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Too fatigued to consume (ir)responsibly? The importance of work-related fatigue and personal values for responsible consumption

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Abstract

Research concerning the intention–behaviour gap in responsible consumption has assigned a crucial role to individuals' situational states and personal values in purchase situations. Concurrently, work psychology research has demonstrated that on-the-job experiences carry over to one's private life. Combining insights from responsible consumption research and action regulation theory from work psychology, we investigated whether a fatigued state after work mediates the relationship between perceived daily workload and responsible consumption behaviour in the evening. Moreover, we hypothesized that personal values interact with work-related fatigue in predicting responsible consumption behaviour. The data were collected through online surveys on four consecutive working days. The final sample consisted of 74 persons and 115 observations. To test our hypotheses, we used path analyses and controlled for the data structure. The results confirmed the predicted moderated mediation of environmentally responsible consumption; among the consumers who expressed high personal values in terms of the environment, a fatigued state was related to more responsible consumption. However, regarding socially responsible consumption focusing on fair production conditions, the results revealed a significant nonmoderated mediation. Our findings support the assumption that work experiences during the day affect responsible consumption behaviour in the evening, and thus, work should be given more consideration in consumer research. Further research is needed to specify the contextual factors leading to the positive relationship between fatigue and socially responsible consumption in terms of production conditions.

KEYWORDS

moderated mediation, personal values in terms of consumption, responsible consumption, work-consumption spillover, work-related fatigue

1 | INTRODUCTION

In recent research on responsible consumption, the gap between consumers' attitudes or intentions and their actual behaviour has gained attention (e.g., Aschemann-Witzel & Niebuhr Aagaard, 2014; Frank, 2018; Grimmer & Miles, 2017; Hassan et al., 2016; Torma et al., 2018; Wiederhold & Martinez, 2018). By integrating psychological concepts, such as inter-role conflicts (Frank, 2018), implementation intentions (Carrington et al., 2010) and prosocial status perception (Zabkar & Hosta, 2013), in research concerning responsible consumption, scholars have advanced the understanding of the reasons and circumstances underlying this discrepancy. Despite the theoretical advancements and a large number of empirical studies on the question of why consumers 'do not walk their talk' in general, we still know very little about the daily situational circumstances underlying this gap in consumers' everyday purchasing. Limited research has closely examined situational barriers to responsible purchasing (Carrington et al., 2014; Grimmer & Miles, 2017), but the impact of momentary psychological conditions (such as fatigue) remains to be examined. Additionally, a limited multidisciplinary approach has led to a neglect of influences from other life domains to responsible consumerism, aside from the family domain (Carey et al., 2008; Carrigan & Szmigin, 2006; Frank, 2018; Heath et al., 2016; O'Neill & Buckley, 2019). This is particularly the case for the work-related life domain, which is surprising, given that the majority of consumers in Western industrialized societies are employed (Suedekum, 2005), and therefore, make their individual consumption decisions before, after or even during work.

In this study, we draw upon research from the field of work and organizational psychology to contribute to a deeper understanding of situational contexts that may either hinder or facilitate daily responsible purchase decisions. Specifically, we draw upon action regulation theory (ART; Hacker, 2003) and dual-process theories of human decision making (Evans, 2008) to argue that consumers' responsible purchasing in the evening is influenced by the conditions to which they are exposed during work insofar as these conditions are associated with their psychological functioning after work as follows: ART suggests that job stressors, such as workload, use a person's emotional and cognitive resources, which, in turn, may lead to impaired well-being and psychological functioning in both the long-term and short-term (e.g., emotional exhaustion and fatigue). Strong support for this assumption is derived from empirical research in the field of work and organizational psychology (e.g., Konze et al., 2017; Prem et al., 2016). From the perspective of the dual-process theories of human decision making (Evans, 2008), such psychological states largely determine whether individuals make decisions either rapidly and autonomously (system 1) or after deliberate consideration (system 2; Evans & Stanovich, 2013). By combining these two theoretical approaches, we infer that psychological functioning and well-being likely influence people's behaviours after work. As far as responsible consumption is concerned, purchase decisions most often require more effort and resources from the consumer (e.g., finding appropriate stores; Carrington et al., 2014) that can no longer be accessed

by a person who is in a state of fatigue after a stressful working day. Thus, we propose a spillover effect from the work-related life domain to the consumption-related life domain via work-related fatigue.

This study seeks to contribute to the literature in two important ways. First, we contribute to research on the intention-behaviour gap in responsible consumption by taking a closer look at situational contexts that may hinder or facilitate daily responsible purchasing decisions. Situational context variables have been proposed as important conditions for translating buying intentions into buying behaviour (Belk, 1975; Carrington et al., 2010). However, to date, empirical research testing the influence of the situational context has primarily focused on external conditions (e.g., physical or social surroundings; Aschemann-Witzel & Niebuhr Aagaard, 2014; Grimmer & Miles, 2017); thus, the role of internal psychological states (e.g., fatigue) has not yet been clarified. By testing the influence of working conditions on responsible consumption via work-related fatigue in a daily diary study, we enrich our understanding of the impact of situational contexts on responsible consumption.

Second, by linking established research on responsible consumption with insights from work and organizational psychology, we contribute to the multidisciplinary advancement of this field of research. The question of how other life domains beyond the consumption sphere affect responsible purchase decisions has been investigated recently in empirical studies on family influence (Frank, 2018; O'Neill & Buckley, 2019; Ritch & Brownlie, 2016), but research on influences of the work domain remains at a conceptual stage (Carrington & Neville, 2016; Devetter & Rousseau, 2011; Muster, 2012). The present study is the first to empirically investigate how working conditions may influence responsible purchase decisions. In terms of practical implications, the results of our study contribute to a more complex view of how organizations and retailers may promote responsible consumption, and thus, help organizations meet their social responsibilities.

In the following theoretical section, we describe the antecedents and postulated pathways of responsible consumption and highlight the importance of the consideration of contextual factors, such as different life domains. Furthermore, we introduce workload and work-related fatigue as relevant factors within the consumption process. Within the methodological section, we explain the study design, the used measures and how the statistical analysis was performed. After reporting the results, we present an additional analysis, followed by a discussion of the results according to their theoretical contribution, practical implications and directions for future research.

2 | THEORETICAL BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1 | Responsible consumption

Currently, increasing numbers of products are available that claim to support environmental protection or the fair treatment

of employees, and consumers are becoming increasingly aware of the significant impact of their purchasing decisions (Govind et al., 2019; Ladhari & Tchetgna, 2017). Although responsible consumerism is not only a phenomenon of modern times (Breen, 2004), markets for organic and fair trade products have increased continuously since the beginning of the 21st century (Organic-Trade-Association, 2018; Statista, 2018). Following Doane's (2001) definition, we conceive responsible consumption as the personal purchase of a product that is aligned with a particular ethical issue, including human rights, animal welfare or the environment. As environmental protection and animal welfare are closely linked (e.g., many organic labels refer to both aspects), we consider these two issues a part of the overarching factor environmentally responsible consumption. Considering the issue of human rights, we classify the consideration of the working conditions under which products are manufactured under the term socially responsible consumption. Thus, for the purpose of this study, we distinguish between behaviour oriented towards the natural environment (environmental protection and animal welfare) from behaviour oriented towards human beings (fair production conditions).

A plethora of research has already demonstrated that a positive attitude towards responsible consumption or the intention to consume responsibly is rarely translated into actual behaviour (for reviews, see ElHaffar et al., 2020; Hassan et al., 2016). Although the existence of this gap in responsible consumerism has been widely acknowledged, the underlying mechanisms continue to be poorly understood (Carrington et al., 2010; Grimmer & Miles, 2017). In the last decade, theoretical advancements have been made to overcome this blind spot in consumption research, for example, by integrating inter-role conflicts (Frank, 2018), implicit and explicit attitudes (Govind et al., 2019) or prosocial status perceptions (Zabkar & Hosta, 2013) in the relation between intentions and behaviour. In particular, Carrington et al.'s (2010) framework has received much scholarly attention, according to which the situational context, implementation intentions and actual behavioural control work together to translate buying intentions into buying behaviour. While the decisive role of implementation intentions or habits has been confirmed in studies applying this framework (Carrington et al., 2014; Grimmer & Miles, 2017), the influence of situational context variables is less clear.

According to Belk (1975), the situational context consists of five components: physical surroundings, social surroundings, temporal context, purchase-related tasks and antecedent states. Antecedent states relate to momentary moods or states of the individual consumer, such as calmness, agitation or fatigue, as opposed to persistent individual traits. Grimmer and Miles (2017) included situational context variables in their study on the intention-behaviour gap in pro-environmental consumer behaviour. They refer to two specific facets of the current situation (i.e., the social context and the physical context). However, a closer examination of spillover effects from other life domains on consumption contexts can provide further insights into *which* psychological conditions influence responsible

purchase decisions and *when* they occur. This situation applies in particular to the work context, since the majority of consumers in Western industrialized societies are employed (Suedekum, 2005), and therefore, make their individual consumption decisions in close temporal proximity to their work.

2.2 | Workload and fatigue

Different theoretical approaches explain the relationship between workload and fatigue. Some studies have investigated the role of motivational aspects in the relationship between workload and well-being (e.g., van Hooft & Geurts, 2015; Trépanier et al., 2015). Although these studies demonstrated that need satisfaction or frustration is a significant factor in the relationship between workload and well-being, there is a remaining effect that cannot be explained by motivational theories. At the core of the most prominent work stress theories in the field of work and organizational psychology lies the notion that performing work activities strains the physical and cognitive resources of an individual (e.g., Hacker, 2003; Hobfoll, 2001; Meijman & Mulder, 1998). This assumption refers to all work activities, although the type and magnitude of the consequences, that is, physical versus psychological impairments, depend on different work characteristics (e.g., the type of work, working time, work intensity and the complexity of work tasks). For instance, construction work may cause more and different physical issues than office work, and activities with client contacts may be more emotionally stressful than work without client contacts.

To clarify the psychological effects of work characteristics, action regulation theory (ART; Hacker, 2003) explains how specific working conditions affect employees' health, well-being and personal resources. According to ART, internal action regulation processes are needed to fulfil work tasks. Depending on the nature of work tasks, these action regulation processes require the use of employees' regulatory resources to varying degrees. Different characteristics of or conditions at work either hinder (job stressors) or support (job resources) action regulation and, thus, the successful completion of work tasks (Hacker, 2003). Job stressors may cause additional effort in the preparation and implementation of plans (e.g., work interruptions), uncertainties regarding whether the work goal can still be reached (e.g., role conflicts) and quantitative or qualitative overloads (e.g., time pressure and workload).

Based on these assumptions, ART is used mostly to explain the effects of working conditions that are accompanied by high self-control demands (e.g., Diestel & Schmidt, 2009, 2012; Prem et al., 2016). Job stressors with high cognitive effort have been shown to be positively associated with emotional exhaustion (Diestel & Schmidt, 2009; Konze et al., 2017) and negatively associated with a person's ability to regulate their actions effectively (Prem et al., 2016). When investigating working conditions that strain regulatory resources, researchers pay particular attention to workload, time pressure and demands resulting from emotional work. Based on ART, accomplishing these demands requires a high degree of self-regulation through

emotional control, concentration and the reorganization of work processes, which in turn exhausts a person's capacity to perform (e.g., Diestel & Schmidt, 2009, 2012; Prem et al., 2016).

According to Sonnentag and Frese (2003), workload is defined as a regulation problem that disturbs goal-directed behaviour because there are too many work tasks and/or time constraints are too tight (quantitative workload) or the tasks exceed the employees' professional qualifications (qualitative workload). Hence, more effort is necessary to successfully complete these work tasks. Related to this assumption, Diestel and Schmidt (2009) demonstrated that qualitative workload is associated with emotional exhaustion and anxiety by overcoming resistance. Additionally, quantitative workload is positively related to high impulse control and resisting distractions and directly related to emotional exhaustion. These results support the assumption that workload strains both regulatory and emotional resources.

The effects of quantitative workload have also been shown on a daily basis. Hülshager et al. (2018) demonstrated a positive relationship between daily quantitative workload and daily fatigue during work. Moreover, Sonnentag and Bayer (2005) showed that day-specific time pressure, as one aspect of quantitative workload, is positively correlated with a person's fatigue after work. In these contexts, a fatigued state is related to feelings of tiredness and exhaustion (Sonnentag et al., 2008). However, fatigue contains an emotional component in addition to cognitive exhaustion (Barnes & Van Dyne, 2009). In accordance with Barnes and Dyne (2009) definition of emotional fatigue, we see work-related fatigue as a construct that includes momentary feelings of emotional exhaustion. In terms of this definition, Balducci et al. (2020) showed that there is a positive association between workload and emotional exhaustion on a daily level. Based on these assumptions and empirical findings, which are in line with the straining nature of workload proposed by ART, we assume that workload is positively related to employees' daily work-related fatigue after work.

Hypothesis 1 *Daily workload is positively related to daily work-related fatigue.*

2.3 | Fatigue, responsible consumption and the special role of personal values

To explain how fatigue affects responsible consumption, we refer to dual-process theories of human decision making (Evans, 2008). Dual-process approaches assume that people make decisions either rapidly and autonomously (system 1) or after deliberate consideration (system 2; Evans & Stanovich, 2013). In this approach, it is important to consider that ethical behaviour differs in the amount of cognitive effort required (Yam et al., 2014). Purchase decisions based on environmental or social considerations require a high level of cognitive effort, especially if responsible consumption is not habitual (Carrington et al., 2014). This appears to be the case for the majority of consumers, which is also evident from the large

gap between intentions and behaviour across many sectors (e.g., Hassan et al., 2016; López-Sánchez & Pulido-Fernández, 2016). Thus, responsible consumption is generally largely based on system 2 processing.

A state of fatigue due to the intense use of regulatory resources at work compromises deliberate action planning in goal-directed behaviour (van der Linden et al., 2003), which is at the core of system 2 processing. When system 2 is inhibited due to the loss of regulatory resources, individuals base their decisions on system 1 (e.g., De Neys, 2006; Porcelli & Delgado, 2009) as effective action regulation is disturbed (Hacker, 2003). Thus, fatigue is associated with system 1 processing, leading to default responses. In the case of responsible purchase decisions, such a default response would mean that consumers generally base their decisions on the price and/or the quality of products (Carrigan & Attalla, 2001; Ritch & Schröder, 2012; Torma et al., 2018). Research on the influence of parenthood on responsible purchasing decisions has already provided initial evidence supporting this relationship: it has been shown that time constraints and role overload for mothers are associated with trade-offs between convenience and sustainability, combined with a shift away from responsible purchasing decisions (Carrigan & Szmigin, 2006; Ritch & Brownlie, 2016). As a result, responsible consumption should be affected by a state of fatigue, and therefore, by a state of work-related fatigue.

However, fatigue cannot be considered independently of personal values in regard to responsible consumption. Personal values, defined as individual concepts of desirable end states that transcend specific situations (Schwartz & Bilsky, 1987), largely guide human behaviour in general (Schwartz et al., 2012) and individual consumption in particular (Andorfer & Liebe, 2012; Lee & Cho, 2019). In particular, self-transcendence values (e.g., protection of the environment, helpfulness, social justice and responsibility) have been shown to guide socially and environmentally responsible consumption and product usage (Ladhari & Tchegn, 2017; Lee & Cho, 2019; Shaw et al., 2005). Schuitema and de Groot (2015) demonstrated that pro-environmental values do not directly influence green consumerism; rather, they serve as indirect predictors. According to the authors, strong pro-environmental values also lead to the maintenance of green consumption behaviour against situational barriers (e.g., higher product prices).

In their investigation of the ethical consumer intention-behaviour gap, Carrington et al. (2014) derive a model for the translation of intentions into behaviour that includes the prioritization of ethical core values: if these values are prioritized at the highest (i.e., primary) level, then, it is more likely that ethical consumption has already been established as a habit and is, therefore, exercised without much effort. Thus, ethical consumption is only effortful if the corresponding core values do not have the highest priority (i.e., they are secondary). In this way, personal values determine the amount of effort required for responsible consumption behaviours. Considering the dual-process approach (Evans & Stanovich, 2013), personal values determine whether social, environmental or related considerations are included within a default decision (system 1).

Therefore, a person with high social or environmental values who is exhausted after work should nevertheless make decisions based on these considerations in consumption situations, as this is the default. In contrast, if social or environmental values are given secondary priority, the state of fatigue will have a negative impact on responsible consumption because responsible purchase decisions are not default in this case and need more cognitive effort (system 2), which cannot be provided.

In the present study, we investigate work-related fatigue as an intra-individual state and situational barrier by assuming that it hinders responsible consumer behaviour. Taking the above-mentioned theories and empirical evidence into consideration, we propose that the fatigue-consumption relationship depends on the strength of consumption-related values, which exert a moderating influence. In particular, we assume that fatigue is not an obstacle to responsible consumption if the corresponding personal values are high.

Hypothesis 2 *The relationship between workload and daily responsible consumption is mediated by an interaction between work-related fatigue and personal values.*

3 | METHODOLOGY

3.1 | Sample and procedure

Data were collected through a daily diary study (Figure 1). Using a convenience-sampling approach, we distributed a flyer to several German organizations and private networks; the flyer explained the purpose of the project, the study design and the voluntary and anonymous nature of participation. In this way, potential participants received the link to a screening questionnaire in which socio-demographic aspects and the inclusion criteria of the study were queried. Participants had to meet the following inclusion criteria: they had to have a weekly working time of at least 18 hr, they had to work in a dependent employment relationship and they were not to work at night during the survey period. Moreover, participants had to complete the questionnaires on their own electronic devices (e.g., smartphones and tablet computers).

The survey period covered four consecutive working days, followed by one extra day on which the final general survey was

completed. Participants were asked to complete two surveys daily: one in the afternoon and one in the evening. After completing the general survey, participants received a voucher of 15 Euro as an expense allowance. Via the screening questionnaire, participants were able to choose the week in which the surveys took place and the times (within a given timeframe) they would receive reminder emails for the afternoon and evening surveys. We ensured that there were at least 3 hr between the two daily surveys.

In sum, 184 persons completed the screening questionnaire. Of these, 17 persons did not meet the inclusion criteria. Due to cancellations during data collection or too much missing data, such as missing participation in the general survey or evening surveys, 33 persons had to be removed from the data set. According to our hypotheses, it was necessary that participants purchased something after work, especially in the evening. Therefore, we filtered the data set of 134 persons according to whether the participants worked on that day and whether they consumed in the evening, ensuring that consumption occurred in the evening of a working day. Based on these criteria, we obtained a final sample of 74 participants with 115 observations without missing data to test our hypotheses. For a detailed distribution of the participants and observations, see Table 1.

In the final sample, 65% of the participants were female, and the mean age of all participants was 39 years (*SD* 12.5). The majority of the participants (73%) said that no underage children lived in their household. The participants worked a mean of 36 hr per week (*SD* 6.3), and 45% of the participants had worked longer than 5 years at their organization. Nearly one-quarter of the participants (22%) worked in a leadership position. The industries in which the participants worked were very diverse (e.g., the construction sector, health and social services, public administration, law, telecommunications and IT); comparatively, many persons worked in the field of education (22%).

3.2 | Measures

The means and standard deviations of the study variables, as well as the internal consistencies for multi-item scales, are presented in Table 2. All used measures captured the participants' perceptions of the study variables.

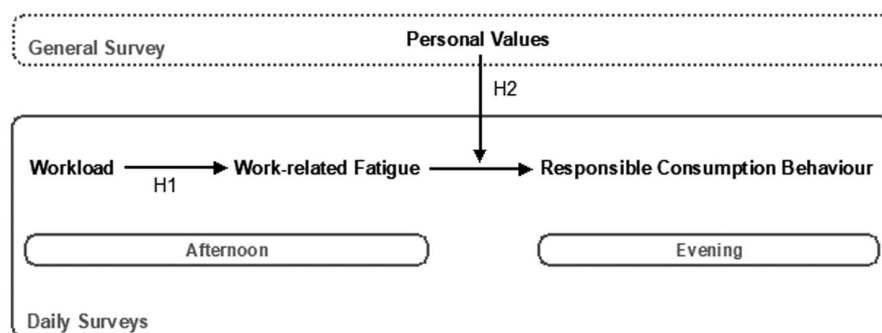


FIGURE 1 Research model

TABLE 1 Participant distribution over the measurement days

Working days with consumption in the evening	At 1 day	At 2 days	At 3 days	At 4 days	Total
Number of participants	45	18	10	1	74
Number of observations	45	36	30	4	115

3.2.1 | Responsible consumption behaviour

In this study, we focused on environmentally responsible consumption (ERC) and socially responsible consumption (SRC) as two important issues subsumed under the term 'responsible consumption'. Because these aspects can be applied to a large majority of products, they are well suited for our diary study. As environmental protection and animal welfare are closely linked (e.g., many organic labels refer to both aspects), and therefore, cannot easily be queried separately, we have combined these two aspects into one category. Moreover, in this study, SRC refers to the consideration of working conditions under which products were manufactured.

Every day, the participants had to state whether they had made a purchase in the evening. Next, the participants were asked which products they had purchased. Four categories of products could be indicated: food/beverages, clothing/shoes/accessories, cosmetics/care, products/housewares and others. For each purchased product, the participants had to rate two items—'I have chosen products that are environmentally/animal friendly' and 'I have chosen products that were produced under fair conditions'—on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*). The ratings for different products were

averaged so that the means for ERC and the means for SRC could be analysed.

3.2.2 | Workload

Workload was measured daily in the afternoon by two items focusing on quantitative workload (Janssen, 2001). We selected the most day-sensitive items of this scale. The two items—'Today, I had too much work to do for my job' and 'I had to work under time pressure today'—were rated on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

3.2.3 | Work-related fatigue

Following the considerations of Barnes and Van Dyne (2009), we decided to focus on the emotional component of fatigue, and we measured work-related fatigue daily in the afternoon using selected items from the emotional exhaustion scale by Büssing and Glaser (1998). Therefore, we selected the most day-sensitive items of this scale. Moreover, these items were adapted to the day level through an introduction (sample item: 'How are you feeling right now?' 'I feel used up by my work'). The three items were rated on a 5-point Likert-type scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

3.2.4 | Personal values

In the general survey, one item was used to ask participants about their values in terms of consumption—'How important are the

TABLE 2 Descriptive statistics, intercorrelations, reliability scores and variances at the person level among the study variables

Variable	M (SD)	ICC1	1	2	3	4	5	6	7	8	9	10	11
1 Survey day	–	–	–										
2 Gender	–	–	.14	–									
3 Age	39.28 (12.53)	–	.02	–.07	–								
4 Number of children in the household	0.43 (0.78)	–	–.12	–.13	.09	–							
5 Subjective financial situation	3.19 (0.92)	–	–.05	.32***	.26**	–.30**	–						
6 Personal values: Environment	5.01 (1.52)	–	–.03	–.16	.16	.03	–.02	–					
7 Personal values: Production conditions	4.78 (1.48)	–	–.03	–.23*	.05	.05	–.06	.73***	–				
8 Workload ^a	3.34 (1.21)	.30	–.05	–.16	–.01	–.10	–.16	–.10	–.11	.82			
9 Fatigue ^a	2.70 (1.19)	.45	.04	–.33***	.04	.20*	–.28**	–.10	–.07	.41***	.92		
10 ERC ^a	2.73 (1.31)	.50	–.03	–.37***	–.07	.01	–.17	.42***	.38***	.07	.18	–	
11 SRC ^a	2.67 (1.16)	.47	.07	–.19*	–.16	–.04	–.16	.33***	.23*	.01	.17	.76***	–

Note: ERC = Environmentally responsible consumption; SRC = Socially responsible consumption. Reliability scores (Cronbach's α) are on the diagonals. Gender: 0 = female; 1 = male. ^a This variable was measured daily. N = 115.

* $p < .05$; ** $p < .01$; *** $p < .001$.

following aspects for your purchasing decisions?’—and two aspects were mentioned: environmental friendliness and conditions under which products were manufactured. The item was developed based on the scale of Neumann et al. (2014). The 7-point Likert-type response scale ranged from 1 (*not important at all*) to 7 (*very important*).

3.2.5 | Controls

We controlled for the effects of gender, age, having children and income on consumption behaviour, as these factors were already shown to be related to responsible consumption (e.g., Bateman & Valentine, 2010; Carey et al., 2008; Naderi & Van Steenburg, 2018; Starr, 2009). Moreover, daily measurements may have an intervention effect. Answering a question repeatedly may make participants aware of the topics being investigated, which can result in both biased consumption and biased answering behaviour the next day (cf. Gonzalez-Morales & O'Shea, 2017). Thus, we also controlled for the survey day. To control for income, we chose the more indirect measure of subjective perceived financial situation (Buerke, 2016) because participants might find it more acceptable to provide information on this aspect than information on their real income. This item—‘How would you describe your current financial situation?’—was rated on a 5-point Likert-scale ranging from 1 (*It is not sufficient in any way*) to 5 (*I do not have to limit myself in any way*).

3.3 | Statistical analysis

The hypotheses were tested using Mplus (Muthén & Muthén, 2007). We used path analyses with the construct means as a single indicator of the variables because of the sample size. The analyses were based on a covariance matrix and maximum likelihood estimation with robust standard errors (MLR estimator). Additionally, because our data contain several measurement points for the same

person in some cases, we used ‘type = complex’ to control for the nested structure of the data. We conducted separate models for the different aspects of responsible consumption because the sample size is not adequate to test the different mediation processes in one model. All scales with Likert-type response formats were centred before calculating the models. In the case of significant interaction effects, we illustrated the interaction effects in a figure. In the case of significant mediation paths, the estimate of the indirect effect was computed and ensured by the Monte Carlo approach with 100,000 samples using the R package Rmediation (Tofighi & MacKinnon, 2016).

4 | RESULTS

Table 2 presents the intercorrelations among the study variables. The association between workload and fatigue is significant and in the expected direction. Additionally, workload and fatigue showed no significant associations with responsible consumption. In terms of responsible consumption, ERC and SRC were highly positively associated with one another, similar to the types of personal values. Moreover, all day-level variables showed a substantial intraclass correlation (ICC1). The model for the ERC provided a good fit (Kline, 2005) to the data ($\chi^2(3) = 5.026$, $p = .17$, CFI = .97, RMSEA = .077, SRMR = .023). By contrast, the model of a moderated mediation predicting SRC failed to reach an acceptable fit, especially because the model was conducted as a path analysis ($\chi^2(3) = 5.352$, $p = .15$, CFI = .94, RMSEA = .083, SRMR = .027).

In the case of ERC, workload was positively and significantly associated with fatigue, suggesting that the higher the participants rated their daily workload, the higher they rated their daily fatigue. This result supported Hypothesis 1. In terms of controls, gender was negatively related to fatigue and the number of children was positively related. Thus, women experience more fatigue than men, and participants with more children show higher work-related fatigue than participants with fewer

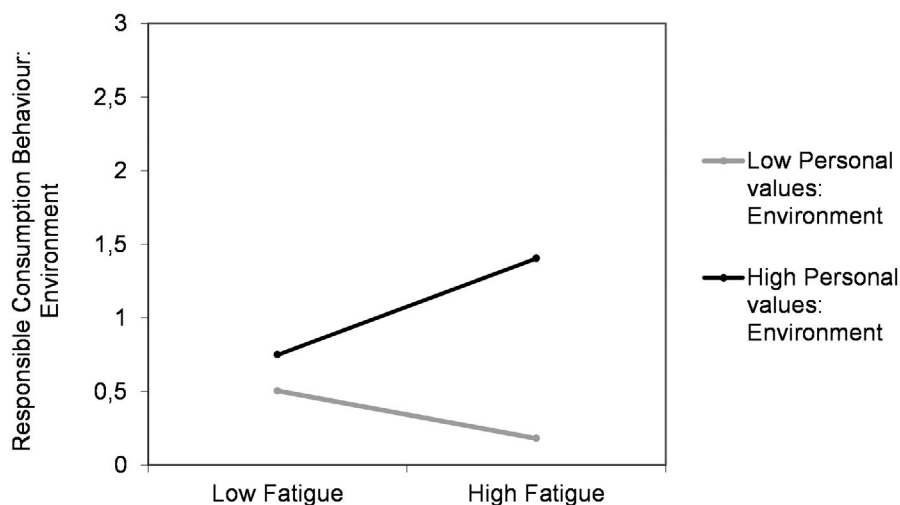


FIGURE 2 Interaction effect between fatigue and personal values in terms of the environment

TABLE 3 Estimates and standard errors from moderated mediation analyses

	ERC		SRC	
	Estimate	SE	Estimate	SE
<i>Predicting fatigue</i>				
Survey day	.12	0.07	.12	0.07
Gender	-.25**	0.09	-.25**	0.09
Age	.01	0.09	.01	0.09
Number of children in the household	.22**	0.07	.22**	0.07
Workload	.40***	0.07	.40***	0.07
<i>Predicting responsible consumption</i>				
Survey day	-.01	0.06	.06	0.08
Gender	-.32***	0.08	-.13	0.09
Age	-.13	0.10	-.17	0.12
Number of children in the household	-.03	0.09	-.10	0.09
Subjective financial situation	-.01	0.10	-.04	0.11
Personal values: Environment	.37***	0.10	–	–
Personal values: Production conditions	–	–	0.22*	0.09
Workload	.00	0.10	-.08	0.10
Fatigue	.08	0.09	0.15	0.09
Fatigue × Personal values: Environment	.25**	0.08	–	–
Fatigue × Personal values: Production conditions	–	–	0.13	0.07

Note: Estimates are standardized. ERC = Environmentally responsible consumption; SRC = Socially responsible consumption. Gender: 0 = female; 1 = male. $N = 115$.

* $p < .05$; ** $p < .01$; *** $p < .001$.

TABLE 4 Monte Carlo results for the indirect effects in terms of ERC

	Estimate	SE	97.5% CI Lower	97.5% CI Upper
Workload—Fatigue*Personal values low—ERC	−0.06	0.05	−0.166	0.027
Workload—Fatigue*Personal values mean—ERC	0.03	0.04	−0.037	0.109
Workload—Fatigue*Personal values high—ERC	0.13	0.05	0.035	0.245

Note: ERC = Environmentally responsible consumption. Number of samples = 100,000.

or no children. The interaction between fatigue and personal values in terms of the environment was significant (Table 3). We tested the conditional indirect effects between workload and ERC via fatigue under

low, mean and high personal values in terms of environment. Moreover, the conditional indirect effects were ensured with the Monte Carlo approach, which demonstrated a significant moderated mediation only in the condition of high personal values (see Table 4). The interaction effect under the control of workload is illustrated in Figure 2. The pattern of the interaction effect shows that fatigued people consume responsibly only if they have high personal values in terms of the environment, indicating an intensifying effect and supporting Hypothesis 2.

By contrast, the model predicting SRC did not show an acceptable fit to the data. However, the results for predicting fatigue were the same as those in the ERC model, but for the prediction of SRC, no significant interaction was demonstrated between fatigue and personal values in terms of production conditions (Table 3).

5 | ADDITIONAL ANALYSIS

Because the model fit of the moderated mediation model predicting SRC was not reasonable, we decided to take a step back and tested the mediation effect without moderation by personal values. Personal values in terms of production conditions were still included as control variables within the nonmoderated mediation model. The nonmoderated mediation predicting SRC achieved a perfect fit to the data ($\chi^2(2) = 1.868$, $p = .39$, CFI = 1.00, RMSEA = .000, SRMR = .016). The results for the nonmoderated mediation predicting SRC are reported in Table 5. Workload showed a positive and significant relationship with fatigue. Counterintuitively, fatigue was shown to be positively related to SRC, and the indirect effect between workload and SRC via fatigue was significant (Estimate = 0.07 ($SE = 0.04$), 97.5% CI [0.005, 0.156]).

6 | DISCUSSION

This study aimed to investigate the roles of work-related fatigue and personal values in the relationship between workload and responsible consumption. We demonstrated that workload was significantly positively related to fatigue. Moreover, the proposed moderated indirect effect was significant for ERC under the condition that people show high personal values. We were not able to examine personal values as a moderator in the relationship between fatigue and SRC due to the poor fit of the moderated mediation model. However, we found a significant nonmoderated mediation of workload on SRC via fatigue.

6.1 | Theoretical contributions and implications

By demonstrating a link between work domain and consumption behaviour, our study provides a significant extension to the conceptual model of Carrington et al. (2010). We present empirical evidence supporting the assumption that situational context affects the actual exercise of responsible purchase behaviour, as proposed in the conceptual framework of Carrington et al. (2010). Specifically, the present research examined one particular antecedent state, namely, fatigue

TABLE 5 Estimates and standard errors from nonmoderated mediation analysis in terms of SRC

	Estimate	SE
<i>Predicting fatigue</i>		
Survey day	.12	0.07
Gender	-.25**	0.09
Age	.01	0.09
Number of children in the household	.22**	0.07
Workload	.40***	0.07
<i>Predicting SRC</i>		
Survey day	.07	0.08
Gender	-.11	0.10
Age	-.17	0.12
Number of children in the household	-.11	0.10
Subjective financial situation	-.05	0.11
Personal values: Environment	-	-
Personal values: Production conditions	.22*	0.09
Workload	-.07	0.10
Fatigue	.19*	0.09

Note: Estimates are standardized. SRC = Socially responsible consumption. Gender: 0 = female; 1 = male. $N = 115$.

* $p < .05$; ** $p < .01$; *** $p < .001$.

resulting from work demands. In the empirical consumption research, the family domain and its effects have been quite well studied (e.g., Frank, 2018; O'Neill & Buckley, 2019), but the work domain has been rather neglected thus far. Thus, the consideration of research from the field of work and organizational psychology makes an important contribution to interdisciplinary research on consumer ethics.

The results of our study partly confirm Carrington et al.'s (2014) model insofar as the role of values in the consumption process is concerned: high pro-environmental values facilitate responsible consumption despite situational barriers (such as fatigue). A possible reason for this phenomenon could lie in the habitualization of behaviour that develops when the corresponding values are high (Carrington et al., 2014). This reasoning is also consistent with the basic presumption of dual-process theories (Evans & Stanovich, 2013). The results of the current study suggest that fatigue intensifies system 1 processing, leading consumers to rely on ethical heuristics and default options for their consumption choices, but only for consumers high in pro-environmental values. If consumers show high pro-environmental values, their moral principles have formed the default option for consumption decisions. While Ritch and Schröder (2012) concluded that the use of heuristics would lead to a reduced consideration of ethical criteria, the results of our study suggest that this may only be the case for consumers with low to medium levels of corresponding personal values.

Unexpectedly, our results demonstrated a positive direct relationship between fatigue and SRC. Motivational approaches may provide an explanation for this unexpected result. First, research concerning compensatory consumption has shown that people tend to self-gift as a response to threats to the self, such as stress (Koles et al., 2018). With

respect to the purchase of fair trade products, Ladhari and Tchegnà (2017) have argued that the consumption of fair trade products is accompanied by feelings of satisfaction and pride, which could be regarded as a motivational factor for buying them. Second, research has also shown that consumers' health motives play a major role in environmentally responsible purchasing (Paul & Rana, 2012; Rana & Paul, 2020). The results of our study may indicate that the desire to promote their own health may also be essential for consumers' socially responsible purchasing, which becomes particularly evident when health is threatened by stress. Thus, socially responsible consumption may be regarded as a mean by which fatigued employees compensate for their stress at work as follows: a high level of fatigue indicates that regulatory and emotional resources have been drained. As people strive to preserve personal resources, especially when resources are lost (Hobfoll, 2001), fatigued people replenish their drained emotional resources after work through responsible consumption.

Although ERC and SRC were highly positively correlated with one another, the results of path analyses showed that these aspects are affected by personal values and work-related fatigue in different ways. In particular, only personal values in terms of the environment could be demonstrated as a moderator, while this moderating effect could not be demonstrated with personal values in terms of production conditions. Perhaps the availability of information in the purchase situation could explain this difference. For organic or ecological products, much information is provided via labels and certificates. By contrast, for the manufacturing conditions of products, there are noticeably fewer labels available to consumers. Because of this missing information, it is more difficult to build decision heuristics for the purchase of products manufactured under good working conditions. Thus, in a particular situation, fatigued individuals are neither able to make a quick and supportive decision for good production conditions nor able to weigh information to make a decision. In that way, personal values in terms of production conditions seem to be rather unrelated to the relationship between fatigue and SRC. Nevertheless, as indicated by the positive relationship between fatigue and SRC, other relevant contextual factors for this type of responsible consumption might need to be identified. Future research should investigate the responsible consumption in terms of production conditions more thoroughly to gain more information on the integration of specific purchase habits into individuals' lifestyles.

6.2 | Implications for practice

The existence of the intention-behaviour gap in responsible consumption is a problem for business managers dealing with the marketing of ethical products. The socially responsible and environmentally compatible manufacturing of products often entails additional costs, which are compensated for by higher prices. Therefore, it is of great importance for manufacturers and distributors to demonstrate the advantages of these products so that consumers purchase them despite these high prices. Our study provided evidence that an interaction between pro-environmental consumption values and situational

states caused by work predicts individual responsible consumption behaviour. In this sense, the gap between intentions and behaviour can be explained at least partially by work-related experiences. For that reason and to overcome the intention-behaviour gap in responsible consumption, it seems useful to consider the impact that the work domain has on consumers with regard to the promotion of goods.

Furthermore, we assume that post-consumption emotions may explain the positive relationship between work-related fatigue and responsible consumption. People strive to replenish emotional resources that have been depleted throughout the working day. By anticipating positive post-consumption emotions, such as satisfaction and pride, consumers are motivated to consume responsibly. Thus, retailers may enhance responsible consumption by emphasizing the positive feelings associated with the purchase of environmentally friendly products or products made under good working conditions. Our study design indicates that this might be particularly relevant for purchases made after work.

This study has demonstrated that consumers' experiences at work are related to their responsible decision making after work. Therefore, the role of organizations in promoting responsible consumption may be more complex than previously believed. Based on the self-gifting approach and the demonstrated link between work and consumption via fatigue, offering responsible products at workplaces (e.g., in canteens or snack vending machines) might facilitate both employees' recovery during breaks and the habitualization of responsible consumption behaviours. In this respect, organizations can also make a contribution to promoting their employees' responsible purchasing decisions, and thus, fulfil their social responsibility.

Moreover, to build resistance to situational consumption barriers, the habitualization of responsible consumption should be fostered in the long term. With support by governments, both information on the ecological and social footprint of products and strategies for gaining such information might be taught in school. Additionally, this information can be conveyed to all age groups in society via short video clips available on TV or on the Internet. Especially for the consideration of employees' working conditions within the manufacturing process of products, useful information seems to be needed to enable responsible consumption behaviour and establish it as a standard practice.

6.3 | Limitations and future research directions

Our study's methodical strength is its diary design. Most quantitative studies in consumer ethics are cross-sectional, and thus, causal interpretations are inherently not possible. Using two time-shifted measurement points per day enabled more precise conclusions regarding effective directions. Nevertheless, workload and fatigue were measured at the same time, which restricts information about the causality of the first mediation path. This limitation can be overcome in future research by using an event-sampling approach instead of a time-sampling approach. Another advantage of event sampling is the reduction of memory effects by capturing consumption behaviour in the situation. Although some previous studies have qualitatively investigated consumption behaviour in the situation (Carrington et al., 2014),

quantitative empirical findings remain rare. However, by investigating responsible consumption behaviours exhibited solely in the evening and measuring such behaviour in the evening (approximately 3 hr later), our current study design is very close to event sampling.

In terms of measurement, one shortcoming of our study is participants' subjective assessment of whether the criteria of environmental friendliness and good production conditions are met. One method of addressing this issue in further studies might be that participants take pictures of their purchased products, and the researchers subsequently assess the extent to which the products meet these criteria. Although this method would provide a more objective assessment, the effort of taking pictures of all purchased products, as well as the detailed disclosure of one's purchases, would very likely reduce the willingness to participate and would cause a selection bias among the remaining participants. Nevertheless, by assessing the criteria with regard to specific products that participants purchased a few hours earlier, our assessment of consumption behaviour should be more realistic than self-ratings of attitudes or intentions.

Future research should specifically distinguish between in-store and online shopping situations when investigating the mediation processes of work on consumption behaviour, as there are systematic differences between in-store and online shopping situations (e.g., absence of other people, more possibilities to collect product information and more time to make purchase decisions). In particular, the interplay between fatigue and online shopping seems to be an interesting research question for future studies. Depending on consumers' IT affinity, online shopping might be either an additional effort or a relief for fatigued persons, and thus, online shopping opportunities should affect responsible consumption behaviour. Given the current SARS-CoV-2 pandemic, this research question may be particularly interesting since both work and consumption have recently been carried out primarily online.

Moreover, various contextual factors arise from the current study's results and should be investigated in future studies. For example, we investigated only work-related fatigue, but it is an open question whether fatigue resulting from nonwork demands may also cause the same effects on responsible consumption. Additionally, future studies should investigate further mediators (e.g., acceptance of longer shopping distances and self-gifting) and moderators (e.g., the interference of consumption values for different products, the availability of product information and consumption habits) within the relationship between fatigue and responsible consumption. Generally, more research is needed on responsible consumption in terms of production conditions. As our results showed, empirical findings in the field of the environment cannot be directly transferred to other fields. In terms of working conditions, future studies should investigate whether different types of working conditions may interact and buffer or enhance their effects on fatigue.

In this paper, we applied a cognitive approach by combining action regulation theory and dual-process theories of human decision making to predict how work influences employees' consumption decisions after work. However, a motivational approach involving self-determination theory (Ryan & Deci, 2000) may provide an alternative mechanism that links working conditions and consumption. As described in the theory

section, need satisfaction and frustration play a role in the relationship between work and well-being (van Hooff & Geurts, 2015; Trépanier et al., 2015). Moreover, self-determination theory has been shown to be a relevant approach in consumption research (e.g., Gilal et al., 2019, 2020a, 2020b). Future studies should investigate the role of psychological need satisfaction in spillover effects from work to consumption.

Finally, the SARS-CoV-2 pandemic has significant implications for responsible consumer behaviour during the pandemic and potentially post-pandemic in the long run. At the beginning of the pandemic, consumer behaviour was driven to a large extent by self-interest, which led to panic buying and stockpiling (Wang et al., 2020). However, the pandemic also led to a stronger emphasis on individual responsibility for the common good (Mukarram, 2020) and taught consumers that we are all globally interconnected (He & Harris, 2020). Therefore, consumers' awareness of the positive or negative impact of their product choice may be strengthened due to the pandemic in the long run, leading to a more widespread practice of responsible consumption. Future studies should address this issue in more detail.

7 | CONCLUSIONS

In this study, we investigated the spillover effects from the work domain to responsible consumption decisions. Our results demonstrated an indirect link between work experiences and responsible consumption via fatigue after work. Furthermore, we showed the important role of personal consumption values for overcoming situational barriers. In particular, the results for socially responsible consumption suggest that other relevant contextual factors within the relationship between fatigue and consumption should be considered in future studies. The practical implications of this study highlight the promotion of responsible products at workplaces and access to information on the conditions of product manufacturing.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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