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Did Anything Good Come Out of the Pandemic? COVID-19-Stress Induced Self-Regulatory Sustainable Apparel Consumption among the Millennials in the U.S.

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Abstract: Based on the theoretical frameworks of cognitive dissonance theory, regulatory focus theory, and the compensatory consumer behavior model, we proposed and tested a conceptual model delineating the relationships between COVID-19-stress, commitment to the environment, and intentions for sustainable apparel consumption in terms of intentions for purchasing sustainable apparel and divesting apparel (e.g., handing down or donating apparel). Conducting an online survey (*n* = 312) with the national millennial population of the U.S., we found that COVID-19-stress positively influenced (i) commitment to the environment and (ii) purchase intentions for sustainable apparel; commitment to the environment positively influenced (iii) purchase intentions for sustainable apparel and (iv) intentions for divesting apparel. Although COVID-19-stress did not influence intentions for divesting apparel directly, commitment to the environment mediated the relationships between COVID-19-stress and both purchase intentions for sustainable apparel and intentions for divesting apparel. We suggest that COVID-19-stress triggered self-regulatory sustainable apparel consumption intentions due to a heightened commitment to the environment to protect the environment amid the pandemic. Based on the findings of our study, we recommend the sustainable apparel brands and marketers promote how sustainable apparel consumption can protect the environment to make the environment and human beings less susceptible to the future outbreaks of pandemics.

Keywords: COVID-19-stress; sustainable apparel; purchase intention for sustainable apparel; intentions for divesting apparel; self-regulatory consumption; cognitive dissonance; compensatory consumption; pandemic

1. Introduction

With the onset of the COVID-19 pandemic, several researchers indicated how the consequences of the pandemic were particularly dire due to poor environmental health and how human actions were partly responsible for the negative impact on the environment [1,2]. The increasing environmental concerns and/or awareness [1,2] and intentions for sustainable consumption during the pandemic [1–5] testify to people's willingness to protect the environment to lessen the brunt of the pandemic due to poor environmental health. Millennials (i.e., people born between the years 1981 to 1996) were known to have a high environmental concern, pro-environmental attitude, and favorable intentions for sustainable consumption before the pandemic [6–10]. When the pandemic brought unprecedented changes into people's lives and lifestyles, were the millennials still committed to the environment and willing to engage in sustainable consumption? Several studies in the past have shown millennials' propensity to purchase sustainable (e.g., environmentally friendly) apparel [11–13] and donate/hand down apparel [14–17]. However, there is limited research on whether millennials are maintaining their status quo of being environmentally conscious and whether they are still interested in engaging in sustainable apparel consumption (e.g., purchasing sustainable apparel and donating apparel) after the onset of the pandemic. In this present study, we have addressed this research gap.

Furthermore, sustainable tourism [18–21] and sustainable practices in the hospitality sector [21–23] have grown during the pandemic. Because these instances reflect how environmental concerns and pro-environmental attitudes are positively influencing pro-environmental consumption in the tourism and hospitality industries, it is pertinent to investigate if the heightened pro-environmental attitudes and concerns can encourage intentions for sustainable apparel consumption as well. However, despite the apparel industry being one of the biggest contributors to environmental ill-health [24], there is limited research on how the pandemic influenced intentions for sustainable apparel consumption. Our research attempts to fill this gap in the literature.

Additionally, the different negative consequences of the pandemic (e.g., increased deaths and perceived feelings of alienation) evoked COVID-19-stress (i.e., increased stress, depression, and other negative psychological and emotional responses to the pandemic) [25]. Several studies have indicated that the instances of maladaptive practices (e.g., alcohol, drugs, the internet, and gaming addictions) increased manifold amid the pandemic [26–28]. However, there is limited research on alternative ways of coping with COVID-19-stress which can reduce millennials' dependence on maladaptive practices. Although a few research studies indicated how the anxiety and stress experienced during the pandemic encouraged sustainable consumption intentions (e.g., buying environmentally friendly products) [29–31], there is a lack of research on how COVID-19-stress can beget intentions for sustainable apparel consumption and if that could be an effective strategy for coping with COVID-19-stress among millennials. Our study opens avenues for research in this area.

Furthermore, several studies have indicated instances of wasteful consumption amid the pandemic [32–36], including instances of panic buying (i.e., buying products in excess due to the fear of the products becoming unavailable) [33,36–38]. Even millennials, who are considered to be environmentally conscious engaged in panic buying amid the pandemic, reflecting wasteful consumption [39,40]. While sustainable consumption is conceptually less wasteful in nature, increased instances of both sustainable consumption and wasteful consumption amid the pandemic seem contradictory. Although some studies suggested that the consumption of toilet paper, groceries, and food increased among millennials amid the pandemic [39], intentions for purchasing leisure items and apparel decreased during this time [39]. Therefore, it could be implied that the increase or decrease in purchase intentions amid the pandemic was largely dependent on the product category. While a decreased intention for purchasing apparel reflects intentions for engaging in less wasteful consumption, it is not clear whether the motivation for reduced apparel shopping was to protect the environment and if that could relate to a higher purchase intention for sustainable apparel and/or donated/handed down apparel. We imply that engaging in panic buying may have triggered an insecurity among millennials in terms of not being able to maintain their identity of being environmentally conscious, contributing to their COVID-19-stress and encouraging them in engaging in sustainable apparel consumption to reaffirm their commitment to the environment. We support this assumption based on the literature on the compensatory consumer behavior model [41–43], which posits that when individuals experience a discrepancy in their desired identity, they tend to achieve that identity by consuming products that symbolize that identity. In the context of our study, purchasing sustainable apparel or divesting apparel could symbolize environmentally friendly behavior that can help millennials maintain their commitment to the environment which may have become threatened amid the pandemic. Therefore, our research explored the underlying motivation for sustainable apparel consumption among millennials amid the pandemic. Specifically, we tested if a commitment to the environment can influence intentions for sustainable apparel consumption among this population when they are experiencing COVID-19-stress. In addition to the compensatory consumer behavior model, we have applied the self-regulatory theory [44] and cognitive dissonance theory [45] to support our assumptions in exploring the relationships between the aforementioned variables.

Specifically, the objectives of our study were to explore the influence of (i) COVID-19-stress on commitment to the environment and intentions for sustainable apparel consumption in terms of purchase intentions for sustainable apparel and intentions for divesting

apparel; (ii) commitment to the environment on purchase intentions for sustainable apparel and intentions for divesting apparel; and (iii) how commitment to the environment mediates the relationship between COVID-19-stress and intentions for purchasing sustainable apparel or divesting apparel. We tested our conceptual model through structural equation modeling with the national population of millennials in the U.S. We believe that our research will give directions to the researchers and marketers exploring evolving consumer behavior amid the pandemic among the millennials of the U.S.

2. Literature Review

2.1. Theoretical Framework: Regulatory Focus Theory, Cognitive Dissonance Theory, and Compensatory Consumer Behavior Model

The regulatory focus theory posits that people have two distinct foci for self-regulation: promotion-focused and prevention-focused [44]. The promotion-focused people are driven by aspirations, growth, and developmental needs to align their actual self with their ideal self. The prevention-focused people are driven by security needs to align their actual self with their ought self to fulfill their duties and secure their future [44]. The cognitive dissonance theory [45] posits that when there is an inconsistency between what an individual wants and what the individual has, the individual experiences a psychological discomfort (i.e., dissonance). That state of discomfort will motivate the individual to reach that desired state of being and reduce the dissonance by making changes in the situation at hand [45]. Integrating the regulatory focus theory [44] and cognitive dissonance theory [45], we suggest that when promotion-focused people are not able to reach their ideal self and prevention-focused people are not able to reach their ought self, they will experience dissonance, which in turn, will motivate them to behave in ways that will reduce the dissonance. Furthermore, the compensatory consumer behavior model posits that when people have self-discrepancy in their identity (i.e., a gap between a desired identity and the actual self), they experience aversive consequences (e.g., negative affective, cognitive, and physiological responses) which drive them to reduce that discrepancy in identity and the aversive consequences through consuming certain products [41]. The coping strategy could be in terms of symbolic self-completion where they purchase/use certain products that symbolically represent their desired identity, thereby reducing the aversive consequences by eliminating or attenuating the discrepancy, reducing the importance of the discrepancy, or lowering the salience of the discrepancy [41]. In the context of this present study, we integrate the compensatory consumer behavior model [41] to support our assumptions further on how millennials may experience self-discrepancy in their commitment to the environment amid the pandemic, contributing to a higher COVID-19-stress and how that in turn motivates them in engaging in sustainable apparel consumption to reaffirm their identity of being committed to the environment.

Previously, researchers have indicated the relationship between the self-regulatory foci and sustainable consumption/sustainably oriented mindset [46–48]. For example, Minero et al. [48] found that prevention-focused people engage in both short- and long-term green behavior. Long-term promotion-focus increases environmental concern [46]. Drawing from the regulatory focus theory [44] and cognitive dissonance theory [45], we implied that the promotion-focused millennials will engage in sustainable consumption to reach their ideal selves who believe that engaging in pro-environmental behaviors would be idealistic to protect the environment amid the pandemic. In doing so, they can avoid the dissonance that could have been evoked due to the perceived sense of not doing enough to protect the environment and not engaging in sustainable consumption. Similarly, based on the regulatory focus theory [44] and cognitive dissonance theory [45], we implied that the prevention-focused millennials will engage in sustainable consumption to reach their ought selves who believe that it is their duty to engage in pro-environmental behaviors to protect the environment amid the pandemic. In doing so, they can avoid the dissonance that could have been evoked due to the perceived sense of failing to perform their duties to protect the environment and not engaging in sustainable consumption. In this present

study, we have conceptualized cognitive dissonance as an antecedent of COVID-19-stress. COVID-19-stress is defined as the negative psychological and emotional experiences during the pandemic [25]. In our study, we suggest that people will experience COVID-19-stress when they want to stay in a healthy environment to protect themselves and their close ones from contracting COVID-19 but are unable to do so due to living in an environment of poor health. Furthermore, we suggest that the emerging instances of poor environmental health amid the pandemic will trigger a self-discrepancy in the identity of being committed to the environment among millennials, increasing COVID-19-stress, which in turn will motivate them to strengthen their commitment to the environment through sustainable apparel consumption. Therefore, we have conceptualized self-discrepancy in the identity of being committed to the environment as another antecedent of COVID-19-stress.

During the pandemic, instances of growing environmental concerns were rife [1–5]. A few researchers mentioned increased sustainable consumption behavior during the pandemic [3,5,49]. In the context of this present study, we suggest that the anticipated dissonance and self-discrepancy in the identity of being committed to the environment among the prevention- and promotion-focused millennials for not engaging in pro-environmental behavior can contribute to their COVID-19-stress, evoking commitment to the environment and intentions for divesting apparel and purchasing sustainable apparel to avoid chances of experiencing further dissonance/discrepancies in identity. In this present study, we have defined commitment to the environment as an individual's connectedness with and protective instincts for nature. We defined intentions for divesting apparel as the willingness to hand down or donate apparel instead of discarding it. A purchase intention for sustainable apparel is defined as the willingness to purchase green (i.e., environmentally friendly) apparel over other available non-green apparel. We have conceptualized self-regulatory sustainable apparel consumption in terms of the intention to purchase sustainable apparel or divest apparel in the hope of avoiding negative consequences to environmental health (among the prevention-focused individuals) or to improve environmental health (among the promotion-focused individuals). In the next section, we have described how COVID-19-stress can influence commitment to the environment and intentions for divesting apparel and purchasing sustainable apparel.

2.2. COVID-19-Stress and Commitment to the Environment

Studies showed that people were particularly susceptible to the brunt of the pandemic due to poor environmental health [50–53]. For example, poor air quality was associated with lung-related problems and co-morbidities, making people more susceptible to contracting COVID-19 [26] and obtaining severe symptoms [51], including higher risks of death [50–52]. Therefore, poor environmental health can contribute to COVID-19-stress due to the anticipated risks of contracting the disease, suffering from dire symptoms, and/or dying. Based on the compensatory consumer behavior model [41] and cognitive dissonance theory [45], we suggest that all of these instances of poor environmental health amid the pandemic may trigger an aversive response among millennials and heighten COVID-19-stress that their contributions in protecting the environment have not been enough and that they need to be more committed to the environment to bring a positive change.

For example, anxiety due to the perceived threat to climate change and poor environmental health led to adaptive behaviors such as climate activism to reduce the carbon footprint [23,54]. The fear of COVID-19 was found to be positively correlated with low-carbon footprint behaviors [29–31]. Integrating this literature with the cognitive dissonance theory [45] and compensatory consumer behavior model [41], we suggest that this COVID-19-stress will motivate millennials to protect the environment in the hope of improving environmental health and becoming more immune to the health risks associated with the pandemic. Soga et al. [55] suggested that COVID-19 has altered human–nature interactions in significant ways which can have a long-term effect on human behavior to protect the environment. Based on the cognitive dissonance theory [45] and compensatory consumer behavior model [41], we suggest that having higher COVID-19-stress will increase commit-

ment to the environment, increasing the assurance that improved environmental health will help in ending the pandemic and making humans more immune to combat the disease. Based on this discussion, we propose the following hypothesis.

Hypothesis 1 (H1). *COVID-19-stress will positively influence commitment to the environment.*

2.3. COVID-19-Stress and Intentions for Sustainable Apparel Consumption

There were several instances of improved environmental conditions in terms of cleaner air and water in urban locations after the onset of the pandemic [56–58]. A major reason behind this was the temporary closures of businesses across the world which helped in curbing the amount of industrial waste disposals into the environment [56]. We suggest that these instances motivated people to introspect more about their consumptions and how human actions impact environmental health. Millennials, who are known for their sustainable mindsets, may have questioned their identity of being committed to the environment when they engaged in wasteful consumption amid the pandemic. Based on the compensatory consumer behavior model [41], we suggest that those wasteful consumptions amid the pandemic evoked a self-discrepancy in the identity of being committed to the environment, encouraging millennials in purchasing sustainable apparel or divesting apparel to regain their sense of commitment to the environment. We support our assumptions with the extant literature which suggests that the anticipated guilt for not consuming sustainable products begets future intentions for purchasing sustainable products [59–63]. Advertisements with negative appeals attract attention toward the message [64]. Fear appeal in an advertisement can positively influence purchase intentions for green products [65]. The fear of COVID-19 [23,30,66], the perceived threat of COVID-19 [67], and a perceived knowledge about the pandemic [68] lead to increased sustainable and conscious consumption intentions that lower the carbon footprint and negative impact on the environment. In the context of this present study, we suggest that the fear of COVID-19 (i.e., COVID-19-stress) can motivate people to protect the environment among the prevention-focused people to reduce potential outbreaks of future pandemics or reduce the brunt of the ongoing pandemic.

Some studies suggested that prevention-focused appeals encourage green consumption more than promotion-focused appeals [48]. Some studies have indicated that promotion-focused appeals are more effective for sustainable and reduced consumption as compared to prevention-focused appeals [69]. Zou and Chan [70] indicated both prevention-focused and promotion-focused people can engage in green behaviors with a mediating influence of ethical judgement and ethical intention. Kareklas et al. [71] suggested that both promotion- and prevention-focused environmental appeals can generate a favorable attitude toward addressing environmental concerns in different situational contexts. Taken together, we suggest that both promotion and prevention regulatory foci can encourage intentions for sustainable consumption depending upon the situational context. For example, the pandemic increased environmental awareness and sustainable consumption intentions [5,72] and decreased the frequency of purchasing apparel [49].

Drawing from the regulatory focus theory [44] and the cognitive dissonance theory [45], it could be implied that the promotion-focused millennials may have a high commitment to the environment and evoke intentions for purchasing sustainable apparel and divesting apparel to improve/recover environmental health to cope with their COVID-19-stress. On the other hand, the prevention-focused millennials may exhibit a high commitment to the environment and evoke intentions for purchasing sustainable apparel and divesting apparel due to the insecurity that if they do not do so it will negatively impact the environment, worsening the brunt of the pandemic. Therefore, the prevention-focused millennials may feel that it is their duty to be more committed to the environment and engage in sustainable apparel consumption by purchasing sustainable apparel or divesting apparel to help environmental health not become worse during the pandemic. Based on this discussion, we propose the following hypotheses:

Hypothesis 2 (H2). *COVID-19-stress will positively influence purchase intentions for sustainable apparel.*

Hypothesis 3 (H3). *COVID-19-stress will positively influence intentions for divesting apparel.*

2.4. Commitment to the Environment as a Mediator between COVID-19-Stress and the Intentions for Sustainable Apparel Consumption

Researchers have shown that a higher concern or commitment to the environment encourages sustainable consumption, including higher intentions for purchasing sustainable apparel [62,73,74] and divesting apparel [75–77]. A pro-environmental attitude and environmental concern increases intentions for slowing down the pace of consumption [78]. As such, people often hand down or donate apparel and/or engage in renting apparel to minimize the dependance on virgin natural resources to make new clothing items [79]. Several studies have shown that millennials purchase sustainable apparel [11–13] or donate apparel [14–17] to protect the environment. However, the pandemic also induced wasteful consumption intentions in certain product categories of essential items such as food and toilet paper [32–36]. Millennials also engaged in panic buying to cope with the stress of not having access to these essential items amid the pandemic [39]. While there was an increase in the consumption of food and toilet paper among millennials, apparel shopping decreased during this time [39]. Based on the compensatory consumer behavior model [41], cognitive dissonance theory [45], and regulatory focus theory [44], we suggest that the wasteful consumption of these essential products contributed to COVID-19-stress by threatening millennials' commitment to the environment. As a result, millennials curbed their apparel shopping to reaffirm their commitment to the environment. Since the consumption of sustainable apparel and donating apparel could protect the environment as well, we suggest that the commitment to the environment evoked by COVID-19-stress could encourage millennials to purchase sustainable apparel and donate apparel to compensate for their negative impact on the environment due to the overconsumption of other product categories. Additionally, drawing from the cognitive dissonance theory [45] and regulatory focus theory [44], we suggest that COVID-19-stress will positively influence commitment to the environment which in turn will positively influence intentions for purchasing sustainable apparel and divesting apparel to avoid anticipated guilt for not protecting the environment among the prevention-focused consumers and to evoke pride among the promotion-focused consumers for improving environmental health. Furthermore, because purchasing sustainable apparel and/or divesting apparel could symbolize commitment to the environment based on the compensatory consumer behavior model [41], we imply that millennials will cope with their COVID-19-stress by purchasing and/or divesting apparel to eliminate or attenuate their self-discrepancy in their identity of being committed to the environment through symbolic self-completion. Therefore, we propose the following hypotheses:

Hypothesis 4 (H4). *Commitment to the environment will positively influence purchase intentions for sustainable apparel.*

Hypothesis 5 (H5). *Commitment to the environment will positively influence intentions for divesting apparel.*

Hypothesis 6 (H6). *Commitment to the environment will mediate the relationship between COVID-19-stress and (H6a) purchase intentions for sustainable apparel and (H6b) intentions for divesting apparel.*

Based on the aforementioned hypotheses (H1–H6), we propose the following conceptual model (see Figure 1).
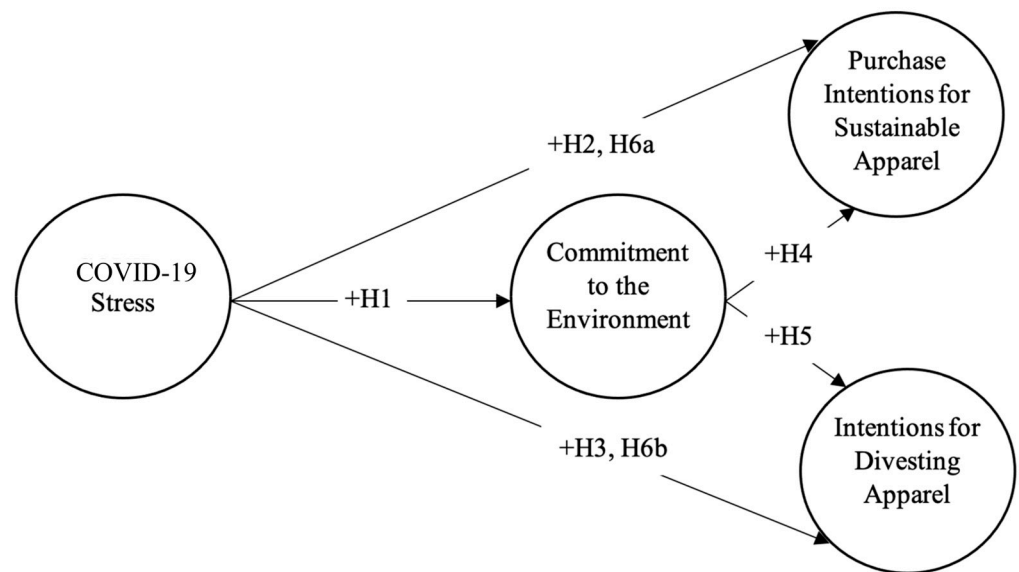
Figure 1. Conceptual model.

3. Method

An online survey designed in Qualtrics was administered on Amazon Mechanical Turk to collect the data. We used purposeful sampling to collect our data from the national population of millennials in the U.S. (born between 1981 and 1996). Researchers have employed purposeful sampling of millennials in studies related to sustainability and sustainable consumption in the U.S. [6–8,10–13,78,80]. Since our study addressed questions related to sustainable consumption in the U.S. as well, millennials were considered to be an appropriate sample. We used the criterion *Location is U.S.* in the MTurk platform to ensure recruitment from the current residents of the U.S. To ensure good quality data, we added the criterion to include only those MTurkers in the survey who had an 80% or higher HIT (i.e., Human Intelligence Task) approval rate.

Before entering the survey, the participants read and consented to the Institutional Review Board-approved information letter. After the prospective MTurkers consented to participate in the survey, screening questions (e.g., which of the following best describes your age group; which of the following best describes your current county of residence) were employed to make sure only the millennial MTurkers of the U.S. participated in the survey. All the ineligible participants were shown the message "Sorry, you do not quality to participate in this study" and taken to the termination page of the survey. Extant measurement scales were adapted to measure COVID-19-stress [25], commitment to the environment [81], purchase intentions for sustainable apparel [82], and intentions for divesting apparel [83]. These measurement scales were indicated to have the required validity and reliability in the extant literature [25,81–83]. All the variables were measured in 7-point Likert scales (1 = strongly disagree; 7 = strongly agree). The measurement scale items were randomized to minimize potential order effects. To minimize potential non-responsiveness, we added the *forced response* feature (i.e., respondents cannot move to the next question before answering all the questions in the current page) to all the questions. The questions related to the dependent variables (i.e., purchase intentions for sustainable apparel and intentions for divesting apparel) were followed by the questions related to the mediator (i.e., commitment to the environment), independent variable (i.e., COVID-19-stress), and the demographic variables. At the end of the survey, the survey code was provided for the MTurkers to receive their participation compensation.

The direction for the questions related to intentions for sustainable apparel consumption was as follows: Please SELECT an appropriate box to indicate your level of agreement regarding **your thoughts about buying, using, and disposing apparel.** The direction for the questions related to commitment to environmental issues was as follows: Please SE-

LECT an appropriate box to indicate your level of agreement with the following statements regarding your thoughts about environmental issues. The direction for the questions related to COVID-19-stress was as follows: Please **SELECT** an appropriate box to indicate your level of agreement with the following statements regarding **your experience of being in the time of COVID-19 pandemic.**

The sample size of 200 is considered acceptable for analyses involving structural equation modeling (SEM) [84]. Additionally, a subject to item ratio of 10:1 is deemed adequate for conducting factor analysis [85,86]. The maximum number of items in a single scale for this study was 8. Therefore, a minimum sample size of 80 was considered adequate to run the factor analysis. For SEM analysis, a minimum sample size of 150 is considered sufficient for convergence and proper solution when latent variables with 3 or more indicators per factor exist [87]. Because all the latent variables in this study consisted of more than 3 indicators per factor, the sample size of 300 was considered acceptable to compute all required analyses (i.e., factor analysis and SEM).

4. Data Analysis

4.1. Sample Profiling

A total of 416 responses were initially collected. A total of 100 responses were deleted due to straight-liner responses and respondents being younger or older than 24 and 39 years, respectively. We used attention check questions (e.g., Please click on Strongly Agree if you are reading this question) to identify straight-liner responses. Anyone not responding to the attention check question correctly were considered to have click-through responses, thus bringing errors into the data for responding to the items without properly reading them. Respondents who gave straight-liner responses but correctly responded to the attention check questions were considered to be truthfully and attentively responding to the items. We retained those responses. Therefore, the useable sample size was 312. A majority of the respondents were between 30 and 35 years (f = 132; 42.3%); male (f = 171; 54.8%); employed for wages (f = 204; 65.4%); had a 4 year college degree (f = 179; 57.4%) and an annual household income between USD 31,000 and USD 60,000 (f = 120; 38.8%); were married (f = 224; 71.8%), and Caucasian (f = 215; 68.9%) (see Table 1).

Table 1. Sample Profiling.

Measures	Categories	f	%
Age (in years)	24–29	106	34
	30–35	132	42.3
	36–39	74	23.7
Gender	Male	171	54.8
	Female	141	45.2
Highest level of educational qualification	Some high school	3	1
	High school graduate, diploma, or the equivalent	26	8.3
	Technical/vocational training	7	2.2
	College degree (4 years)	179	57.4
	Some graduate school	20	6.4
	Graduate degree (Master's, doctorate, etc.)	77	24.7
Annual household income (in USD)	30,000 or less	42	13.5
	31,000 to 60,000	120	38.5
	61,000 to 90,000	96	30.8
	91,000 to 120,000	30	9.6
	121,000 to 150, 000	16	5.1
	151,000 or more	8	2.6
Marital status	Single, never married	81	26
	Married	224	71.8
	Divorced	5	1.6
	Other (separated; dating)	2	0.6

Table 1. *Cont.*

Measures	Categories	*f*	%
Employment status	Currently unemployed	19	6.1
	Employed for wages	204	65.4
	Self-employed	77	24.7
	Homemaker	9	2.9
	Student	3	1
Ethnicity	Asian/Pacific Islander	33	10.6
	Caucasian	215	68.9
	African American	30	9.6
	Latino/Hispanic	28	9
	Mixed/Biracial	3	1
	Other	3	1

4.2. Reliability and Validity

Confirmatory Factor Analysis (CFA) was performed in Mplus (version 8.6) which fitted the data well (χ^2 = 433.68, *df* = 164, *p* < 0.001; χ^2/df = 2.64; RMSEA = 0.07; CFI = 0.92, TLI = 0.91, SRMR = 0.06). The factor loadings for all the measurement scales were above 0.40 and ranged between 0.67 and 0.86 (see Table 2). The composite reliability (CR) and Cronbach's alpha were greater than 0.70 for all the measurement scales and ranged between 0.74 and 0.93, indicating that the measurement scales were reliable. The average variance extracted (AVE) for the scales were above 0.50 and ranged between 0.55 and 0.61, indicating adequate convergent validity, except for intentions for divesting apparel (AVE = 0.48). However, since the CR (0.74) and Cronbach's alpha (0.74) of intentions for divesting apparel were above 0.70, the factor loadings were greater than 0.40 (0.67 to 0.71), and the square root of the AVE was greater than the inter-construct correlations, we retained the variable for further analysis (see Table 3). The square roots of AVEs for all the other variables were higher than the inter-construct correlations, indicating that all the measurement scales had adequate discriminant validity. No items were deleted in any of the measurement scales.

Table 2. Measurement Scale Items with their Factor Loadings from CFA and Reliabilities.

Items	AVE	CFA Factor Loading	CR	α
COVID-19-stress	0.61		0.92	0.93
1. I am very afraid of coronavirus.		0.71		
2. It makes me uncomfortable to think about coronavirus.		0.74		
3. My hands become clammy when I think about coronavirus.		0.80		
4. I am afraid of dying because of coronavirus.		0.76		
5. When watching/reading news about coronavirus, I become nervous or anxious.		0.83		
6. I cannot sleep because I'm worrying about getting coronavirus.		0.80		
7. My heart races or palpitates when I think about getting coronavirus.		0.86		
8. When hearing stories about coronavirus, I become nervous or anxious.		0.73		
Commitment to the Environment	0.55		0.88	0.88
1. I am interested in strengthening my connection to the environment in the future.		0.77		
2. I feel strongly linked to the environment.		0.73		
3. Feeling a connection with the environment is important to me.		0.75		
4. I expect that I will always feel a strong connection with the environment.		0.71		
5. I feel very attached to the natural environment.		0.75		
6. I feel committed to keeping the best interests of the environment in mind.		0.74		
Purchase Intentions for Sustainable Apparel	0.60		0.82	0.81
1. Over the next month, I will consider buying green products because they are less polluting.		0.70		
2. Over the next month, I will consider switching to other apparel brands for ecological reasons.		0.83		
3. Over the next month, I plan to switch to sustainable apparel.		0.80		

Table 2. *Cont.*

Items	AVE	CFA Factor Loading	CR	α
Intentions for Diverting Apparel	0.48		0.74	0.74
1. I would consider 'handing down' apparel in family or among friends.		0.71		
2. I would consider giving away my apparel to help others that I know.		0.71		
3. I would consider reusing apparel products for other purposes to get the most out of them.		0.67		

Table 3. Mean, Standard Deviation, and Correlations of the Research Variables.

Measures	*M*	*SD*	*Correlations*			
			1	**2**	**3**	**4**
1. COVID-19-stress	4.73	1.45	*0.78*			
2. Commitment to the environment	5.47	0.93	0.39 **	*0.74*		
3. Purchase intention for sustainable apparel	5.07	1.18	0.53 **	0.64 **	*0.77*	
4. Intentions for diverting apparel	5.50	0.95	0.22 **	0.55 **	0.34 **	*0.69*

Note. ** $p < 0.01$. Numbers in the diagonal represent the square roots of the AVEs of the constructs.

4.3. Hypotheses Testing

The hypotheses were tested in Structural Equation Modelling as a comprehensive model in Mplus. The model fitted the data well ($\chi^2 = 433.68$, $df = 164$, $p < 0.001$; $\chi^2/df = 2.64$; RMSEA = 0.07; CFI = 0.92, TLI = 0.91, SRMR = 0.06). **H1** ($\beta = 0.43$, $p < 0.001$), **H2** ($\beta = 0.37$, $p < 0.001$), **H4** ($\beta = 0.56$, $p < 0.001$), and **H5** ($\beta = 0.71$, $p < 0.001$) were supported. **H3** ($\beta = -0.05$, $p = 0.43$) was rejected. A summary of the findings of H1-H5 is given in Figure 2. **H6a** ($\beta = 0.24$, $p < 0.001$, C.I. = [0.18, 0.30]) and **H6b** ($\beta = 0.30$, $p < 0.001$, C.I. = [0.22, 0.38]) were supported. The variance explained in commitment to the environment ($R^2 = 18.2\%$, $p < 0.001$), purchase intentions for sustainable apparel ($R^2 = 63.1\%$, $p < 0.001$), and intentions for diverting apparel ($R^2 = 47\%$, $p < 0.001$) were significant.
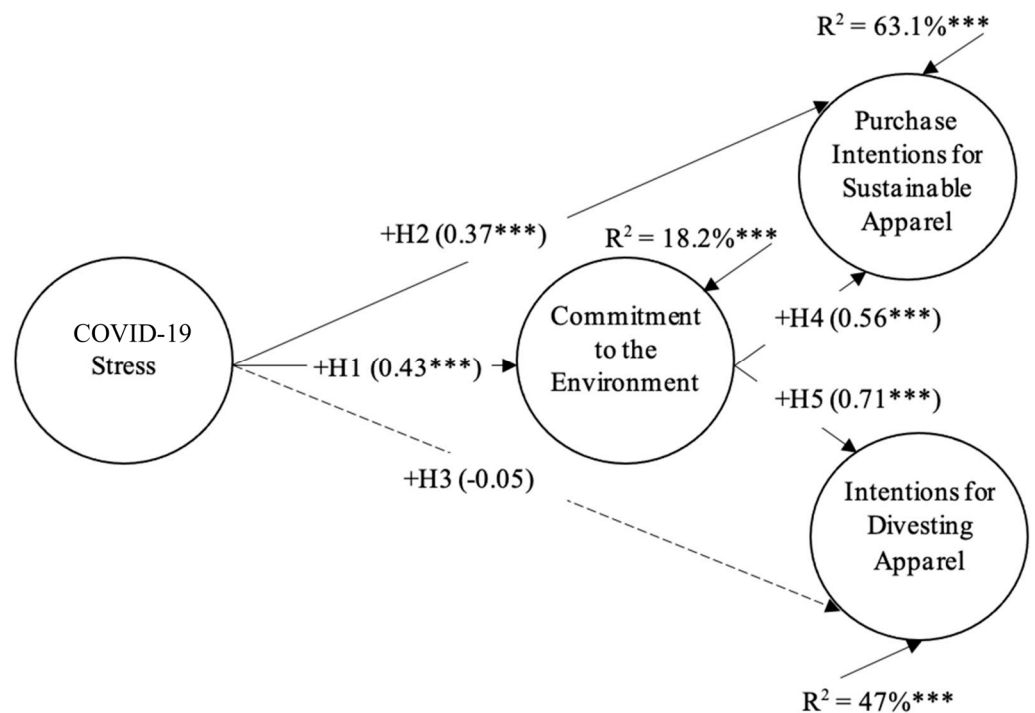

Figure 2. Path model with standardized coefficients. *** $p < 0.001$.

5. Discussion

Several studies emphasized the importance of improving environmental health to combat the dire consequences of the global pandemic, COVID-19 [50–53]. Specifically, studies showed that the consequences of the pandemic were particularly severe due to poor environmental health [50–53]. Therefore, there was an increased environmental awareness, concern, and attitude amid the pandemic that led to an increased favorable attitude toward and intentions for sustainable consumption [5,78,88]. These instances indicated people's willingness to engage in sustainable consumption to improve environmental health to protect themselves from the brunt of the ongoing pandemic and the future outbreaks of other pandemics. Although there is substantial research on how the pandemic increased sustainable consumption in the tourism and hospitality industries [18–23], there is a literature gap on how the pandemic influenced intentions for sustainable apparel consumption. With the textile industry being one of the major contributors to poor environmental health [24], it was important to explore how consumers were trying to improve environmental health at an individual level through sustainable apparel consumption to combat the consequences of the pandemic. In conceptualizing sustainable apparel consumption in terms of intentions for purchasing sustainable (i.e., environmentally friendly) apparel and divesting (e.g., donating) apparel, we have addressed this literature gap by exploring how a commitment to the environment evoked due to COVID-19-stress influences intentions for purchasing sustainable apparel and divesting apparel among the millennials of the U.S. We have chosen millennials as our target sample because despite this population being identified as environmentally conscious [6–8,10–13,78,80], there is limited research on how this population contributed to protecting the environment amid the pandemic through their apparel consumption. In the next section, we have discussed the theoretical and marketing implications of our study.

5.1. Theoretical Implications

Several studies have indicated that the fear and stress experienced during the pandemic influenced intentions for sustainable consumption [1–5,29–31]. Because millennials are widely known for their environmental concerns/awareness [6–8,10–13,78,80], it is particularly important to explore how they have responded to the environmental crisis amid the pandemic through their consumption habits. Studies have shown an increase in wasteful [32–36] and sustainable consumption [29–31] amid the pandemic to cope with the fear and stress experienced due to the pandemic. While wasteful and sustainable consumptions are contradictory in nature, the extant literature indicated that millennials engaged in the wasteful consumption of essential products (e.g., food; toilet paper) but refrained from apparel shopping amid the pandemic [39]. Although refraining from shopping reflects the desire to protect the environment, it is unclear if millennials showed reluctance in shopping apparel because they perceived apparel as a non-essential product category or to reinstate their commitment to the environment which may have been threatened due to the wasteful consumption of other product categories. We have addressed this literature gap by delineating how millennials are maintaining their status quo of being committed to the environment through purchasing sustainable apparel or divesting (e.g., donating) apparel when they are experiencing COVID-19-stress.

According to the regulatory focus theory, people who are promotion-focused will engage in activities that will improve future situations, and people who are prevention- focused will engage in activities that will help avoid negative consequences of their actions in the future [44]. In this present study, we proposed that promotion-focused millennials with a high commitment to the environment will engage in sustainable apparel consumption to improve environmental health so as to make the environment better equipped for combating COVID-19 or future outbreaks of pandemics, thereby coping with COVID-19-stress in the process. On the other hand, prevention-focused millennials will engage in sustainable apparel consumption to prevent further negative impacts on environmental health so as to avoid dire consequences of COVID-19 or future outbreaks of other pandemics, thereby

alleviating COVID-19-stress in the process. In summary, we suggested that irrespective of whether millennials are promotion- or prevention-focused, they will engage in sustainable apparel consumption to protect the environment. We supported our assumptions from the extant literature, which states that both prevention and promotion foci can lead to intentions for sustainable consumption [70,71].

Furthermore, studies have shown that despite being highly environmentally conscious, millennials engaged in the wasteful consumption of certain essential products such as food and toilet paper amid the pandemic [39,40]. We suggested that such wasteful consumptions may have triggered an insecurity in terms of millennials' commitment to the environment, contributing to higher COVID-19-stress. We supported these assumptions based on the cognitive dissonance theory [45] and compensatory consumer behavior model [41]. For example, the cognitive dissonance theory posits that when people want to attain a certain identity or sense of being but are unable to do so, they will experience a psychological discomfort (i.e., cognitive dissonance) that will drive them in engaging in activities that will help them in attaining those identities or sense of being and reduce the dissonance. Similarly, the compensatory consumption model [41] posits that people consume different products that symbolically represent the identity that they desire, thereby helping in reducing the insecurity in their desired identity. Therefore, purchasing sustainable apparel or divesting apparel may help millennials reaffirm their identities of being committed to the environment thereby facilitating in coping with COVID-19-stress.

Based on the regulatory focus theory [44] and cognitive dissonance theory [45], we proposed and found support for our conceptual model that COVID-19-stress positively influences commitment to the environment and purchase intentions for sustainable apparel. Additionally, the commitment to the environment mediated the relationship between COVID-19-stress and purchase intentions for sustainable apparel. Therefore, the higher the degree of COVID-19-stress, the higher would be the commitment to the environment which in turn would encourage purchase intentions for sustainable apparel. Our findings support the extant literature that COVID-19 led to an increased environmental awareness and concern along with pro-environmental consumption behaviors [1–5]. A few studies mentioned that the fear of COVID-19 and the anxiety experienced during COVID-19 motivated people to engage in sustainable consumption in the hope to reduce the carbon footprint [23,29–31,54]. Together, the findings of our study and the extant literature imply that people became more pro-environmental and engaged in sustainable consumption when they saw the immediate risk of poor environmental health on the severity of the pandemic and its dire consequences on human health. This contributes to the theory building of the cognitive dissonance theory [45] by suggesting that when people want to stay safe and healthy amid the pandemic but are unable to do so due to being susceptible to infection due to poor environmental health, they will experience dissonance that will drive them to become more committed to the environment and increase their purchase intentions for sustainable apparel in the hope of improving environmental health and becoming more immune to COVID-19.

Although we did not find support for our hypothesis that COVID-19-stress positively influences intentions for divesting apparel, we did find an indirect positive influence of COVID-19-stress on the intentions for divesting apparel via commitment to the environment. Therefore, the higher the degree of COVID-19-stress, the higher would be the commitment to the environment which in turn would encourage intentions for divesting apparel. This further corroborates the significance of the pandemic in evoking pro-environmental attitudes in the form of a heightened commitment to the environment which can encourage people in handing down or donating apparel.

In the context of millennials in particular, we expanded on the extant literature which suggested that this population showed reluctance in purchasing apparel amid the pandemic [39]. Specifically, we suggested that millennials can still show positive intentions for purchasing apparel or divesting apparel as long as their commitment to the environment is not threatened. Further research is required to explore millennials' attitude toward

purchasing other sustainable product categories and if the perceived degree of a product's necessity moderates the relationship between their commitment to the environment and purchase intentions for those products. The extant literature indicated that anticipatory guilt for not consuming and anticipatory pride for consuming sustainable products can engender intentions for engaging in sustainable consumption [59–63]. Future research can explore if the anticipatory pride (or guilt) for purchasing (or not purchasing) sustainable apparel or divesting (or not divesting) apparel amid the pandemic begets intentions for engaging in sustainable apparel consumption.

In our study, we have used the regulatory focus theory [17] and cognitive dissonance theory [18] to support the rationale of our hypotheses and used the compensatory consumption model [41] in supporting our assumptions behind developing these hypotheses. However, we did not apply the theories to explain the underlying psychological mechanisms behind evoking a pro-environmental attitude or behavior due to a negative psychological state. Therefore, in the future, studies could apply the regulatory focus theory [17] to explore how the two regulator foci (i.e., prevention- and promotion-focused) may influence intentions of purchasing sustainable apparel or divesting apparel. Cognitive dissonance theory [18] could be applied further to see how the dissonance in terms of not being able to protect the environment may moderate the relationship between COVID-19-stress and intentions for sustainable apparel consumption. The compensatory consumer behavior model [41] could be applied to test how the self-discrepancy in a desired identity (e.g., environmentally conscious) can influence purchase intentions for sustainable products amid the pandemic.

5.2. Marketing Implications

Based on our findings, we recommend that marketers and apparel brands communicate how the consumption of sustainable apparel would help protect the environment and minimize the degree of the negative consequences of the pandemic due to poor environmental health. For example, the marketers can indicate the facts and figures of how consuming unsustainable apparel is polluting the environment and increasing the cases of respiratory diseases and other co-morbidities, making people susceptible to pandemic outbreaks. Marketers can also communicate how purchasing sustainable apparel or divesting apparel can have a direct impact on improving environmental health in terms of better air, water, and soil quality and how that can help in reducing the cases of respiratory problems and other diseases related to poor environmental health. Apparel brands can give score cards for each of the clothing items in terms of their impact on the environment and their estimated long-term contributions in decreasing diseases due to poor environmental health. That way, consumers can see a measurable impact of their consumption choices in the environment and their own health.

The apparel brands can also communicate how purchasing sustainable apparel or divesting apparel amid the pandemic would help millennials maintain their identity of being committed to the environment. For example, apparel brands can explore ways for the consumers to donate apparel in exchange for loyalty points for protecting the environment. Based on the cognitive dissonance theory [45] and compensatory consumer behavior model [41], we suggest that those loyalty points may serve as a symbol for consumers (e.g., millennials) in attaining/reaffirming their identities of being environmentally conscious amid the pandemic. Furthermore, the extant literature indicated that anticipatory pride could encourage intentions for sustainable consumption [59,61]. Drawing from this literature and the findings of our study, we suggest that communication on the projected environmental improvements and projected minimized risks to environmental health from purchasing sustainable apparel or divesting apparel may help millennials cope with their COVID-19-stress by evoking anticipatory pride for protecting the environment amid the pandemic.

5.3. Limitations and Future Scopes of Study

We have focused only on the millennials of the U.S. in our study. However, since millennials are usually more sustainably oriented, they may have a high commitment to

the environment and favorable intentions for purchasing sustainable apparel and divesting apparel, irrespective of the pandemic. Therefore, it needs further research to explore if the pandemic has induced pro-environmental attitudes and behavioral intentions among the other generational cohorts as well. Due to COVID-19 being an infectious disease, intentions for consuming second-hand (i.e., divested) apparel may have been low due to the fear of contracting the disease. This perceived fear of contracting the disease from second-hand apparel may have confounded the relationship between intentions for divesting apparel and the other variables in the proposed model. It would be worthwhile to test our proposed conceptual model with the national population of the U.S. who are vaccinated and thus, have a lower fear of contracting the disease. Further, it would be interesting to test our conceptual model in the context of different product categories such as apparel, food, electronics, and furniture, etc.

6. Conclusions

This present study offers empirical evidence of the role of COVID-19-stress in influencing intentions for substantiable apparel consumption. Specifically, we delineate the underlying mediating role of commitment to the environment in the relationships between COVID-19-stress and intentions for sustainable apparel consumption in terms of purchase intentions for sustainable apparel and diverting apparel. Based on the findings of this study, pertinent theoretical implications are suggested in the context of the applicability of the compensatory consumer behavior model [41], regulatory focus theory [44], and cognitive dissonance theory [45] in exploring the antecedents of sustainable apparel consumption amid the pandemic. Practical recommendations are proposed for sustainable apparel brands and marketers highlighting the evolving consumption behavior among millennials of the U.S. amid the pandemic.

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