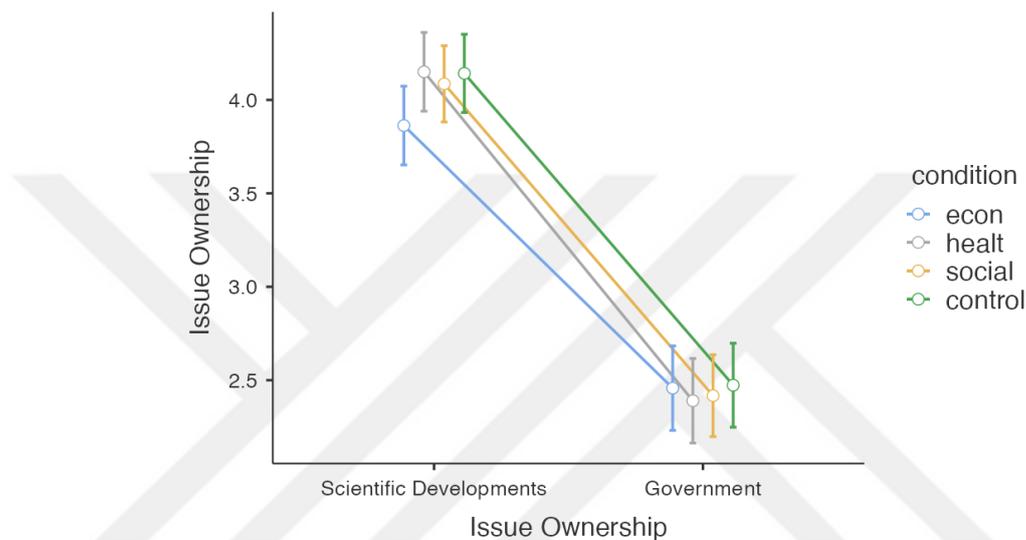
Figure 3.10 Mixed ANOVA estimated marginal means result testing the influence of threat manipulation on the issue ownership beliefs (issue ownership of the scientific developments vs. issue ownership of the government) regarding the COVID-19 pandemic

3.4.5 Correlation of the Outcome Variables and Some Demographic Factors

Since the manipulation method used in the current study was not effective, I also examined the relationship between outcome variables and demographic factors. As can be seen in Table 3.4, issue ownership of science was found positively correlated with the issue ownership of government, $r(622)$ = .32, $p < .001$, trust in science, $r(622)$ = .18, $p < .001$, trust in institutions, $r(621)$ = .20, $p < .001$, and the positive affect, $r(622)$ = .11, $p = .005$; wheareas, it was negatively correlated with COVID-19 as hoax conspiracy theories, $r(622)$ = -.26, $p < .001$, COVID-19 as bioweapon conspiracy theories, $r(622)$ = -.17, $p < .001$, and negative affect, $r(622)$ = .-10, $p = .011$. Besides, issue ownership of the government was positively correlated with COVID-19 as hoax conspiracy theories, $r(622)$ = .10, $p = .017$, the COVID-19 as bioweapon conspiracy theories, $r(622)$ = .21, $p < .001$, trust in institutions $r(621)$ = .21, $p < .001$, and positive affect, $r(622)$ = .18, $p <$

.001; while it was negatively negatively correlated with trust in science $r(622) = -.22$, p < .001, and negative affect $r(622) = -.16$, $p < .001$. Furthermore, COVID-19 as hoax conspiracy theories were positively correlated with COVID-19 as bioweapon conspiracy theories, $r(622) = .51$, $p < .001$; however, negatively correlated with trust in science, $r(622) = -.53$, $p < .001$, and trust in institutions, $r(621) = -.10$, $p = .012$. Additionally, COVID-19 as bioweapon conspiracy theories were positively correlated with trust in institutions, $r(621) = .09$, $p = .019$, and positive affect $r(622) = .09$, $p = .031$, but negatively correlated with trust in science $r(622) = -.47$, $p < .001$. Moreover, trust in institutions was found positively correlated with positive affect $r(622) = .13$, $p < .001$.

It is noteworthy to point out that the issue ownership of science was negatively associated with both types of conspiracy theory belief. In contrast, issue ownership of government was positively associated with both types of conspiracy beliefs. Besides, the results indicated that issue ownership of science was positively associated with trust in science, while issue ownership of government was negatively associated with it. Another significant finding when examining the relationship between outcome variables is that, while COVID-19 as hoax conspiracy theories were negatively related to trust institutions, COVID-19 as bioweapon conspiracy theories were positively associated with trust in institutions. Furthermore, there was a positive correlation between COVID-19 as bioweapon conspiracy theories and positive affect, whereas COVID-19 as hoax conspiracy beliefs were not associated with positive or negative emotional states.

I also examined the associations between the COVID-19 conspiracy beliefs and the demographic factors (Table 3.5). COVID-19 as a hoax conspiracy beliefs were found to be positively correlated with the political attitudes, $r(593) = .20$, $p < .001$, religiosity, $r(594) = .18$, $p < .001$, and vaccination intention, $r(352) = .46$, $p < .001$. It was also positively correlated with getting the COVID-19 vaccine $r(595) = .11$, $p = .009$, but negatively correlated with education level $r(596) = -.09$, $p = .030$. Furthermore, COVID-19 as a bioweapon conspiracy theories were positively correlated with political attitudes, $r(593) = .37$, $p < .001$, religiosity, $r(594) = .42$, $p < .001$, vaccination intention $r(352) =$ .46, $p < .001$, employment status, $r(595) = .08$, $p = .046$, and having a family member diagnosed with COVID-19, $r(591) = .11$, $p = .011$. One of the most striking relationships here is that the religiosity variable seems to have a weak relationship with hoax

conspiracy beliefs and a strong relationship with bioweapon conspiracy beliefs. To compare the extent of a crucial difference in these correlations, Eid et al.'s (2011) online calculator was used. Expectedly, correlations of belief in "COVID-19 as hoax conspiracies" and "COVID-19 as bioweapon" conspiracies significantly differed (z=-4.53, p < .001).

When investigating which demographic factors are linked to vaccination behavior, COVID-19 as a hoax conspiracy theories and vaccination were found to be positively correlated, $r(595) = .11$, $p = .009$, while vaccination was not significantly correlated with the COVID-19 as a bioweapon conspiracy theories. Besides, vaccination was found to be significantly correlated with gender, $r(595) = -.13$, $p = .001$, that women had a higher vaccination rate than men. Moreover, vaccination was negatively correlated with educational level $r(595) = -.32$, $p < .001$. Unexpectedly, the results indicated that vaccine intention is positively correlated with both COVID-19 as a hoax conspiracy beliefs, $r(552) = .46$, $p < .001$, and COVID-19 as a bioweapon conspiracy beliefs $r(552) = .41$, $p < .001$.

I also investigated the relationship between issue ownership beliefs and demographic factors (Table 3.6). Issue ownership of science in resolving crisis caused by the pandemic was found positively associated with issue ownership of the government beliefs $r(622) = .32$, $p < .001$. Issue ownership of science beliefs was also negatively correlated with religiosity $r(594) = -.08$, $p = .044$, and vaccine intention $r(352) = -.16$, $p = .002$. Issue ownership of government in the pandemic context was on the other hand positively correlated with religiosity $r(594) = .34$, $p < .001$, and employment status $r(595) = .19$, $p < .001$. Issue ownership of government beliefs was also and negatively correlated with the level of education $r(596) = -.08$, $p = .049$.

Finally, I examined how trust in science and trust in institutions are associated with each other and the demographic factors (Table 3.7). Trust in science was found to be negatively correlated with political stance, $r(593) = -.36$, $p < .001$, religiosity, $r(594) = -.34$, $p < .001$, and vaccine intention, $r(352) = -.44$, $p < .001$. Trust in science was negatively associated with more right-wing political attitudes and being more religious. Trust in science was also moderately and negatively associated with gender $r(596) = -.08$, $p = .049$, that women

had higher trust in science levels. Furthermore, trust in institutions which are active in combating the crisis caused by the pandemic, was positively correlated with political stance, $r(593) = .36$, $p < .001$, and religiosity, $r(594) = .38$, $p < .001$. Right-wing political view and being more religious was linked with higher trust in institutions. It was also positively correlated with employment status, $r(595) = .13$, $p = .002$, that participants who are full-time employers showed higher trust in institutions. Besides, trust in institutions was negatively correlated with the SES, $r(596) = -.09$, $p = .029$.

Table 3.3 Zero-order correlation among outcome variables

	1	2	3	4	5	6	7	8
1. Issue Ownership of Science	—							
2. Issue Ownership of Government	0.322 ***	—						
3. COVID-19 Hoax Conspiracies	-0.257 ***	0.095 *	—					
4. COVID-19 Bioweapon Conspiracies	-0.172 ***	0.209 ***	0.505 ***	—				
5. Trust in Science	0.183 ***	-0.217 ***	-0.533 ***	-0.466 ***	—			
6. Trust in Institutions	0.204 ***	0.548 ***	-0.100 *	0.094 *	-0.074	—		
7. Positive Affect	0.111 **	0.178 ***	0.071	0.087 *	-0.048	0.133 ***	—	
8. Negative Affect	-0.102 *	-0.156 ***	-0.012	0.032	-0.045	-0.063	-0.323 ***	—

Note. * $p < .05$, ** $p < .01$, *** $p < .001$

Table 3.4 Zero-order correlation between the conspiracy beliefs and demographic variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. COVID-19 Hoax Conspiracies	—													
2. COVID-19 Bioweapon Conspiracies	0.505***	—												
3. Gender	0.065	-0.050	—											
4. SES	-0.003	-0.057	-0.011	—										
5. Political Stance	0.204***	0.373***	-0.031	-0.100*	—									
6. Religiosity	0.180***	0.418***	-0.124	-0.083*	0.579***	—								
7. Education	-0.089*	-0.058	0.057	-0.165***	0.054	0.036	—							
8. Health Status	-0.002	-0.040	0.030	-0.248***	0.029	0.065	0.022	—						
9. Employment	0.052	0.082*	-0.018	0.020	0.059	0.069	0.049	0.016	—					
10. COVID19 History	0.014	-0.062	0.061	0.008	-0.124**	-0.130**	-0.029	0.086*	0.043	—				

Table 3.4 Zero-order correlation between the conspiracy beliefs and demographic variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
11. COVID19 Diagnosis in Family	0.022	0.105*	-0.049	-0.023	0.167***	0.205***	0.050	-0.105*	0.033	-0.471***	—			
12. Unpaid Leave in the Family	0.054	0.032	0.052	0.057	0.094*	0.072	0.024	-0.071	0.039	-0.059	0.225***	—		
13. Vaccination	0.107**	0.033	-0.131***	0.121**	-0.016	0.054	-0.315***	-0.034	-0.023	-0.079	0.065	-0.065	—	
14. Vaccine Intention	0.462***	0.414***	0.003	-0.035	0.287***	0.277***	0.033	0.084	-0.012	-0.061	0.065	0.024	NaN	—

Note. $* p < .05$, $** p < .01$, $*** p < .00$

Table 3.5 Zero-order correlation between the issue ownership beliefs and demographic variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Issue Ownership of Science	—													
2. Issue Ownership of Government	0.322***	—												
3. Gender	-0.009	-0.003	—											
4. SES	-0.073	-0.069	-0.011	—										
5. Political Stance	-0.020	0.370***	-0.031	-0.100*	—									
6. Religiosity	-0.083*	0.335***	-0.124**	-0.083*	0.579***	—								
7. Education	-0.006	-0.081	0.057	-0.165***	0.054	0.036	—							
8. Health Status	0.055	0.019	0.030	-0.248***	0.029	0.065	0.022	—						
9. Employment	0.003	0.188***	-0.018	0.020	0.059	0.069	0.049	0.016	—					

Table 3.5 Zero-order correlation between the issue ownership beliefs and demographic variables

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
10. COVID19 History	0.041	-0.048	0.061	0.008	-0.124**	-0.130**	-0.029	0.086*	0.043	—				
11. COVID19 Diagnosis in Family	-0.009	0.060	-0.049	-0.023	0.167***	0.205***	0.050	-0.105*	0.033	0.471***	—			
12. Unpaid Leave in the Family	-0.021	0.051	0.052	0.057	0.094*	0.072	0.024	-0.071	0.039	-0.059	0.225***	—		
13. Vaccination	-0.027	-0.002	-0.131**	0.121**	-0.016	0.054	-0.315***	-0.034	-0.023	-0.079	0.065	-0.065	—	
14. Vaccine Intention	-0.164**	0.021	0.003	-0.035	0.287***	0.277***	0.033	0.084	-0.012	-0.061	0.065	0.024	NaN	—

Note. * p < .05, ** p < .01, *** p < .001

Table 3.6 Zero-order correlation among the trust in science, trust in institutions and demographic factors

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. Trust in Science	—													
2. Trust in Institutions	-0.074	—												
3. Gender	-0.081*	-0.062	—											
4. SES	-0.074	-0.089	-0.011	—										
5. Political Stance	-0.355***	0.362***	-0.031	-0.100*	—									
6. Religiosity	-0.343***	0.375***	-0.124**	-0.083*	0.579***	—								
7. Education	0.009	-0.029	0.057	-0.165 ***	0.054	0.036	—							
8. Health Status	0.073	0.048	0.030	-0.248 ***	0.029	0.065	0.022	—						
9. Employment	-0.010	0.128**	-0.018	0.020	0.059	0.069	0.049	0.016	—					
10. COVID19 History	-0.002	0.032	0.061	0.008	-0.124**	-0.130**	-0.029	0.086	0.043	—				
11. Unpaid leave in the Family	-0.051	0.012	0.052	0.057	0.094	0.072	0.024	-0.071	0.039	-0.059	—			

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
12. COVID19 Diagnosis in Family	-0.065	0.007	-0.049	-0.023	0.167***	0.205***	0.050	-0.105*	0.033	-0.471***	0.225***	—		
13. Vaccination	-0.063	-0.030	-0.131**	0.121**	-0.016	0.054	-0.315***	-0.034	-0.023	-0.079	-0.065	0.065	—	
14. Vaccine Intention	-0.438***	-0.028	0.003	-0.035	0.287***	0.277	0.033	0.084	-0.012	-0.061	0.024	0.065	NaN	—

Note. * p < .05, ** p < .01, *** p < .001

4. DISCUSSION

4.1 Overview of the Findings

In the current study, I manipulated various types of COVID-19 threats and investigated how people react to the pandemic's health, economic and social threats. Specifically, I investigated how these threats affect people's belief in COVID-19 conspiracy theories and issue ownership beliefs. The issue ownership concept in the context of the COVID-19 pandemic was investigated through the question of whether and to what extent people regard scientific developments or the government as the issue owners of different COVID-19-related problems. Overall, I found no significant difference between the experimental and control conditions with respect to participants' threat perception levels, based on the results of our manipulation check questions for each experimental condition. There was also no significant interaction effect between threat manipulation and conspiracy beliefs. However, I found the main effect of conspiracy beliefs. In other words, participants believed more in conspiracy theories claiming COVID-19 was a human-made bioweapon than conspiracy theories claiming COVID-19 was a hoax, regardless of which threat group they were assigned to.

The first hypothesis of the current study was that the health threat would reduce the belief in conspiracy theories compared to the control condition, with the effect being stronger for the belief that COVID-19 is a hoax versus the belief that COVID-19 is a bioweapon. I anticipated that the perceived health threat would increase risk perception and cause the pandemic to be taken more seriously, thereby undermining conspiracy theories that COVID-19 is a hoax. However, the results did not support this hypothesis. I found no significant difference in belief in conspiracy theories between participants assigned to the health threat condition and those assigned to the other experimental conditions or even the control condition.

Besides, I hypothesized that economic and social threats would enhance belief in conspiracy theories when compared to the control condition and that the effect would be

greater for the belief that COVID-19 is a hoax than for the belief that COVID-19 is a bioweapon (Hypothesis 3). I expected this effect to be stronger for "COVID-19 as a hoax" conspiracy theories because, while conspiracy theories claiming "COVID-19 as a bioweapon" were much stronger in the first phase of the pandemic, I expected their power to get weaker and the "COVID-19 as a hoax" conspiracy theories to gain popularity for the time of data collection, more than a year after the first case. However, there was no significant difference in COVID-19 conspiracy belief between the economic and social threat conditions and the other conditions, and this hypothesis, like the first, was not supported.

I also hypothesized that trust in science would be higher for the participants assigned to the health threat condition in comparison with the control condition (Hypothesis 2). I expected that highlighted health risk perception would increase trust in science and scientists as a solution, as they can potentially eliminate the health risks caused by the pandemic. Nevertheless, the findings did not support this hypothesis. The results revealed no significant difference in the level of trust in science between the experimental conditions and the control condition.

Another preregistered hypothesis was that economic and social threats would reduce trust in science compared to the control condition (Hypothesis 4). [1]While I assumed that manipulating the health threats of the pandemic would increase the perception of health risks, I also thought that because science will not be seen directly as a remedy to economic and social threats, priming these threats might reduce trust in science. This hypothesis was also not supported by the data, as there was no significant difference in trust in science between the experimental conditions or even between the experimental conditions and the control condition.

In addition to the confirmatory analyses in which we tested our preregistered hypotheses, I also performed a number of exploratory tests. First, I investigated whether threat manipulation influences trust in science and whether trust in science mediates the effect of threat manipulation on conspiracy beliefs. According to the results of the tested model,

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[1] After pre-registering this hypothesis (Hypothesis 4), I considered it might be better to construct it based on the following logic: "If science is not seen directly as a remedy to economic and social threats, priming these threats will not influence trust in science."

trust in science did not significantly predict the link between threat manipulation and conspiracy beliefs. In fact, the total effect of threat manipulation on COVID-19 conspiracy beliefs was insignificant. The only significant relationship in the model existed between trust in science and belief in COVID-19 conspiracy theories, but the link between threat manipulation and trust in science was also insignificant.

I also exploratorily tested if the threat manipulation influences participants' negative and positive emotional states, as well as their trust in institutions. The findings indicated that threat manipulation had no significant effect on participants' positive affect, negative affect, or trust in institutions. The results showed that priming participants with different threat types of COVID-19 (economic threat, health threat, and social threat) had no effect on positive affect, negative affect, or trust in institutions, in other words, there was no significant difference in positive affect, negative affect, or trust in institutions between participants assigned to the control condition and those assigned to the threat conditions.

Moreover, I investigated the effect of COVID-19 threats on issue ownership views for the resolution of the COVID-19 outbreak. I planned to conduct an exploratory test on this relation since the existing findings suggest that people's reactions differ depending on the nature of the threat and that the mixed results in the literature on the relationship between threat and political ideology may be due to the various threat types highlighted in the studies (Crawford, 2017; Eadeh & Chang, 2020). Eadeh and Chang (2020) used the issue ownership model to interpret the literature's mixed results which was originally based on the idea that certain political parties are perceived to be competent to deal with certain issues (Lefevere et al., 2015). With a similar understanding, I conducted an exploratory test to see if the health threat (vs. other conditions) underlines the view that scientists are the issue owner of the problem solution in comparison with the issue ownership of the government. I conducted an exploratory test to see if the health threat (vs. other conditions) underlines the view that scientists are the issue owner of the problem solution in comparison with the issue ownership of the government.

Although the issue ownership factor had a significant main effect, the interaction effect between the issue ownership and the threat manipulation was not significant. In brief, manipulating different threat dimensions (health, economic, and social) posed by the

pandemic did not significantly affect issue ownership beliefs. Regardless of their assigned conditions, significantly, most participants saw scientific developments as the issue owner for the resolution of the pandemic, rather than the government as the issue owner.

Additionally, I exploratorily examined the relationship among the outcome variables. One of the substantial findings of the study is that the issue ownership of science was negatively associated with both COVID-19 as a hoax and COVID-19 as a bio-weapon conspiracy belief. Furthermore, the findings revealed that issue ownership of science was positively correlated to trust in science, whereas issue ownership of government was negatively linked correlated to it. These findings suggest that viewing science or government as an issue owner of the various threats posed by the pandemic might be differentially related to conspiracy theory beliefs and trust in

When the relationship between outcome variables was examined, another significant finding was that, while COVID-19 as hoax conspiracy theories were negatively associated to trust in institutions, COVID-19 as bioweapon conspiracy theories were positively associated to trust in institutions. Furthermore, beliefs about COVID-19 as a bioweapon conspiracy were associated with positive affect, whereas beliefs about COVID-19 as a hoax conspiracy were not associated with either positive or negative affect. These results emphasize the importance of investigating conspiracy beliefs from multiple dimensions, demonstrating that different types of conspiracy beliefs may be related to institutional trust, emotional state, and potentially some other factors in different ways.

Finally, I explored the correlation between the outcome variables and some demographic factors. COVID-19 as hoax conspiracy beliefs were positively correlated with the political attitudes, religiosity, COVID-19 vaccination and vaccination intention; yet negatively correlated with education level, Furthermore, COVID-19 as bioweapon conspiracy theories were positively correlated with political attitudes, religiosity, vaccination intention, employment status, and having a family member diagnosed with COVID-19.

On the demographic factors related to COVID-19 vaccination, COVID-19 as hoax conspiracy theories were found to be positively correlated with vaccination, whereas COVID-19 as bioweapon conspiracy theories were not significantly correlated with it. This evidence is substantial because it demonstrates that different types of conspiracy theories may result in different vaccine behaviours. Furthermore, vaccination was found to be significantly correlated with gender, with women having a higher vaccination rate than men, which is consistent with most studies in the literature (e.g., Cassese et al., 2020; Freeman & Bentall, 2017; Hogg et al., 2017). Furthermore, vaccination was surprisingly found to be strongly and negatively related to educational level, contrary to the most evidence (e.g., Rodríguez-Blanco et al., 2021). The results also revealed that vaccine intention is strongly and positively correlated with both COVID-19 as a hoax conspiracy beliefs and COVID-19 as a bioweapon conspiracy belief, which was one of the most unexpected findings in the relationship between vaccine intention and demographic factors. Although most studies in the literature indicates a positive relation between the endorsement of conspiracy theories and compliance with the COVID-19 preventive measures and anti-vaccination, there are also studies revealing the opposite finding. Unlike most studies, Wang and Kim (2021) discovered a significant positive relationship between belief in conspiracy theories and COVID-19 vaccine intention in the Korean context, as in the current study. Therefore, cross-cultural differences should be considered when evaluating the findings in this context,

Regarding how the issue ownership beliefs and demographic factors are related, issue ownership of science beliefs was found to be negatively correlated with religiosity, and vaccine intention. However, issue ownership of government beliefs was positively correlated with religiosity, employment status; but negatively correlated with the educational level. These findings indicated that the issue ownership of science beliefs and the issue ownership of government beliefs might have different associations with demographic factors such as religiosity and educational level, and important attitudes during the pandemic, such as vaccine intention.

The current study is valuable as it aims to provide a timely and practical contribution to the literature, as the pandemic's negative effects have been still salient worldwide. Furthermore, the fact that I conducted a high-powered, experimental, and preregistered

study on a matter with limited experimental research makes this study significant. In addition, I collected data from Turkey, one of the countries underrepresented in the psychology research, allowing us to gain more knowledge regarding the possible cross-cultural differences. It is known that (Henrich et al., 2010) Western, educated, industrialized, rich, and democratic (WEIRD) societies make up only 12% of the world's population but account for up to 80% of research samples. As a result, most studies in the literature are not representative of the entire world, and most of these WEIRD participants might be outliers in many measures. Besides, in the context of Turkey, the current study investigated participants' trust in some local and international institutions that are actively fighting the pandemic, in addition to their belief in conspiracy theories and trust in science.

Furthermore, the current study examined the concept of issue ownership, referring to the issue owner's role in scientific developments and the government. However, it has been mostly studied on the right-left and conservative-liberal dualities in the literature. Although this has brought an innovative approach, the "science-government" dichotomy used in this study may not have been perceived as a clear dichotomy as in the right-left dichotomy. In addition, to the best of our knowledge, no study from Turkey or another country examined the concept of issue ownership with regard to the science-government dichotomy. Therefore, it is not possible to compare the current findings in the context of Turkey with other cultural contexts.

4.2 Possible Explanations for the Null Findings

Several possible explanations can be proposed as to why the hypotheses of the current study were not supported. The first explanation is that the manipulation tool we developed did not have such a powerful effect on participants that they did not feel more anxious than in their pre-experiment state. Furthermore, while the current study's sample size is powerful, detecting very small effects might require a larger research sample than the current study. Furthermore, because the majority of the scales measuring outcome variables were adapted to Turkish for this study (e.g., belief in COVID-19 conspiracy theories scales) or were created from scratch (e.g., issue ownership scale), they may not be sensitive enough to detect small effects. Although the goodness of fit indices of CFA

analyses revealed a relatively good fit with the data for the scales measuring issue ownership, conspiracy beliefs, and trust in science, some of these values were slightly different from the desired level (Table 2.3).

Another explanation would be that participants already had severe COVID-19 concerns prior to the experiment. In fact, the manipulation check results have supported this argument since we found a ceiling effect across conditions (including the control condition) regarding the responses of how much participants were concerned about the health, economic, and social threats posed by the COVID-19. The reason for this is that, as summarized in the introduction section (e.g., Alradhawi et al., 2020; Elmer et al., 2020; Philpot et al.; 2021, Van Mulukom et al., 2021), the incidence of many mental health issues has increased significantly because of the high level of perceived stress during the pandemic, and thus the participants are far from being in a neutral state at the time of data collection. Additionally, the stage of the pandemic may have influenced how effective the manipulation was. In studies conducted during the pandemic, several factors during the data collection phase may directly affect the outcome variables, such as the number of daily positive cases, hospital intensive care unit occupancy rates, whether there is an active lockdown application, whether the COVID-19 vaccine has been started to be applied. While some of these factors act to reduce perceived stress, others might play an accelerating role. This is an important point to comprehend how complex dynamics and many contextual factors shape the context during a pandemic and how difficult it can be to manipulate the threat factor in such a crisis.

4.3 Limitations

Although the current study has several strengths, it also has some limitations. The most important of these is that the manipulation tool that we used was ineffective according to the manipulation check questions and other statistical analyses. Neither the manipulation check questions nor the other confirmatory (e.g., belief in conspiracy theories) and exploratory analyses (e.g., trust in science and issue ownership views) detected a significant difference between the experimental and control conditions.

One of the limitations of the study is that the statements required of participants as part of the manipulation method may differ from priming the desired threat. One reason is that the pandemic's health, economic, and social consequences are all intertwined. "I used to think people were avoiding me and felt lonely," said one participant assigned to health threat manipulation. He composed his statement. This statement exemplifies how health and social threats are inextricably linked and how difficult it is to manipulate them separately. Furthermore, in the control condition, participants were asked to describe an object that they saw nearby at the time or that they frequently saw. During the pandemic, this object may be an object capable of activating pandemic threats (e.g., medical masks). When the statements written by the control condition participants were analyzed, it was encountered that eight participants may have focused on an object that reminded them of the risks of pandemic, but these participants were not excluded from the analysis data. Therefore, a more in-depth examination of the contents of the participants' statements could strengthen the research method.

Another limitation of this study is that the sample deviates from the normal distribution based on certain demographic criteria. The gender distribution of the participants, for example, was unequal, with 79% being women. This is a crucial factor as the literature suggests that gender may play an important role in perceived stress levels and mental problems during the pandemic (e.g., Daly et al., 2020; Holt-Lundstad, 2021), conspiracy theory endorsement (e.g., Cassese et al., 2020; Freeman & Bentall, 2017; Hogg et al., 2017), and trust in science (e.g., Salvatore & Morton, 2021). Furthermore, the research sample's education level was quite high, with less than 1% completing an education level lower than a high school degree.

Level of education matters as there is evidence that it might be a determinant for mental health problems during the pandemic (e.g., Daly et al., 2020), belief in conspiracy theories (e.g., Bakebillah et al., 2021; Douglas et al., 2016; Uscinski & Parent, 2014; Van Prooijen, 2020), political reactions to the threat (e.g., Ferrín et al., 2020), trust in science (e.g., Erisen, 2022; Rodríguez-Blanco et al., 2021). Furthermore, the average political orientation of the participants was slightly closer to the more left-wing orientation. The findings indicate that political orientation might be influential on conspiracy beliefs (e.g., Frenken et al., 2022; Gkinopoulos et al., 2022; Marques et al., 2022; Sayin & Bozkurt,

2021; Stasielowicz, 2022; Zhai & Yan, 2022), trust in science (e.g., Koetke et al., 2021; Kossowska et al., 2021; Rodríguez-Blanco et al., 2021).

Another limitation of the current study can be that the definition of issue ownership and how it is measured has raised many theoretical and methodological discussions among researchers in recent years. By way of illustration, Stubager (2017) has brought three primary criticisms about the concept of issue ownership and how it will be measured. He argued that the definition of the theory stemming from Petrocik's (1996) article is unclear; classical assessment methods for issue ownership may fall short of capturing the concept's theoretical basis. Finally, the issue of ownership may correspond to a broader meaning than the concepts of "party identification" or "policy attitudes," which were not measured by the existing standard scales used. The majority of the studies, on the issue ownership theory consider the issue ownership concept as an independent variable in terms of its role in voting behaviors and strategies used in the election campaign (Craig & Cossette, 2020). Although the quantity of studies on the effects of issue ownership on voter behavior and inter-party competition has risen dramatically in the last 20 years for both domains (Lefevere et al., 2015), this does not mean that an agreement on the implications of issue ownership has been achieved.

Another considerable criticism of the concept of issue ownership was addressed by Kazun (2018). In line with Stubager (2017), she emphasized that the concept of issue ownership is still not consistent in the literature in terms of both definition and measurement. The author further remarked that it has been difficult to compare research findings with confidence because researchers have lately divided the idea of issue ownership into "competence ownership" and "associative issue ownership" categories and utilized various measures to examine these categories. In addition to the fact that some researchers applied a one-dimensional approach, and some others held a multi-dimensional approach to study issue ownership, according to Kazun (2018), the possibility that the concept may have different effects for different authorities and oppositions has not been sufficiently emphasized. Moreover, some researchers (e.g., Bélanger & Meguid, 2008; van der Brug, 2004) indicated that it might be more complicated than anticipated to predict how the concept of issue ownership will affect the voting behavior of both parties and voters on controversial issues that may have a wide variety of policy choices.

Besides existing theoretical disagreement and the criticism of the issue ownership theory, the concept of issue ownership was used in this study by adapting it to a different context than the commonly used right-leftism or conservatism-liberalism dichotomy. Studying issue ownership in the duality of "scientific issues" vs. "the government" in the current research may have made the reliable measurement of this concept more difficult. Furthermore, while TMT and MSC assume a more instinctive reaction to danger, the issue ownership model suggests a more reflective process in which people need to consider a potential subject to better deal with a problem. This difference makes it difficult for these theories explaining the relationship between threat and political reaction to be comparable.

4.4 Future Directions

To develop a more solid experiment design, future research may create more effective manipulation tools. The manipulation tool used in the current study was asking participants to imagine themselves experiencing the difficulties caused by the threat condition they were assigned to and to express their feelings in four sentences. However, the results clearly demonstrated that this manipulation method did not make participants feel more concerned about the relevant threat condition. In fact, no significant difference was identified between participants in the control and experimental conditions concerning their perceived stress levels. Future research may focus on developing manipulation techniques that can better distinguish different types of threats and result in stronger manipulation effects.

The reason why the manipulation technique I used did not make a significant difference, as discussed above (4.2 Possible Explanations for the Null Findings), could be that the participants were already over-concerned due to the pandemic regardless of the effect of the manipulation. As a result, future studies may test whether different threat types differ significantly from one another in a period when the pandemic is relatively under control, the COVID-19 vaccination rate is increasing, and restrictions are being relaxed.

Furthermore, future research may use alternative measurement scales to assess our outcome variables. For example, after data collection of this experiment, various scales were developed to examine the concept of conspiracy belief from other multidimensional

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perspectives (rather than "COVID-19 as a human-made bioweapon" vs. "COVID-19 as a hoax" conceptualization). Subsequent research may use different scales to examine whether the types of threats posed by the pandemic affect conspiracy beliefs differently. In addition, while measuring the issue ownership attitudes in this study, I used a scale that we developed on the axis of the "scientific developments vs. government" dichotomy in the context of the COVID-19 pandemic. The validity of this dichotomy should be tested in future studies and different contexts.

It is possible to investigate whether different types of threats lead to divergent conspiracy beliefs, scientific dispositions, or issue ownership views for multi-dimensional crises and contexts other than the COVID-19 pandemic. More empirical evidence is required to determine whether different types of threats elicit different political responses and different types of conspiracy theory beliefs. Furthermore, the question of whether participants see "national" or "international" agencies as the primary issue owner for the resolution of health, economic and social threats can be the research question of follow-up studies.

Another approach that future research could take is to use correlational or quasi-experimental methods to assess the relationship between the various types of threats caused by COVID-19 and the COVID-19 conspiracy theory. Although it appears that reducing belief in specific conspiracy theories is more likely than reducing the general conspiracy mindset (e.g., Orosz et al., 2016), reducing strong conspiracy theories with simple priming methods can be challenging.

4.5 Conclusion

We attempted to contribute to the literature in various ways with this study. First of all, we examined the threats posed by the COVID-19 pandemic and the conspiracy theory belief from a multi-dimensional perspective, which are mostly one-dimensionally studied in the literature. We also investigated how different types of threats affect trust in science and institutions fighting against the pandemic. Furthermore, we made a timely contribution in the pandemic context to the literature on the threat-political reaction relation, which contained mixed findings and several theoretical approaches. We

attempted to adapt the concept of issue ownership, which has primarily been studied in the literature on the right-leftism and conservatism-liberalism duality, to another duality, "scientific developments vs. government." We also supported open science practices by pre-registration and collecting data from a non-WEIRD and, therefore, under-represented research sample. The results showed that there is a need to develop manipulation tools that can independently and more powerfully manipulate different types of threats. Although no significant difference was found between the threat conditions and the control condition, the questions of whether different threats can induce different types of conspiracy theory endorsements and different political reactions remain valid. We hope that further experimental research will seek answers to these questions by employing more powerful manipulation methods and improving the validity of measurement instruments.

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APPENDIX A

Bu araştırma Kadir Has Üniversitesi'nden Doç. Dr. Onurcan Yılmaz'ın danışmanlığında, Yüksek Lisans öğrencisi Sümeyra Bengisu Akkurt'un yüksek lisans tezi kapsamında gerçekleştirilmektedir. Araştırmanın amacı küresel COVID-19 salgını ile alakalı çeşitli tutum ve görüşler hakkında bilgi toplamaktır.

Araştırmaya katılım tamamen gönüllülük esasına dayalıdır. Size sunulan ankette kişisel kimliğinizi belirleyebilecek herhangi bir soru bulunmamaktadır. Sorulara vereceğiniz yanıtlar tamamen gizli tutulacak ve yalnızca bilimsel araştırmalar için kullanılacaktır. Ankette size rahatsızlık verebilecek herhangi bir soru bulunmamaktadır. Fakat yine de herhangi bir nedenle kendinizi kötü hissetmeniz durumunda çalışmayı dilediğiniz an yarıda bırakabilirsiniz.

Ayrıca, araştırmamıza katılanlar arasından çekilişle belirlenecek **10** kişiye **100 TL** değerinde Migros **alışveriş çeki** hediye edilecektir.

Araştırmaya katıldığınız için şimdiden teşekkür ederiz.

Araştırmaya katılmak istiyorsanız lütfen aşağıdaki "Kabul ediyorum." seçeneğini tıklayınız ve bir sonraki sayfaya geçiniz. "Kabul ediyorum." seçeneğini tıklayarak bu onam formunu okuduğunuzu, anladığınızı ve araştırmaya katılmayı kabul ettiğinizi belirtmiş olacaksınız.

    O Kabul ediyorum.
    O Çalışmadan ayrılmak istiyorum.

APPENDIX B

Demographic Form

1. Yaşınız (Sayı ile)

2. Cinsiyetiniz?
   -Kadın
   -Erkek
   -Diğer

3. En son tamamladığınız eğitim seviyesi nedir?
   -İlkokul
   -Ortaokul
   -Lise
   -Ön lisans
   -Lisans
   -Yüksek Lisans
   -Doktora

4. Aşağıdaki merdivenin Türkiye'deki insanların ekonomik açıdan bulunduğu seviyeyi temsil ettiğini düşünün. Merdivenin tepesindekiler (10) her şeyin en iyisine (örneğin; en çok paraya, en iyi eğitime ve en saygın mesleklere) sahip insanlardır. Merdivenin en altındakiler (1) ise en kötü koşullara (örneğin; en az paraya, en az eğitime ve en az saygın mesleklere) sahip insanlardır. Merdivende daha Yüksek bir konuma sahip olmanız en tepedeki insanlara daha yakın olduğunuz, daha aşağıda olmanız ise en alttaki insanlara daha yakın olduğunuz anlamına gelmektedir.

   Kendi koşullarınızı düşünecek olursanız;

   Bu merdivende kendinizi hangi konuma yerleştirirsiniz?

5. Kendinizi ne kadar dindar tanımlıyorsunuz?
   (1 = Hiç dindar değil, 7 = Çok Dindar)

6. Kendinizi ne kadar solcu ya da sağcı tanımlıyorsunuz?
   (1 = Solcu, 7 = Sağcı)

7. Aşağıdakilerden hangisi şu andaki istihdam durumunuzu (ücretli istihdam) en iyi şekilde tanımlıyor? (- İstihdam geçmişi yok -Çalışıyor, haftada> 19 saat -Çalışıyor, <haftada 20 saat -Emekli -Diğer çalışmayan)

8. Şu andaki genel sağlık durumunuzu nasıl değerlendirirsiniz?
   (1=Çok kötü, 5=Çok iyi)

9. Daha önce COVID-19 teşhisi aldınız mı? (Evet/Hayır)

10. Ailenizde COVID-19 teşhisi almış kaç kişi olduğunu belirtiniz (eğer kimse yoksa sıfır yazınız):

11. Ailenizde COVID-19 dolayısıyla ücretsiz izne ayrılmış kişi sayısını belirtiniz (eğer kimse yoksa sıfır yazınız):

12. COVID-19 aşısı oldunuz mu? (Evet/Hayır)

13. (Olmadıysanız) COVID-19 aşısı olmayı planlıyor musunuz?
(Evet/Hayır)

APPENDIX C

Manipulation Scenarios

C.1 Scenario for the Economic Threat Condition

Lütfen şimdi, korona virüs dolayısıyla **ciddi ekonomik zorluklar** yaşadığınızı, işte çıkarıldığınızı ve faturalarınızı ödemekte zorlandığınızı hayal ederek bunların neler hissettirdiğini dört cümle ile ifade ediniz.

    1) …

    2) …

    3) …

    4) …

C.2 Scenario for the Health Threat Condition

Lütfen şimdi, korona virüs dolayısıyla **hastalandığınızı**, hastalığı çok ağır şekilde geçirdiğinizi ve **sağlığınızın çok olumsuz şekilde etkilendiğini** hayal ederek bunların neler hissettirdiğini dört cümle ile ifade ediniz.

    1) …

    2) …

    3) …

    4) …

C.3 Scenario for the Social Threat Condition

Lütfen şimdi, korona virüs dolayısıyla evde karantina altında olduğunuzu, sevdiğiniz insanları uzun zamandır göremediğinizi ve **sosyal hayatınızda** ciddi zorluklar yaşadığınızı hayal ederek bunların neler hissettirdiğini dört cümle ile ifade ediniz.

    1) …

    2) …

    3) …

    4) …

C.4 Scenario for the Control Condition

Lütfen şimdi veya etrafınızda sık sık gördüğünüz bir **nesne**yi düşünün. Dört cümle kurarak bu nesne ile ilgili düşüncelerinizi ifade edin.

    1) …

    2) …

3) …
4) …

APPENDIX D

Issue Ownership Scale

Aşağıda Koronavirüsün yarattığı problemlerin çözümüne ilişkin bazı ifadeler yer almaktadır. Lütfen bu ifadelere ne düzeyde katılıp katılmadığınızı ölçek üzerinde belirtiniz.

(1= Kesinlikle katılmıyorum 7 = Kesinlikle katılıyorum).

1) Bilimsel gelişmelerin COVID-19'un yarattığı sağlık krizini hızlı bir şekilde çözebileceğine inanıyorum.

2) Bilimsel gelişmelerin COVID-19'un yarattığı ekonomik krizi hızlı bir şekilde çözebileceğine inanıyorum.

3) Bilimsel gelişmelerin COVID-19'un yarattığı sosyal problemleri hızlı bir şekilde çözebileceğine inanıyorum.

4) Devletin COVID-19'un yarattığı sağlık krizini hızlı bir şekilde çözebileceğine inanıyorum.

5) Devletin COVID-19'un yarattığı ekonomik krizi hızlı bir şekilde çözebileceğine inanıyorum.

6) Devletin COVID-19'un yarattığı sosyal problemleri hızlı bir şekilde çözebileceğine inanıyorum.

COVID-19 Conspiracy Beliefs Scale

Aşağıda Koronavirüs ile ilgili bazı ifadeler yer almaktadır. Lütfen bu ifadelere ne düzeyde katılıp katılmadığınızı ölçek üzerinde belirtiniz. **(1=Kesinlikle katılmıyorum, 7=Kesinlikle katılıyorum)**

1. Koronavirüs, halkı yanıltmak için kasıtlı olarak olduğundan çok daha tehlikeliymiş gibi gösteriliyor.

2. Koronavirüs, sıradan gripten daha kötü olmamasına rağmen, bazı uzmanlar kendi çıkarları için bizi kasıtlı olarak yanlış yönlendiriyorlar.

3. Koronavirüsün tehlikeli olduğunu söyleyen uzmanlara inanmalıyız.

4. Koronavirüs, dünya nüfusunu azaltmak için kasıtlı olarak üretildi.

5. Kötü niyetli bazı gizli gruplar, koronavirüsü dünyaya hükmetmek için kullanmak istiyor.

6. Koronavirüsün bir laboratuvarda insan eliyle üretildiği düşüncesinin saçma olduğunu düşünüyorum.

APPENDIX F

Trust in Science Scale

Bilim İnsanları ve Bilimsel Çalışmalar Hakkındaki Görüşleriniz
Bir sonraki sayfada, bilim insanları ve bilim camiası hakkında bir dizi ifade göreceksiniz. Lütfen her bir ifadenin kendi görüşlerinizi ne kadar iyi tanımladığını, yani her bir ifadeye ne kadar katıldığınızı veya katılmadığınızı belirtiniz. Bu ifadeler, günümüzün bilim insanları, kullandıkları yöntemler ve vardıkları sonuçlar hakkındaki genel izlenimlerinizi ölçmeye odaklanmaktadır.

(1= Kesinlikle katılmıyorum 7 = Kesinlikle katılıyorum).

1. İnsanlar, bilim insanlarına olması gerekenden çok daha fazla güveniyor.

2. İnsanlar, pek çok bilimsel araştırmanın gerçekte ne kadar hatalı ve güvenilmez olduğunun farkında değiller.

3. Pek çok bilimsel teori tamamen yanlıştır.

4. Bazen bilime aşırı güvendiğimizi düşünüyorum.

5. Toplumumuz bilime olması gerekenden çok fazla önem veriyor.

6. Bilim insanlarının toplum üzerindeki etkisinin büyüklüğü beni endişelendiriyor.

Not: Tüm maddeler, daha yüksek değerler daha olumlu (daha az olumsuz) tutumları gösterecek şekilde ters kodlanmıştır.

APPENDIX G

Trust in Institutions

1- Lütfen Sağlık Bakanlığı Yetkililerine ne düzeyde güvendiğinizi belirtiniz.

Sağlık Bakanlığı Yetkililerine… **(0 = Hiç Güvenmiyorum; 10 = Çok Güveniyorum)**

2- Lütfen Koranavirüs Bilim Kurulu Üyelerine ne düzeyde güvendiğinizi belirtiniz.

Bilim Kurulu Üyelerine... **(0 = Hiç Güvenmiyorum; 10 = Çok Güveniyorum)**

3- Lütfen Devlet Yetkililerine ne düzeyde güvendiğinizi belirtiniz.

Devlet Yetkililerine... **(0 = Hiç Güvenmiyorum; 10 = Çok Güveniyorum)**

4- Lütfen Dünya Sağlık Örgütüne ne düzeyde güvendiğinizi belirtiniz.

Dünya Sağlık Örgütü'ne **(0 = Hiç Güvenmiyorum; 10 = Çok Güveniyorum)**

APPENDIX H

Positive and Negative Affect Scale (PANAS)

Bu ölçek farklı duyguları tanımlayan birtakım sözcükler içermektedir. Son iki hafta nasıl hissettiğinizi düşünüp her maddeyi okuyun. Uygun cevabı her maddenin yanında ayrılan yere işaretleyin. Cevaplarınızı verirken aşağıdaki puanları kullanın.

(1 = Çok az veya hiç; 10 = Çok fazla)

1. İlgili

2. Sıkıntılı

3. Heyecanlı

4. Mutsuz

5. Güçlü

6. Suçlu

7. Ürkmüş

8. Düşmanca

9. Hevesli

10. Gururlu

11. Asabi

12. Uyanık (Dikkati açık)

13. Utanmış

14. İlhamlı (Yaratıcı düşüncelerle dolu)

15. Sinirli

16. Kararlı

17. Dikkatli

18. Tedirgin

19. Aktif

20. Korkmuş

APPENDIX J

Manipulation Refresher

J.1 Manipulation Refresher for the Economic Threat

Lütfen şimdi, korona virüs dolayısıyla **ciddi ekonomik zorluklar** yaşadığınızı, işten çıkarıldığınızı ve faturalarınızı ödemekte zorlandığınızı hayal ederek bunların size neler hissettirdiğini dört cümle ile ifade ediniz.

1) [_____]
2) [_____]
3) [_____]
4) [_____]

→

J.2 Manipulation Refresher for the Health Threat Condition

Lütfen şimdi, korona virüs dolayısıyla **hastalandığınızı**, hastalığı çok ağır şekilde geçirdiğinizi ve **sağlığınızın çok olumsuz şekilde etkilendiğini** hayal ederek bunların size neler hissettirdiğini dört cümle ile ifade ediniz.

1) [_____]
2) [_____]
3) [_____]
4) [_____]

→

J.3 Manipulation Refresher for the Social Threat Condition

Lütfen şimdi, korona virüs dolayısıyla evde karantina altında olduğunuzu, sevdiğiniz insanları uzun zamandır göremediğinizi ve **sosyal hayatınızda** ciddi zorluklar yaşadığınızı hayal ederek bunların size neler hissettirdiğini <u>dört cümle</u> ile ifade ediniz.

1) ⬚
2) ⬚
3) ⬚
4) ⬚

→

APPENDIX K

Manipulation Check Question

Aşağıda Koronavirüse ilişkin bazı ifadeler yer almaktadır. Lütfen bu ifadelere ne düzeyde katılıp katılmadığınızı ölçek üzerinde belirtiniz.

(1 = Kesinlikle Katılmıyorum, 5 = Kesinlikle Katılıyorum)

1) Korona virüsün sağlığımı tehdit etmesinden endişe ediyorum.

2) Korona virüs dolayısıyla ekonomik zorluk yaşamaktan endişe ediyorum.

3) Korona virüsün sosyal hayatıma zarar vermesinden endişe ediyorum.

SÜMEYRA BENGİSU AKKURT

EDUCATION

Kadir Has University – Istanbul, Turkey

M.A. Psychological Sciences (2019-2022)

GPA: 3.75/4.00

İstanbul Şehir University – Istanbul, Turkey

B.A. Psychology (2014-2019)

GPA: 3.69/4.00

PUBLICATIONS

Akkurt, B., Çoymak, A., Koç, Y. (2022). Re-constructing the meaning of aid through the communities during COVID 19: The psychological responses in between the responsibilities of the welfare state, benevolent aid plans, and the politicisation of communities in Turkey. In E. O'Dwyer & L. S. Souza (Eds.), *Submission Guidance for Psychosocial Perspectives on Community Responses to Covid-19: Networks of Trust and Social Change Contributors*. Routledge.

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Koc, Y., **Akkurt, B.**, Aksu, A., Dogan, Z., Sengul, D., & Anderson, J. (2022). Missing the good old days or connecting to the globe: Investigating outgroup attitudes through collective nostalgia and global identification. In H. S. Raman & H. Cakal (Eds.), *Examining Complex Intergroup Relations: Through the Lens of Turkey* (pp. 106-124). Routledge.

Koc, Y., **Akkurt, B.**, Kizik, B., Bey, H., Barkema, W., Kocak, O. E., & Anderson, J. (in prep). Importance of social identities promoting humanitarian action in the case of Syrian refugees.

Koc, Y., **Akkurt, B.**, & Spears, R. (in prep). Muslim or feminist? Predictors, functions, and meanings of feminist-Muslim identity.

Koc., Y. Kranenborg, B., Dogan, Z., **Akkurt, B.**, Aksu, A. (under review). "My family supports me to take action against the injustice": Importance of family support in predicting collective action.

PRESENTATIONS

Akkurt, B., Koç, Y., & Spears, R. (2023, July). Muslim or Feminist? Muslim-Feminist Identity Integration and Collective Action Intentions. Accepted to the *EASP 2021 General Meeting*, Krakow, Poland.

Akkurt, B., Koç, Y., & Spears, R. (2019, December). Muslim or Feminist? Muslim-Feminist Identity Integration and Collective Action Intentions. Paper presented at the *3. Social Psychology Congress*, Kadir Has University, İstanbul.

Akkurt, B., Koc, Y., Kizik, B., & Anderson, J. (2019, July). "Whatever you give is yours, not the one that is left": Importance of social identities promoting humanitarian action. Paper presentation at the *Annual Meeting of International Society of Political Psychology (ISPP)*, Lisbon, Portugal.

Koc, Y., **Akkurt, B.**, & Spears, R. (2019, July). Muslim-Feminist identity integration: How is it possible? Paper presentation at the *Annual Meeting of International Society of Political Psychology (ISPP)*, Lisbon, Portugal.

Koc, Y., **Akkurt, B.**, & Spears, R. (2019, June). Muslim-Feminist identity integration: How is it possible? Paper presentation at the *Tajfel Symposium*, Warsaw, Poland.

Koc, Y., **Akkurt, B.**, & Spears, R. (2018, December). Muslim-Feminist identity integration: How is it possible? Paper presentation at the *Pacific Meeting on the Psychology of Social Change*, Santiago, Chile.

Akkurt, B., & Koc, Y., & Spears, R. (2018, November). Muslim-Feminist identity integration in Turkey. Poster presentation at the *20th National Congress of Psychology*, Ankara, Turkey.

RESEARCH AND TRAINEESHIP EXPERIENCE

TÜBİTAK Graduate Research Assistant (Part-time)**,** Kadir Has University, – Moral Intuitions Research (MINT) Laboratory (December 2021 - August 2022).

Project Title: How to Encourage Collaboration in Resource Scarcity?

The Regulatory Role of Intuitive/Analytical Thinking

Project Coordinator: Assoc. Prof. Onurcan Yılmaz

TÜBİTAK Graduate Research Assistant, Kadir Has University (July - September 2020).

Project Title: Investigation of Psycho-Social Effects of COVID-19

Global Outbreak from Network Analysis Perspective

Project Coordinator: Assoc. Prof. Mehmet Harma

Erasmus+ Trainee, Katholieke Universiteit (KU) Leuven – Center for Social and Cultural Psychology (July – September 2019).

Principal Investigators: Prof. Colette Van Laar & Prof. Batja Mesquita

Erasmus+ Trainee, University of Groningen (RUG) – Koc Social Identities Lab (July – September 2018).

Principal Investigator: Assist. Prof. Yasin Koç

Undergraduate Research Assistant, Istanbul Şehir University, Cognitive Psychology Lab (May 2018 – June 2019).

Principal Investigator: Dr. Reyyan Bilge

Undergraduate Research Assistant, Istanbul Şehir University, Psychotherapy Research Laboratory (May 2018 – June 2019).

Principal Investigator: Assoc. Prof. Elif Çelebi

Intern, Giresun Counseling and Research Center (February 2018).

Principal Investigator: Ali Kemal Yavuz

WORK EXPERIENCE

Research Assistant (Full-time), Abdullah Gül University (AGU) – Department of Social Psychology (September 2020 – present)

Responsibilities: Assisting professors and departments with a wide range of administrative tasks; conducting research, analyzing the data, and reporting the findings; assuming the role of teaching assistant, assisting with teaching material, and assisting the professor with grading exams and papers; preparing, maintaining, and updating website and social media materials, assisting with the management of ceremonies and campus events.

TEACHING EXPERIENCE

Teaching Assistant, Abdullah Gül University. (September 2020 – present)

Courses: Psychology of Everyday Life, Immigration, and Population, Psychology of Conflict and Violence, Introduction to Social Science, Orientation to University Life and Scientific World, Innovation and Entrepreneurship, Food and Health.

Teaching Assistant, Kadir Has University. (June 2019 – August 2022)

Department: Psychological Sciences

EXTRACURRICULAR ACTIVITIES

Participant, Erasmus+ Youth Exchange Program: Learn and Teach, Istanbul, Turkey (7-16 March 2022).

    Organizer: Diyarbakır ÇEVKA

Participant, Gender School by GenderEx (Gender for Excellence in Research) (27-31 October 2021).

    Organizers: Kadir Has University, University of Lund, University of Genoa, and Technological University Dublin

Organization Committee, III. Social Psychology Congress, Kadir Has University, Istanbul, Turkey (December 2019).

    Annual Theme: Open Science and Technology

Participant, Erasmus+ Training Course: Get Transnational Get Solidarity, Madrid, Spain (1-6 July 2019).

    Organizer: Spanish National Agency

Participant, International Student Festival in Trondheim (ISFIT) 2019, Trondheim, Norway (7-17 February 2019).

    Annual Theme: "Migration: The Global Puzzle"