



## Effects of the COVID-19 pandemic on sustainable consumption

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Recent findings on COVID-19 indicate that during a pandemic consumers focus on themselves and protection of their health and safety as an immediate major concern. However, there is little understanding of how the perceived threat of an infectious disease influences sustainable consumption behavior. Through a series of laboratory experiments on chocolate bar and laundry detergent choices, I found that the COVID-19 pandemic increased consumers' perceived threat, leading to a decrease in sustainable (vs. nonsustainable) products. Further, the results of a survey comprising 402 U.S. consumers show that perceived threat from the pandemic increased their self-centeredness, the effects of which were driven by a series of consequence-related negative emotions. My findings provide insights for firms promoting socially responsible products and citizens who consider sustainability a major long-term concern.

### Keywords

COVID-19; coronavirus; pandemic; infectious disease; sustainable consumption; negative emotions; perceived threat; consumer behavior

Air pollution and climate change are major environmental problems that require immediate attention (Zimmermann, 2016). The World Health Organization (2014) estimated that diseases caused by excess amounts of carbon from industrial activities polluting the air accounted for one in nine deaths in 2012. In addition, about 7.3 million hectares of natural forests are being destroyed every year for cattle ranching and palm oil plantations, and some animal species are in danger of becoming extinct because of their slaughter for the production of bushmeat, ivory, and medical products, adding to the list of urgent environmental issues (Zimmermann, 2016).

*Coronavirus disease 2019* (COVID-19), which has led to serious illness and death, is an ongoing pandemic affecting not only health, but also daily lives, economies, and social systems worldwide (Addo et al., 2020; Donthu & Gustafsson, 2020; Qiu et al., 2020; Sheth, 2020). The new normal brought by the COVID-19 pandemic has also raised environmental concerns. For example, disposable face masks used to prevent the spread of viruses are an environmental concern as each person using one mask a day has led to 15 tons of plastic waste in Hong Kong (Reuters, 2020). In addition, the number of food deliveries and takeaway meals has increased as a result of social distancing, leading to an increase in the discarding of disposable plastic tableware. Moreover, online shopping has grown exponentially, requiring extra packaging for delivery. According to an e-Marketer report (Cramer-Flood, 2020), e-commerce sales worldwide were estimated to be US\$3.9 trillion in 2020 and are expected to increase.

Although an increasing number of consumers are showing interest in protecting the environment and becoming more actively engaged in sustainable consumption, changes in their lives brought about by COVID-19 may affect their sustainable consumption behavior. In this study I explored consumption-related aspects of the effects of the pandemic on people's daily lives, and asked the following research questions:

**Research Question 1:** Do people care more or care less about environmental issues during a pandemic?

**Research Question 2:** How does COVID-19 affect sustainable consumption?

**Research Question 3:** What are the underlying mechanisms of the impact of an infectious disease on sustainable consumption?

## Literature Review and Development of Hypotheses

### COVID-19 Pandemic and Consumer Behavior

Researchers have progressed in understanding how the COVID-19 pandemic has affected various aspects of consumer behavior (Donthu & Gustafsson, 2020; Knowles et al., 2020). Although this behavior differs by region and time, consumers generally show similar behavior when facing the threat of disease and restrictions in life. Lockdowns and social distancing have increased the time that people spend at home and in online communication, leading to a growing use of digital technology (Chang & Meyerhoefer, 2020). Because of imposed travel restrictions, the tourism industry has experienced a significant decline (Qiu et al., 2020). Moreover, concerns over health and safety have led consumers to prefer private (vs. public) places (Kim & Lee, 2020), increase their use of health-related items and engagement in health-related behavior (Addo et al., 2020; Głąbska et al., 2020), and purchase safety-focused products (Clemens et al., 2020). Thus, the infectious disease crisis has led to changes and new directions in consumption, and to unusual purchasing patterns.

During the pandemic, consumers increased stockpiling (Kirk & Rifkin, 2020), and the number of days that they planned ahead to purchase food (i.e., food reserve) increased from 3.37 to 7.37 days (Wang et al. 2020). Kim (2020) showed that perceived threat from the COVID-19 pandemic increased consumers' variety seeking in their choices during shopping. Further, Sheth (2020) stated that consumers cannot go out shopping in the changed conditions during the pandemic, which has brought about a trend toward stores delivering to homes. Most findings on these aspects of consumer behavior relate to consumption focused on the self. This is not surprising given that during crises, such as a pandemic, perceived threat of disease increases concern about health and safety, thereby leading to purchase behavior to protect the self as the most urgent concern (Clemens et al., 2020; Qiu et al., 2020).

In this study I extended previous findings and examined whether consumers' increased concern for their own health and safety and their immediate self-protection goals lead to a decrease in sustainable consumption, which is associated with concern about others and relatively more distant goals (Griskevicius et al., 2010; Reisch, 1998).

### Sustainable Consumption

In general, *sustainable consumption* refers to “the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources, toxic materials and emissions of waste and pollutants over the life cycle, so as not to jeopardize the needs of future generations” (Reisch, 1998, p. 9). Although researchers have mixed views on the scope and definition of sustainable consumption, they generally agree that the focus is on the consideration of future generations (i.e., long term), and beyond interests of the self. Researchers view consumers' purchase of green products as altruistic, functioning as a signal indicating their willingness and ability to incur costs for others' benefit (Griskevicius et al., 2010). Although there are different dimensions to sustainability (Catlin et al., 2017), its appeal is more effective when benefits to others rather than the self are communicated (Fisher et al., 2008).

### Perceived Threat and Emotions

The perceived threat of the COVID-19 pandemic, driven by risk of infection and uncertainty about the future, has led to diverse *negative emotions*, for example, fear and worry (Addo et al., 2020; Clemens et al., 2020). Kleinberg et al. (2020) found that fear, sadness, and worry were evident in COVID-19-related

discussions, as those being interviewed were concerned that their jobs, the economy, or their family may be affected. Xue et al. (2020) also showed that Twitter conversations related to the pandemic reflected anticipation, fear, and sadness. Further, many people have felt helpless, hopeless, and angry because of the gravity of the circumstances (Bhuiyan et al., 2020), especially when they perceive the situation to be out of control (Shaw, 2020). Similarly, helplessness and hopelessness, which are considered robust factors for suicidal ideation, may arise from fear driven by the COVID-19 threat (Saricali et al., 2020). Böhm and Pfister (2005) discussed fear, sadness, and worry as examples of consequence-related emotions and demonstrated that such emotions derive from risk evaluation and direct behavior to prevent, avoid, or alleviate negative consequences. They also showed that helplessness, hopelessness, and anger comprise another set of emotions connected to negative consequences. In this study I considered two consequence-related emotional factors (worry, fear, and sadness as one factor and helplessness, hopelessness, and anger as the second) driven by the perceived threat of COVID-19, because they fit into a theoretical framework (Böhm & Pfister, 2005) that represents the types of emotions commonly studied in the COVID-19 context (Bhuiyan et al., 2020; Kleinberg et al., 2020; Saricali et al., 2020).

Consumers internalize negative consequences—in this case, of COVID-19—that threaten their health and safety, and they engage in protective behavior. For example, panic buying and stockpiling are prevalent in this situation because consumers worry about future negative circumstances (i.e., future unavailability resulting from lockdowns, or price or policy changes; Lehberger et al., 2021). In addition, consumers purchase safety-related products to protect their health and safety, and prevent potential negative outcomes (e.g., infection; Clemens et al., 2020).

Dambrun and Ricard (2011) highlighted the impact of consequence-related emotions on self-centeredness, that is, the increased degree to which individuals consider their own condition to be more important than that of others. For example, Todd et al. (2015) showed that anxious consumers display higher egocentrism because of uncertainty, by considering their own perspective to a greater extent. In a similar way, emotional disturbances caused by negative thoughts lead to intensified self-focused attention (Vander Haegen & Etienne, 2016). Therefore, I proposed the following hypotheses:

**Hypothesis 1:** An infectious disease outbreak will decrease consumption of sustainable (vs. regular) products.

**Hypothesis 2:** Perceived threat will mediate the impact of an infectious disease on sustainable consumption, such that an outbreak will increase perceived threat and decrease sustainable consumption.

**Hypothesis 3a:** Perceived threat will induce worry, fear, and sadness which, in turn, will increase self-centeredness.

**Hypothesis 3b:** Perceived threat will induce helplessness, hopelessness, and anger which, in turn, will increase self-centeredness.

## Study 1: Choice of Chocolate Bar

### Method

#### Procedure

Before conducting the main experiment, I measured the perceived sustainability of two product stimuli (i.e., organic vs. regular chocolate bar) in a prestudy. I adapted the perceived sustainability measure for each option from Magnier et al. (2016). Three items were rated on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*: “This product is environmentally friendly,” “This is a good example of an environmentally friendly product,” and “Using this product will lead to positive consequences for health in the long run.” (Cronbach’s  $\alpha = .84$ ). A regression analysis with 119 participants revealed a significant effect of the organic product on perceived sustainability ( $M_{\text{organic}} = 5.67$ ,  $M_{\text{regular}} = 5.19$ ),  $b = 0.48$ ,  $SE = 0.20$ ,  $t = 2.44$ ,  $p = .016$ , indicating that participants perceived the organic (vs. regular) option to have higher sustainability.

In the main experiment, 250 participants in an online panel composed of 140 (56%) men and 110 (44%) women ( $M_{\text{age}} = 36.16$  years,  $SD = 10.59$ , range = 18–60) who were living in the US completed the study and received USD 1.00 in compensation. In the introduction, participants were informed of the procedure of the study, and that my purpose was to examine how consumers make purchase decisions about products. Participants were then randomly assigned to one of two conditions (COVID-19 or control group). Participants in the COVID-19 condition read a news article about the pandemic, comprising the number of confirmed cases, the number of deaths, and estimated number of future cases, whereas participants in the control condition read a news article about a famous fashion designer. I adopted this method from Kim and Lee (2020). The participants then assessed the perceived threat of the information in the article, with two items from Kim and Lee (2020) rated on a 7-point Likert scale ranging from 1 = *not at all* to 7 = *very much*: “In your opinion, is it a serious threat?” and “How life-threatening is this threat?”

Next, participants were told that they were about to buy a chocolate bar at a supermarket and had two options. One was a regular chunky chocolate granola bar sold in a pack of six at \$7.99. The product description included its sweetness, ingredients, and packaging. The other option was a nongenetically modified organic chocolate granola bar sold in a pack of six at the same price, and it was described as being made without genetically modified organisms, not containing hydrogenated oils or artificial flavors, and made from natural products. After reading the descriptions of the chocolate bars, participants chose which one they would prefer to buy.

## Results and Discussion

The regression analysis results show there was a significant positive effect of COVID-19 on perceived threat ( $M_{\text{COVID-19}} = 5.46$  vs.  $M_{\text{control}} = 3.36$ );  $b = 2.11$ ,  $SE = 0.21$ ,  $t = 10.15$ ,  $p < .001$ ), indicating that participants who read the COVID-19 article (vs. those in the control condition) perceived it as more threatening. Next, using a binary logit model, I analyzed the relationship between COVID-19 and chocolate bar choice (1 = organic chocolate bar; 0 = regular chocolate bar). The main effect analysis results show there was a significant negative effect of COVID-19 on the organic chocolate bar choice,  $b = -0.55$ ,  $SE = 0.26$ ,  $z = -2.14$ ,  $p = .032$ , indicating that those who read the COVID-19 article were less likely to choose the organic (vs. regular) chocolate bar, that is, the log odds of choice of the organic (vs. regular) chocolate bar decreased by  $-0.55$  in the COVID-19 condition compared to the control condition. In addition, the binary logit model results show there was a significant negative effect of perceived threat on choice of the organic chocolate bar,  $b = -0.26$ ,  $SE = 0.07$ ,  $z = -3.83$ ,  $p < .001$ , indicating that those who perceived greater threat were less likely to choose the organic chocolate bar, that is, the log odds of choice of the organic (vs. regular) chocolate bar decreased by  $-0.26$  for every one-unit increase in perceived threat. Thus, Hypothesis 1 was supported.

### Mediation Analysis

I further tested the proposed mediating role of perceived threat in the relationship between COVID-19 and the organic chocolate bar choice. I used bootstrapping analysis (PROCESS Model 4; Preacher & Hayes, 2008) with 5,000 resamples and calculated 95% confidence intervals (CIs). The results show there was a significant indirect relationship between COVID-19 and the organic chocolate bar choice through the mediator of perceived threat. Thus, Hypothesis 2 was supported (see Figure 1).

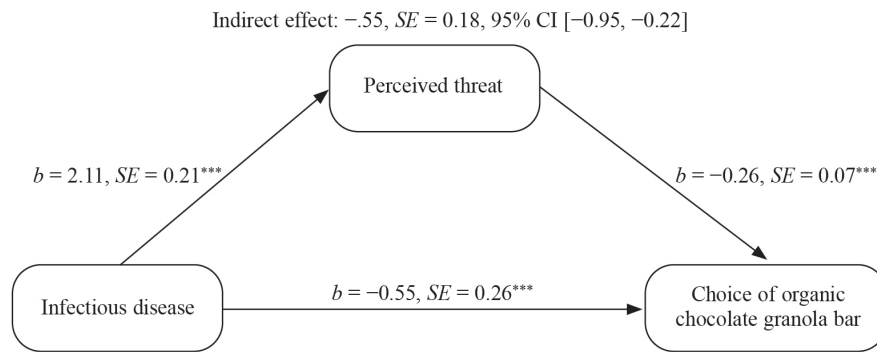


Figure 1. *Mediation Analysis Results (Study 1)*

Note. CI = confidence interval.

\*\*  $p < .05$ . \*\*\*  $p < .001$ .

## Study 2: Choice of Laundry Detergent

### Method

#### Procedure

The procedure and instructions were the same as those in Study 1. I first measured the perceived sustainability of two products used as study stimuli, comprising eco-friendly and regular laundry detergent, in a prestudy (Cronbach's  $\alpha = .80$ ). I found a significant effect of the eco-friendly product on perceived sustainability ( $M_{\text{eco-friendly}} = 5.70$  vs.  $M_{\text{regular}} = 5.14$ ),  $b = 0.56$ ,  $SE = 0.20$ ,  $t = 2.76$ ,  $p = .007$ , in a regression analysis with 119 samples, confirming that the eco-friendly (vs. regular) product was perceived to be more sustainable.

I recruited 192 participants in an online panel composed of 112 (58.33%) men and 80 (41.67%) women ( $M_{\text{age}} = 37.30$  years,  $SD = 8.75$ , range = 20–60) living in the US, who completed the study and received USD 1.00 in compensation. Participants were randomly assigned to one of two conditions (COVID-19 vs. control): Those in the COVID-19 condition read the news article about the recent COVID-19 situation, and those in the control condition read a news article concerning a television show about a U.S. celebrity. Participants then rated their perception of the threat from the information in the article, using the two items in Study 1, rated on the same Likert scale.

Next, participants were told that they were about to buy laundry detergent at a supermarket where two options were available. One choice was a regular laundry detergent with capacity to wash 64 loads, priced at \$16.99. The product description stated that it was concentrated, with more cleaning power, was shipped with safe packaging to prevent leaks, and had a long-lasting fresh scent. The other option was an eco-friendly product with the capacity for the same number of loads as the regular product at the same price, made with plant-based ingredients, and certified by the U.S. Department of Agriculture, but designed to generate less transportation pollution and to produce zero waste. After reading the item descriptions, participants chose the laundry detergent they would prefer to buy.

### Results and Discussion

There was a significant positive effect of COVID-19 on perceived threat ( $M_{\text{COVID-19}} = 5.52$  vs.  $M_{\text{control}} = 4.20$ ),  $b = 1.32$ ,  $SE = 0.24$ ,  $t = 5.60$ ,  $p < .001$ . Next, I used a binary logit model to analyze the impact of COVID-19

and the laundry detergent choice (1 = eco-friendly detergent; 0 = regular laundry detergent). The results show there was a significant negative effect of COVID-19 on the eco-friendly laundry detergent choice,  $b = -0.59$ ,  $SE = 0.29$ ,  $z = -2.02$ ,  $p = .043$ , indicating that participants who read the COVID-19 article were less likely than were those in the control group to choose the eco-friendly (vs. regular) product, that is, the log odds of choice of the eco-friendly (vs. regular) product decreased by  $-0.59$  in the COVID-19 condition compared to the control group. At the next step, the impact of perceived threat on the eco-friendly laundry detergent choice was estimated. Results of a binary logit model show there was a significant negative effect,  $b = -0.25$ ,  $SE = 0.09$ ,  $z = -2.77$ ,  $p = .006$ , indicating that those who perceived greater threat were less likely to choose the eco-friendly laundry detergent, that is, the log odds of choice of the eco-friendly product versus the regular product decreased by  $-0.25$  per one-unit increase in perceived threat. Overall, Hypothesis 1 was supported, and these results provide evidence that the Study 1 findings are generalizable to different contexts.

### Mediation Analysis

Next, I tested the mediating role of perceived threat in the relationship between COVID-19 and the eco-friendly laundry detergent choice. As in Study 1, I conducted a bootstrapping analysis (PROCESS Model 4; Preacher & Hayes, 2008) with 5,000 resamples. The results indicate there was a significant indirect relationship between COVID-19 and the eco-friendly product choice via the mediator of perceived threat. Therefore, Hypothesis 2 was supported (see Figure 2).

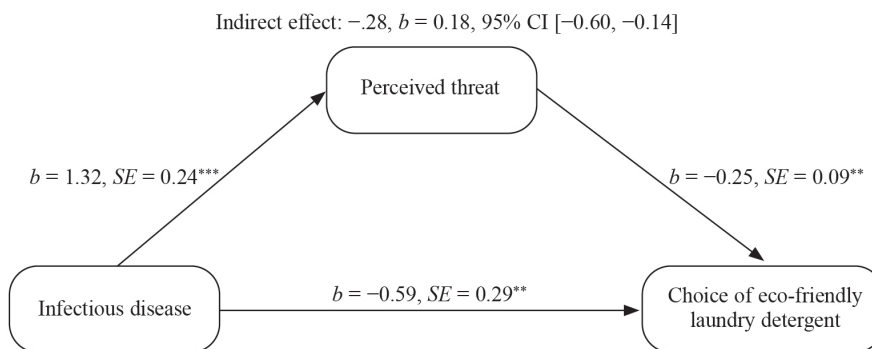


Figure 2. Mediation Analysis Results (Study 2)

Note. CI = confidence interval.

\*\*  $p < .05$ . \*\*\*  $p < .001$ .

## Study 3: Threat and Self-Centeredness

### Method

#### Procedure

In this survey 402 participants in an online panel, composed of 227 (56.5%) men and 175 (43.5%) women ( $M_{age} = 30.31$  years,  $SD = 11.57$ , range = 20–65) living in the US, completed the study and received USD 1.00 in compensation. As a reference, participants were given a description of the COVID-19 outbreak in the US, comprising information about when it started, the current status of confirmed cases, and the death rate. Participants were then asked to rate their perception of threat in the current situation, using a measure adopted from Böhm and Pfister (2005). They responded to four items on a 7-point Likert scale (Cronbach's  $\alpha = .84$ ): “How high do you rate the overall risk of the situation?” (1 = very low risk to 7 = very high risk), “How threatening do you find the situation?” (1 = not at all threatening to 7 = very threatening), “How

dangerous do you find the situation?” (1 = *not at all dangerous* to 7 = *very dangerous*), and “How probable is it that the situation will lead to harmful experiences?” (1 = *very unlikely* to 7 = *very likely*).

Participants then assessed their consequence-based emotions regarding the situation by rating the two sets of emotional items adopted from Böhm and Pfister (2005), comprising worry, fear, and sadness (Cronbach’s  $\alpha = .84$ ); and helplessness, hopelessness, and anger (Cronbach’s  $\alpha = .77$ ) on a 7-point Likert scale ranging from 1 = *not at all* to 7 = *very much*. Finally, they rated four items related to self-centeredness (Grasmick et al., 1993) on a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*, to examine the extent to which they cared about their own status at that time. The items were “I try to look out for myself first, even if it means making things difficult for other people,” “I try to get the things I want even when I know it’s causing problems for other people,” “I am not very sympathetic to other people when they are having problems,” and “If things I do upset people, it’s their problem not mine” (Cronbach’s  $\alpha = .91$ ).

### Results and Discussion

First, the results of a bootstrapping analysis (PROCESS Model 4; Preacher & Hayes, 2008) with 5,000 resamples show that the direct effect of perceived threat on self-centeredness was nonsignificant,  $p = .99$ , 95% CI [-0.17, 0.16]. I further tested the proposed mediating role of the two sets of consequence-based emotions in the relationship between perceived threat and self-centeredness and found a significant total indirect relationship via combined emotions (see Figure 3). That is, the indirect effects were significant through fear, worry, and sadness, and through helplessness, hopelessness, and anger. Overall, as the results provided evidence of the underlying mechanisms, Hypotheses 3a and 3b were supported (see Figure 3).

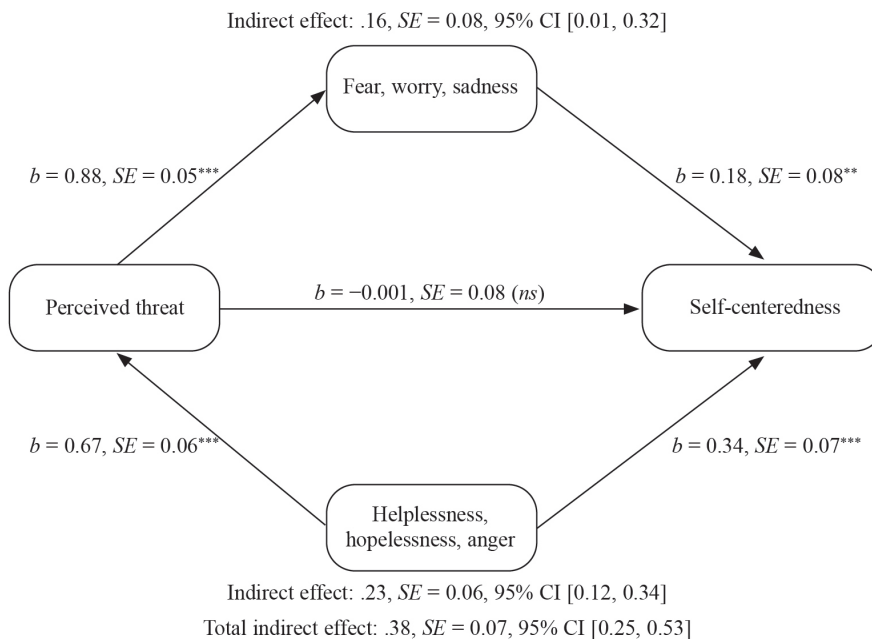


Figure 3. *Mediation Analysis Results (Study 3)*

Note. CI = confidence interval.

\*\*  $p < .05$ . \*\*\*  $p < .001$ .

## General Discussion

Through a series of experiments I explored how the worldwide COVID-19 pandemic affected consumers' sustainable consumption via perceived threat. According to protection motivation theory, in the public health context people engage in self-protective behavior after evaluating a health threat (Lwin et al., 2010). Previous researchers have also highlighted the emotional aspect of this process (Tanner et al., 1991), because as emotional responses, such as fear arising from the threat, trigger a self-defense response (LaTour & Rotfeld, 1997), people perceive the threat to be more serious, increasing their self-protection motivation (Chen & Yang, 2019). Zheng et al. (2021) demonstrated that such mechanisms emerged in the context of COVID-19, as people avoided traveling to protect themselves.

I also proposed that self-protection and self-centeredness would decrease people's consideration of others, and of the long-term aspects of the implications and outcomes of their actions. Studies across different contexts have shown a distinction between self versus others. For example, Zhang et al. (2013) examined self-protection and altruism as two distinct motives for water protection, and Murray et al. (2008) explored how to balance connectedness and self-protection in a relationship. In addition, researchers on corporate social responsibility have examined if firms are motivated to serve themselves versus society (i.e., others) in a theoretical framework to understand how consumers perceive corporate social responsibility motives (Ellen et al., 2006). This contrast between self and others is driven by a perception of resource scarcity (Fernbach et al., 2015) even when resources are relatively abundant (Hill et al., 2012). For example, Roux et al. (2015) found that consumers became selfish and less likely to help others, especially in the difficult circumstances of resource scarcity, and Xu et al. (2020) showed that when participants prioritized themselves, this led to a decrease in helping others when emotional distress was intolerable.

The results of Studies 1 and 2 provide evidence of perceived threat from an infectious disease leading to a decrease in preference for sustainable (vs. nonsustainable) products. I posit that, compared with the control group, participants who read the COVID-19 article were more motivated to protect themselves and focused less on consideration of others; thus, they made a sustainable choice to a lesser extent. The results of Study 1, which was conducted in a controlled experimental setting, show that participants who perceived a greater threat after reading the COVID-19 article prioritized their own health and safety and were less willing to purchase a sustainable product (i.e., to choose the organic chocolate granola bar and help the environment), which they perceived as a cost for others' (vs. their own) benefit (Griskevicius et al., 2010).

To examine generalizability across different contexts, I tested the effect of an infectious disease on participants' preference for an eco-friendly laundry detergent in Study 2. The results confirm that, compared to the control group, participants who read the COVID-19 article perceived a greater threat of disease and were more motivated to protect themselves in their choice of laundry detergent, leading them to focus less on helping others and, thus, to decrease sustainable consumption.

Finally, I conducted Study 3 to further understand the mechanisms by which perceived threat of COVID-19 is related to decreased sustainable consumption. To explore how perceived threat leads to self-centeredness, I examined six consequence-related negative emotions, given that the role of emotions as a driving force in self-protection is highlighted in the literature. My results, which show that perceived threat was positively related to self-centeredness, provide evidence that consumers who perceived greater (vs. lesser) threat became more focused on protecting themselves and serving their own needs (Chen & Yang, 2019; Zheng et al., 2021). There was a significant indirect effect via negative consequence-related emotions. That is, consumer participants who perceived threat from the COVID-19 pandemic felt fear and helplessness about the future as they internalized the negative consequences, such as an impact on job, health, or family, leading them to focus more on themselves to avoid such outcomes. I posit that such negative emotions made the perceived threat more serious to participants, thereby increasing their motivation to protect themselves.



The results show that consumers directed themselves toward immediate concerns to protect themselves when they perceived threat under pandemic conditions. Thus, they were less likely to engage in sustainable consumption as they paid less attention to others and to the long-term impact, which is consistent with the concept that self-protection decreases consideration of others (Roux et al., 2015; Xu et al., 2020).

### **Practical Implications**

Although the worldwide pandemic is a major crisis affecting numerous lives and the world economy, protection of the environment cannot be a secondary concern at any time. For example, major droughts caused by a decrease in Arctic ice have resulted in record-breaking economic losses in many countries (Statistica, 2016). As a result of global warming, experts predict that people will experience more severe hurricanes, droughts, and storms (Howard, 2015), and many different kinds of disease will spread (e.g., Zika virus; Quammen, 2016). My findings show managers of firms that it is more important than ever to remind consumers of such issues and to incorporate these issues into marketing strategies for sustainable products. My findings also show practitioners how to better promote sustainable consumption under the conditions resulting from the pandemic.

Further, society must prepare for the post-COVID-19 era while considering ways to protect the environment. Zambrano-Monserrate and colleagues (2020) showed that the pandemic has had a partially positive environmental outcome, that is, concentrations of nitrogen dioxide and particulate matter of less than 2.5  $\mu\text{m}$  in diameter in the air have decreased, and the effect of environmental noise has been mitigated because of limited industrial activities and travel restrictions. However, Zambrano-Monserrate and colleagues warned that these changes are temporary and air and noise pollution will return to pre-COVID-19 levels once the pandemic subsides. In addition, exponentially increased waste generated during lockdowns will add to future concerns (Association of Cities and Regions for Sustainable Resource Management, 2020). To gain a deeper understanding of how to protect the environment during worldwide crises, future researchers must explore ways to remind consumers of the importance of environmental issues and to further discuss how to promote sustainable consumption.

### **Limitations and Directions for Future Research**

This study has some limitations. First, although my results show a link between COVID-19 and sustainable consumption, the scope of the experiments is limited to one country and to a choice between two options in each experiment. Future researchers' extension into real and more diverse consumption contexts across different countries would increase the generalizability of my results. Second, studies in which moderators are examined will deepen understanding of ways to promote sustainable consumption during a pandemic or crisis. It is vital for future researchers to examine the circumstances in which the effects are mitigated, and to find ways to encourage sustainable behavior during crises, to bring insight to the sustainability literature.

### **Conclusion**

Although researchers have attempted to understand the impact of COVID-19 across diverse fields, such as environmental concerns and consumer behavior, much less attention has been paid to the intersection of these two fields (i.e., sustainable consumer behavior). My results have advanced understanding of the impact of COVID-19 on sustainable consumption, by showing that perceived threat of COVID-19 decreased consumers' choice of sustainable (vs. nonsustainable) products because of their increased self-centeredness. When consumers experienced negative emotions while evaluating risk under the threat of COVID-19 they were more likely to protect themselves, leading them to pay less attention to others.

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