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Examining Moral Identity and Engagement with Sustainable Consumption at Home and in the Workplace

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Moral identity, engagement and sustainable consumption at home and in the workplace

Examining Moral Identity and Engagement with Sustainable Consumption at Home and in the Workplace

Abstract

Purpose – the study aims to identify the effects of consumer moral identity and consumer engagement with sustainable consumption on sustainable consumer behaviour at home and in the workplace.

Design/methodology/approach – survey data were collected in two European countries, i.e. Lithuania and the United Kingdom (total sample 586) and analysed using PLS-SEM to test hypotheses pertaining to the key variables, including moral identity, engagement with sustainable consumption, sustainable consumption behaviour at home and sustainable consumption behaviour in the workplace.

Findings revealed that moral identity was a predictor of sustainable consumption behaviour at home but had no direct effect on sustainable consumption behaviour at the workplace. Similarly, engagement with sustainable consumption has been demonstrated to have a direct positive impact on sustainable consumption behaviour at home, but no significant effect on sustainable behaviour at work was confirmed. A strong moral identity fosters higher consumer engagement with sustainable consumption. The findings revealed the positive impact of sustainable behaviour at home on equivalent behaviour at work, reminding of the importance of the so-called ‘spill-over’ effect.

Originality – an element of novelty in this study lies in the differentiation of behavioural practices at home and in the workplace, demonstrating that a spill-over effect can occur with a ‘home – work’ path. By highlighting the importance of consumer moral identity and consumer engagement in predicting sustainable

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consumption behaviour in both domestic and professional settings, our study contributes to the advancement of knowledge in the fields of sustainable marketing and consumer behaviour.

Keywords: moral identity, engagement with sustainable consumption, sustainable consumer behaviour, workplace, home.

1. Introduction

Practitioners claim that adoption of more sustainable lifestyles continues to grow (Deloitte, 2023) among consumers, but their causes of manifestation remain a black box to scholars. Despite these growing trends, scholars had accumulated little insight into why and how consumers make sustainable consumption decisions in different settings (Bairrada *et al.*, 2023). Moreover, with increasing attention how to tackle environmental pollution (van Oosterhout *et al.*, 2023), practitioners are becoming increasingly eager to promote sustainable consumption (Deloitte, 2023) in the workplace and home environments (UN, 2022). Sustainable consumption behaviour (SCB) among typical consumers could contribute to the economic, social, and environmental goal achievement making the environment cleaner and more sustainable (Banyte *et al.*, 2020).

Previous studies have predominantly focused on consumer attitudes and generic sustainable consumption aspects (e.g., Bairrada *et al.*, 2023; Hosta and Zabkar, 2021). However, SCB, which includes sustainable consumption practices at home (Li *et al.*, 2022; Legere and Kang, 2020) and in workplace settings (e.g., Blok *et al.*, 2015; Wesselink *et al.*, 2017) concurrently received less attention among scholars.

What we do not know yet, what specific predictors influence SCB leading to a 'mindful mindset' among consumers and encouraging them to reconsider their 'materialistic behaviour' (Salciuviene *et al.*, 2022) at home and in the workplace. To

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highlight this lack of knowledge in the literature, researchers (i.e., Casalegno *et al.*, 2022; Wu and Yang, 2018) call for more studies on specific drivers that may contribute to SCB in home and workplace environments simultaneously. Responding to the call for further exploration of the factors that may influence sustainable behaviour, we raise the following research questions:

- What is the effect of consumer moral identity on SCB in home and workplace environments?
- How does consumer engagement in sustainable consumption affect SCB in both contexts?
- What is the relationship between SCB at home and in the workplace?

These questions aim to examine the nuances of SCB and its drivers across two different environments.

By identifying specific predictors of SCB at home and in the workplace simultaneously will enhance our understanding of SCB and advance our knowledge in the consumer behaviour and marketing ethics fields. Improved understanding of factors influencing the potential differences between SCB at work and at home will contribute to more sustainable decision-making among business companies in the workplace. Such improved knowledge will enable public policy makers and business leaders to raise awareness among consumers how to become more sustainable consumers by reducing their environmental footprint when making their consumption decision at home and in the workplace environments.

Scholarship suggests that personal factors are essential in predicting SCB (e.g., Bairrada *et al.*, 2023; Nascimento and Loureiro, 2022; el Samad *et al.*, 2022; Rosado-Pinto and Loureiro, 2020). Hence, our study on predictors of SCB is timely, as it aims

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2
3 to identify the effects of personal factors such as consumer moral identity and consumer
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5 engagement with sustainable consumption on SCB.
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8 Conducted through an online survey in two European countries—Lithuania and
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10 the United Kingdom—with a total sample of 586, our research employs PLS-SEM to
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12 test relationships, hypothesizing key variables such as moral identity, engagement with
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14 sustainable consumption, SCB at home, and SCB in the workplace.
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17 Our findings confirm that consumer behaviour at home influences their
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19 behaviour at work. We use social learning theory to explain the proposed relationship
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21 between these two environments. Noteworthy improvements in SCB in the workplace
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23 can be achieved by developing SCB at home driven by moral identity. Consumers with
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25 a strong moral identity increasingly make purchasing decisions based on ethical and
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27 environmental considerations, presenting both challenges and opportunities for
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29 businesses. Understanding the managerial implications of SCB driven by moral identity,
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31 allows businesses to position themselves for success in the marketplace, enhancing
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33 brand reputation and driving innovation while benefiting the planet.
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38 The contribution of our study to consumer behaviour and marketing ethics is
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40 twofold. *First*, by examining predictors of SCB, it offers a novel relationship previously
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42 unexplored in the literature and explains how moral identity, consumer engagement
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44 with sustainable consumption and SCB at home increase consumer willingness to
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46 consume sustainably in the workplace. *Second*, by examining SCB at home and in the
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48 workplace as separate constructs, the study provides a unique perspective on
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50 acquisition, use and disposal behaviour at home and their effect on SCB at work. When
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52 it comes to sustainable consumption practices, the more obvious direction is ‘home –
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54 work’, and not the other way around, in contrast to the suggestions of other researchers
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56 (e.g. Frezza *et al.*, 2019; Piwowar-Sulej, 2020; Muster, 2011; Muster and
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Schrader, 2011). Policymakers and businesses may direct their efforts towards a younger generation entering the labour market in the future, instilling the importance of sustainable behaviour at home, which may likely be carried over to the workplace.

2. Conceptual development

This paper explores the influence of consumer moral identity and engagement with sustainable consumption on Sustainable Consumer Behaviour (SCB) in two different environments (i.e., at home and in the workplace environments). Our study offers a novel theoretical framework and presents original empirical findings regarding the significant effects of consumer moral identity and consumer engagement with sustainable consumption on SCB at home and in the workplace. A justification for these effects is presented below.

2.1. Moral identity and consumer engagement with sustainable consumption

Previous studies (e.g., Abdulrazak and Quoquab, 2018; Tilikidou, 2013; Smith *et al.*, 1994) often focus on the psychological motivations of SCB. In alignment with this approach, we consider consumer moral identity and engagement with sustainable consumption as two important personal factors, which may further clarify actual SCB.

Previous research suggests that involvement with sustainable consumption can be influenced by external and internal factors (Piligrimiene *et al.*, 2020). Among these factors, emphasis is placed on self-identity and consumer personal values (Kadic-Maglajlic *et al.*, 2022) or moral identity (Salciuviene *et al.*, 2022). Further findings of prior research support the effects of consumer moral identity towards SCB (e.g., Li *et al.*, 2022; Wu and Yang, 2018; Salciuviene *et al.*, 2022). Building on this idea, we utilize the consumer moral identity construct introduced by Aquino and Reed II (2002).

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Consumer moral identity, defined as a 'a self-conception organised around a set of moral traits that are vital to an individual's self-concept' (Aquino and Reed II, 2002, p.1424) helps us focus on a unique self-concept, specifically moral identity, rather than investigating multiple consumer self-concepts. Moral identity comprises two dimensions, that is, internalization and symbolization (Aquino and Reed II, 2002). Symbolization reflects how individuals outwardly display their moral values through their ethical behaviour and choices. For instance, volunteering for a cause an individual cares about or consistently selecting eco-friendly products symbolise moral values of an individual. Internalization dimension represents how deeply integrated moral values are into the core sense of self. This dimension represents believing and being intrinsically motivated by moral values, regardless of external factors.

We link the construct of consumer moral identity with another construct of consumer engagement with sustainable consumption. Prior research on consumer engagement with sustainable consumption mainly looks at engagement as a construct contributing to the promotion of SCB (Mattila *et al.*, 2016). Very few studies examine consumer engagement as a predictor of SCB in relation to other constructs (Kadic-Maglajlic *et al.*, 2019; Banytè *et al.*, 2020). Various theoretical approaches were used and resulted in multiple definitions of this construct; for instance, earlier research defined engagement as participation (Kadic-Maglajlic *et al.*, 2019) or intention to engage with SCB (Rodriquez-Rad and Ramos-Hidalgo, 2018). An overview of the previous studies (e.g., Miao and Wei, 2016; Motyka, 2018) suggests that some researchers use consumer engagement with sustainable consumption to examine consumer engagement with sustainable brands, mobile applications, and other marketing-related aspects to demonstrate considering SCB (e.g., Miao and Wei, 2016). Other researchers (e.g., Salanova and Schaufeli, 2008) treat consumer engagement as engagement with objects

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and holds this to be an important antecedent of relevant behaviour and its consequences (e.g., Motyka, 2018).

We define consumer engagement with sustainable consumption as a commitment to a particular sustainable consumption-related activity expressed through various psychological states (Kadic-Maglajlic *et al.*, 2019) that reflect a consumer's active involvement and positive connection with sustainable practices. Based on earlier research on consumer engagement in tourism (So *et al.*, 2014), leisure (Hosta and Zabkar, 2021) and sustainable consumption (Banytè *et al.*, 2020) contexts, we agree that individuals engage with SCB through five dimensions of engagement, proposed by So *et al.* (2014): absorption, attention, personal enthusiasm, identification, and interaction (Appendix A). So *et al.* (2014) argue that all five dimensions are crucial for a comprehensive understanding of consumer engagement with certain actions, in our case, with sustainable consumption. A truly engaged consumer will exhibit a combination of these dimensions, actively thinking about, feeling passionate about, and taking action towards sustainable practices.

According to Aquino and Reed II (2002), individuals seek to reduce the resonance between their actual behaviour and their moral identity. Consumers engage with sustainable consumption to satisfy their moral identity preferences (Banytè *et al.*, 2020). In other words, due to sustainability-related concerns, consumers may experience a moral obligation to engage with sustainable consumption to contribute to 'the good cause' (van der Werff *et al.*, 2013, p.1259) since individuals feel good about themselves when behaving in a way that maintains their moral identity. Such consumers will likely act in accordance with their moral values that strengthen their moral identity (Aquino and Reed II, 2002). Consumers who portray personal traits related to the consumer moral identity construct (e.g., honesty, fairness, or care) are likely to express higher engagement with

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sustainable consumption through the five different consumer engagement dimensions (i.e., absorption, attention, enthusiasm, identification, and interaction) (Salciuviene *et al.*, 2022).

Based on the above, we propose the following hypothesis:

H1a: Moral identity positively influences the five dimensions of consumer engagement with sustainable consumption.

2.2. Moral identity and sustainable consumer behaviour at home and in the workplace

Our study defines SCB at home as choices and actions individuals make to minimize environmental and social impact within their home environment. According to Geiger *et al.* (2018) and Geng *et al.* (2017), home and workplace environments are perceived holistically, and three stages of consumption, that is, acquisition, use and disposal, are identified by these authors. Acquisition stage refers to the activities related to obtaining a product or service. In a household setting, this might involve researching sustainable products online or visiting stores to purchase such products. At work, acquisition could involve tasks such as purchasing software for business needs. Use stage refers to the product utilisation. Home use involves activities such as cooking with groceries or using sustainable housing appliances. In a workplace setting, use would involve employees using office supplies or company vehicles responsibly. Disposal stage deals with how products are discarded after use. In homes, this could involve throwing away packaging, donating unwanted clothes, or recycling used batteries. At work, disposal might involve recycling printer cartridges, replacing worn-out furniture or securely disposing of electronic waste.

While previous studies (e.g., Ruby *et al.*, 2020; Wu and Yang, 2018; Kadic-Maglajlic *et al.*, 2019) offer conflicting results regarding the direct association of

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consumer moral identity with SCB, our study aims to clarify these conflicting relationships. Based on the previous literature investigating the concept of moral identity (i.e., Aquino and Reed, 2002; Salciuviene *et al.*, 2022) and sustainable consumption behaviour (Hosta and Zabkar, 2021), we propose that moral identity and sustainable consumption behaviour of individuals are interlinked. When sustainability is integrated into a person's core self-image due to a strong moral identity, these individuals are intrinsically motivated to act sustainably (Salciuviene *et al.*, 2022). In turn, sustainable consumption choices, such as using reusable bags or reducing energy use at home, can be seen as behaviours that align with environmental responsibility. Consumers with strong moral identity strive for consistency between their personal values and actions. Based on the above, we posit that sustainable consumption at home reflects a consumer's environmental values and helps sustain a positive self-image among other members of society while maintaining strong moral identity.

Thus,

H1b: Moral identity positively affects SCB at home.

Existing studies (e.g., Ruby *et al.*, 2020; Wu and Yang, 2018; Kadic-Maglajlic *et al.*, 2019) focus on SCB either at home or in personal environments, with only a handful examining sustainable behaviour in the workplace environment (i.e., Blok *et al.*, 2015; Wesselink *et al.*, 2017). Our study defines SCB in the workplace as choices and actions employees make to minimize environmental and social impact within their professional environment. It involves a conscious effort to reduce resource consumption, choose sustainable products and services and promote responsible practices within the company (Blok *et al.*, 2015; Wesselink *et al.*, 2017).

We propose that moral identity positively influences the sustainable

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consumption behaviour in the workplace. Moral identity, as defined by Aquino and Reed II (2002), emphasises the internalization of moral values. We posit that when sustainability is a core value of an individual, they are intrinsically motivated to act sustainably, even in professional settings. Sustainable behaviours in the workplace can encompass actions such as reducing paper waste, conserving energy, or using recycled materials. These actions align with environmental responsibility, a common moral value. Individuals with a strong moral identity strive for consistency between their beliefs and actions. Demonstrating sustainable behaviour at work allows them to maintain a positive self-image as an environmentally responsible person. A strong moral identity can make individuals more receptive to existing green initiatives or sustainability norms within a workplace. They might be more likely to participate in recycling programs or avoid wasteful practices due to their internalized values. A strong moral identity could lead to feelings of guilt or shame for unsustainable behaviours, motivating individuals to take pro-environmental actions at work. Based on the above, we propose the following hypothesis:

H1c: Moral identity positively influences SCB in the workplace.

2.3. Engagement and sustainable consumer behaviour at home and in the workplace

The treatment of engagement with sustainable consumption as a separate construct gains attention in the sustainable consumption field (e.g., Kadic-Maglajlic *et al.*, 2019; Banytė *et al.*, 2020; Salciuviene *et al.*, 2022). Muster and Schrader (2011) propose the concept of a green work-life balance, emphasizing the importance of practicing sustainable behaviour in the workplace, not just nurturing it at home.

We define consumer engagement as a commitment to a particular activity expressed through psychological states such as absorption, attention, personal enthusiasm, identification, and interaction (So *et al.*, 2014). Although previous studies

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(e.g., Brodie *et al.*, 2011) use the very common three-dimensional construct (i.e., cognitive, emotional, and behavioural) of consumer engagement, we have chosen the five-dimensional construct because it has been empirically tested in the tourism and sustainable consumption industry (So *et al.*, 2014) with both consumers and employees.

We predict that individuals who actively engage in sustainable consumption behaviours at home (e.g., recycling, reducing energy use) are more likely to exhibit pro-environmental behaviours in the workplace (e.g., using reusable water bottles, printing double-sided). Such behaviour is expected due to cognitive consistency between their beliefs and actions (Hosta and Zabkar, 2021). Engaging in sustainable behaviours in one environment may create a sense of personal responsibility to maintain consistency by adopting similar practices in the workplace environment. Seeing others engaging in sustainable practices can create a sense of social responsibility to follow for them. Engaging in sustainable consumption behaviour at home and in the workplace can also contribute to an individual's self-image as environmentally conscious (Banytė *et al.*, 2020). This identity also motivates consistent pro-environmental actions across different settings (Li *et al.*, 2022).

Building on the above insights, we suggest the following hypotheses:

H2a: Consumer engagement with sustainable consumption positively influences SCB at home.

H2b: Consumer engagement with sustainable consumption positively influences SCB in the workplace.

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2.4. Social learning theory

Social learning theory (Bandura and Walters, 1977) posits that individuals learn by experiencing things themselves or by observing others (Mischel and Shoda, 1995). Engagement with sustainable consumption, according to this theory, promotes social decision-making that individuals apply at home and in the workplace. The results of previous studies allow us to suggest that working consumers would be inclined to transfer models of SCB at work to the home environment, while the reverse relationship is analysed less frequently (Muster, 2011; Muster and Schrader, 2011; Piwowar-Sulej, 2020). This relationship can also be linked to collaborative learning or collaborative consumption idea (Barnes and Mattson, 2017). We propose that individuals learn about sustainable consumption in the home environment first and then transfer this knowledge to the workplace. In our case, individuals are born in families, raised by their parents, and learn from them about SCB first and foremost at home. Then they learn further from their school peers and only learn from work colleagues when they become young adults and join organizations (Lee, 2014).

Based on the limitations of the above studies, we suggest the following:

H3: SCB at home positively influences SCB in the workplace.

Regarding SCB at home and in the workplace, our study addresses both pro-environmental and pro-social consumer behaviour. This comprehensive approach acknowledges the importance of both types of behaviour in the literature (e.g., Kardic-Maglajic *et al.*, 2019; Hosta and Zabkar, 2021; Banytè *et al.*, 2020).

Figure 1 illustrates our theoretical framework. Firstly, we suggest that moral identity and consumer engagement with sustainable consumption could serve as

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predictors of SCB at home and in the workplace. Secondly, based on social learning theory, we propose that SCB at home positively influences SCB in the workplace.

Insert Figure 1 here

3. Method

3.1. Data analysis approach

The theoretically proposed relationships were tested using Partial Least Squares Structural Equation Modelling (PLS-SEM), because PLS-SEM is suitable for testing new relationships (Tarafdar *et al.*, 2019), such as those proposed in our model. PLS-SEM was chosen over covariance-based SEM because it maximises the variance of dependent variables and does not have distributional assumptions (Hair *et al.*, 2017). The hierarchical component model approach (Becker *et al.*, 2012; Hair *et al.*, 2017) was used in this study to ensure the parsimony of the model. The PLS algorithm with a path weighting scheme was used for confirmatory factor analysis and path analysis. Bias-corrected and accelerated (BCa) bootstrapping of 5000 sub-samples was utilized to test the statistical significance of model parameters. The analysis was implemented using SmartPLS 3.3.2 software.

3.2. Sample selection, data collection and ethical issues

The data were collected in two countries under investigation: Lithuania and the UK. From a geographical point of view, the choice of Lithuanian and the UK respondents was determined by the organic composition of the research team. The study aims to test the developed theoretical model in a sample of working consumers, therefore, a comparison of consumer behaviour from two countries in terms of sustainable

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consumption behaviour was not the aim of this study. For this reason, the manuscript does not focus on identifying the similarities or differences between these two countries, but tests the theoretical model proposed in our study.

According to the Sustainable Development report 2023 (Sachs *et al.*, 2023), the UK ranks 11th out of 193 UN Member States, while total progress showing a percentage of 17 Sustainable Development Goals (SDG) achievement is 82%. Lithuania is ranked as 37th with 77%. This information reveals that both countries are at the top 50 among UN Members in terms of progress towards achieving the SDG targets, but the UK's progress is faster by approximately 5%. In addition, the implementation of SDG target is Goal No. 12 – Responsible Consumption and Production – suggests that while the UK indicators are improving at a faster pace, both countries are in a similar position. We believe that these arguments of the choice of the UK and Lithuanian respondents to test our theoretical model confirm the similarity of the UK and Lithuanian context in terms of sustainable consumption as well as provide the rationale of the choice of these two countries for further investigation.

Snowball sampling was utilized for participant selection in both countries under investigation. While advantageous for reaching hard-to-find populations, the snowballing sampling method carries certain limitations that may impact research outcomes. A primary concern is potential sampling bias, where participants tend to refer individuals similar to themselves, resulting in a sample that may not accurately mirror the target population and thereby skewing results and limiting the generalizability of conclusions. Additionally, the method is time-consuming, as the process of finding and recruiting participants through referrals can be slow and inefficient. To address the above limitations, we employed a multifaceted recruitment strategy to diversify our sample and minimize bias. Our approach involved leveraging various channels,

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3 including administrators and members of sustainable consumption groups on Facebook,
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5 and reaching out via email to individuals associated with higher-education institutions
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7 in both countries. Emails containing an invitation to participate in our online survey,
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9 along with a link to the questionnaire, were also sent to colleagues and friends, with a
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11 request to forward the survey link within their networks.
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15 When compiling the sample, the respondents were asked to meet one
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17 requirement to be included in our sample, that is, they had to have a status of a ‘working
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19 consumer’. This condition was required to test two variables in our study, namely, home
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21 and workplace sustainable consumption behaviour environments. Prior to completing
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23 the online survey, respondents were required to read an introduction outlining the
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25 ethical guidelines for this study and confirm their understanding of these guidelines.
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27 Notably, these guidelines had received approval from the university’s ethics committee
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29 in the UK.
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33 Our final sample comprised 586 respondents, with the average age of 37.
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35 Females comprised 67.3% of the sample, and the occupational distribution revealed that
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37 54% of respondents worked in the private sector. To enhance the robustness of our
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39 findings, we maintained a sizable sample size, which included individuals from diverse
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41 backgrounds, thereby increasing the generalizability of outcomes of our study.
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3.3. Measures

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46 The questionnaire for this study was designed by the authors of this manuscript,
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48 involving a combination of borrowing items from established scales (i.e., moral identity
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50 scale) and adapting items from previously developed instruments used in the tourism
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52 and leisure literature (e.g., consumer engagement; SCB at home and SCB in the
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54 workplace environments).
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The questionnaire comprised the following sections:

(1) Consumer Moral Identity scale, comprising two dimensions (items borrowed from Aquino and Reed II, 2002).

(2) Consumer Engagement with Sustainable Consumption. Measured across five dimensions (enthusiasm, attention, absorption, identification, interaction), items adapted from So *et al.* (2014), Calder *et al.* (2009), Hollebeek *et al.* (2014).

(3) Sustainable Consumption at Home scale. Comprising three dimensions (acquisition, use, and disposal at home), items adapted from Littleford *et al.* (2014), Blok *et al.* (2015), Geng *et al.* (2017), Gupta and Agrawal (2018). Appendix B provides means and standard deviations of items that were used to measure sustainable consumption behaviour at home.

(4) Sustainable Consumption in the Workplace scale. This section measured sustainable behaviour across three dimensions (acquisition, use, disposal in the workplace), with items adapted from Blok *et al.* (2015), Geng *et al.* (2017), and Geiger *et al.* (2018). Appendix B provides means and standard deviations of items that were used to measure sustainable consumption behaviour in the workplace.

All items within the questionnaire were assessed using a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). This comprehensive approach ensured a robust measurement of various constructs, drawing on established scales and adapting them to the specific focus of this study.

3.4. Measurement model

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The hierarchical component model approach, utilizing the sequential two-stage procedure and reflective-reflective type of model (Becker *et al.*, 2012), was used in this study. First, a lower-order model was created and constituted the dimensions of the consumer Moral identity, consumer Engagement with sustainable consumption, Sustainable consumer behaviour at home, and Sustainable consumer behaviour in the workplace constructs. Later, the latent factor scores of each dimension were saved. The dimension scores served as manifest variables for the higher-order model comprising consumer Moral identity, consumer Engagement with sustainable consumption, SCB at home, and SCB in the workplace.

The lower-order measurement model consists of fourteen lower-order constructs measured by eighty-five manifest indicators. Careful consideration of the lower-order model is important because there are limited possibilities for improvement of the higher-order measurement model. The lower-order measurement model was improved by a thorough evaluation of the outer loadings of the manifest indicators, their statistical significance, validity, and reliability measures of the lower-order constructs (Hair *et al.*, 2017). Several iterations of improvement, during which thirty-five manifest variables were removed, resulted in satisfactory characteristics of the lower-order measurement model. The loadings of indicators were higher than 0.7 and statistically significant. The average variance extracted levels were above 0.5 for all lower-order constructs, indicating sufficient convergent validity. The absence of high cross-loadings and adequate Fornell-Larcker criteria for all dimensions signalled acceptable discriminant validity. The internal consistency reliability measures fell between 0.75 and 0.91. The characteristics of the lower-order measurement model are provided in Appendix C. After consideration of the lower-order measurement model characteristics, the latent

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variable scores of lower-order constructs were saved and used to create a higher-order measurement model.

The higher-order measurement model consisted of the four main higher-order constructs: Moral identity, Engagement with sustainable consumption, SCB at home, and SCB in the workplace. The characteristics of the higher-order measurement model are provided in Table I.

Insert Table I here

Convergent validity is demonstrated at the item level by statistically significant and high loadings of dimensions of constructs, and at the construct level by the high average variance extracted (AVE).

Discriminant validity is evident from the absence of high cross-loadings, square roots of AVEs being much higher than correlations with other constructs (Fornell-Larcker criterion) (Appendix D). The discriminant validity analysis reveals that the SCB at home and SCB in the workplace constructs are empirically close. This is evident from the extent of the cross-loadings. However, all indicators loaded on their assigned constructs are higher than all their cross-loadings with other constructs (Hair *et al.*, 2017). The Fornell-Larcker criterion indicates that SCB at home and SCB in the workplace are conceptually close constructs, though the square root of AVE of these constructs are not higher than their correlations. The higher-order constructs are characterized by sufficient reliability measures. While Cronbach's alpha for the Moral identity construct does not reach the recommended 0.7 threshold, Cronbach's Alpha tends to be lower when constructs are measured by a low number of items (Hair *et al.*, 2018); it is considered a conservative measure that underestimates true reliability, while

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composite reliability is an inflated measure of reliability (Hair *et al.*, 2017). It is expected that true reliability lies between these two measures and constitutes about 0.78 for Moral identity.

After evaluating the measurement characteristics of the hierarchical component models, we proceed to the evaluation of the structural model and the results of our hypothesis testing.

4. Results

4.1. Hypothesis testing

The hypotheses raised in the study were tested by evaluating the strength of all the paths relevant to the study and their statistical significance (Figure 2, Table II). The findings provide support for the effects of moral identity on sustainable consumption in the workplace as well as the effects of moral identity on engagement with sustainable consumption, and the effects of engagement on sustainable consumption at home and in the workplace; most of the hypotheses raised in this study are therefore supported.

All path coefficients are consistent with the hypotheses. All but two are statistically significant. First, consumer moral identity has a statistically significant effect on consumer engagement with sustainable consumption ($\beta=0.59$, $p<0.01$). Consumer moral identity has a direct effect on SCB at home ($\beta=0.15$, $p<0.01$), but the effect of consumer moral identity on SCB in the workplace is insignificant ($\beta=0.05$, $p>0.05$).

Insert Figure 2 here

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Insert Table II here

Second, consumer engagement with sustainable consumption has a statistically significant effect on SCB at home ($\beta=0.68$, $p<0.01$), but its effect on SCB in the workplace is insignificant ($\beta=0.02$, $p>0.05$). Third, SCB at home has a statistically significant effect on SCB in the workplace ($\beta=0.69$, $p<0.01$).

5. Discussion

Our study aims to identify the links between moral identity and engagement with SCB and their effect on SCB at home and in the workplace. The concept of moral identity, relatively recent in consumer psychology and behaviour research, revolves around the degree to which individuals perceive their sense of self as intertwined with their moral traits, values, and beliefs (Aquino and Reed II, 2002). Individuals with a strong moral identity are driven to align their actions with their moral values, even in the face of disapproval from their reference groups. This alignment often leads to increased satisfaction and fulfilment, reinforcing their motivation to consistently make sustainable choices (ibid, 2002).

Consumers, motivated by a strong moral identity, strive to maintain a positive self-image, particularly related to their environmental concerns, even these choices are not always easy. In other words, when moral identity is salient to the consumer, they are more likely to consider the ethical implications of their choices and make decisions aligned with their values (Salciuviene *et al.*, 2022). Studies indicate that consumers with strong moral identity are more likely to engage in sustainable behaviours such as purchasing organic food and recycling, and conserving water (e.g., Gatersleben *et al.*, 2019). Notably, moral identity may surpass individual environmental concerns in predicting sustainable consumption behaviour (Chen, 2020).

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Our findings affirm the complex relationship between moral identity and sustainable consumption, emphasizing the pivotal role of moral identity in promoting sustainable consumption through engagement with sustainable consumption. Consumers with higher moral identity are more actively engaged in sustainable consumption, finding pleasure in aligning their actions with their moral aspirations, especially concerning environmental care. This engagement extends to the consumption of environmentally friendly products and services, reflecting an externally visible moral identity.

Moreover, our research indicates a direct influence of moral identity on sustainable consumption at home. Consumers exhibiting characteristics such as kindness, compassion and honesty are inclined to engage in sustainable consumption behaviour at home, driven by a sense of positive contribution to the pro-social behaviour and the environment. This aligns with earlier studies confirming a relationship between moral identity and sustainable consumption in various sustainability-related (e.g., Li *et al.*, 2022; Salciuviene *et al.*, 2022) and non-sustainability-related contexts (e.g., Wu and Yang, 2018; Wang *et al.*, 2014; Wu *et al.*, 2016).

Interestingly, our study implies that the engagement of working consumers with sustainable consumption positively correlates with their SCB at home. While this partially supports previous findings regarding the positive relationship between engagement and sustainable consumer behaviour (Kadic-Maglajlic *et al.*, 2019), it extends this understanding by differentiating between SCB at home and SCB in the workplace.

Contrary to prior literature positing that SCB typically originates in the workplace before transferring to the personal environment (Muster; 2011; Muster and

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Schrader, 2011; Paille *et al.*, 2018), our findings propose that SCB at home influences SCB in the workplace. This challenges the traditional view and aligns with social learning theory, suggesting that individuals may learn about sustainable consumption first in their domestic setting and then transfer this knowledge to the workplace. This highlights the complex nature of socialization and learning in the context of sustainable consumption, urging further exploration and detailed examination of these relationships at different stages of SCB.

5.1. Theoretical implications

This research makes noteworthy contributions to the fields of consumer behaviour and marketing ethics literature by delving into the impact of predictors on sustainable consumption behaviour (SCB). Our study's contributions are as follows.

First, the examination of moral identity and consumer engagement in relation to SCB is novel. The study integrates these constructs into a unified model, exploring their roles as personal predictors of SCB at home and in the workplace—relatively underexplored areas in the literature. The study identifies key drivers of SCB and underscores the significance of personal factors. Existing research tends to focus on situational factors related to products, infrastructure, and prices, with personal factors such as environmental knowledge, habits, and values taking precedence. Notably, moral norms and moral identity have not been frequent focal points for SCB researchers. Similarly, research on engagement with sustainable consumption as a psychological state and its impact on SCB is limited. The study introduces a multidimensional construct of engagement with sustainable consumption, comprising five dimensions, contributing both theoretically and empirically for potential use in future studies in the context of sustainability. Thus, the *second* theoretical implication is described through a multidimensional construct of engagement with sustainable consumption that has been

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1
2
3 theoretically defined and empirically verified by the authors of this manuscript. The
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5 construct of engagement with sustainable consumption used in this study comprises five
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7 dimensions, and it can be transferred and further tested in future studies.
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10 *Third*, the study treats SCB at home and in the workplace as distinct constructs,
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12 deepening our understanding of how engagement influences sustainable consumption at
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14 home and in the workplace. It offers a nuanced explanation of how SCB in the
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16 workplace may be encouraged when consumers practice sustainability at home,
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18 especially when guided by consumers' moral identity. The study contributes
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20 theoretically by providing light on the spill-over effect of sustainable consumer
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22 behaviour, challenging previous findings that primarily reported a positive spill-over
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24 effect from the workplace to the personal environment. The application of social
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26 learning theory to elucidate the SCB spill-over effect from home to the workplace
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28 expands the boundaries of the theory's application.
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33 Our results suggest a positive link between moral identity, engagement with
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35 sustainable consumption, and SCB at home, ultimately leading to SCB in the workplace
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37 environment. These patterns have, to date, received relatively little attention in the
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39 consumer behaviour and marketing ethics literature. Such findings have important
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41 implications for public policymakers and practitioners promoting sustainable consumer
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43 behaviour in the workplace.
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47 Contrary to previous research, this study suggests the importance of initially
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49 engaging consumers in SCB at home, with the expectation that this behaviour will
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51 subsequently transfer to ethical behaviour practices in the workplace.
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5.2. Practical implications for businesses and public policymakers

55 Surprisingly, businesses and public policymakers still have little guidance as to how
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57 sustainable consumption may be increased. The study unveils valuable insights for
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businesses and public policymakers, offering guidance on enhancing sustainable consumption.

Activating Consumer Moral Identity and Engagement for Sustainable

Behaviour. Marketing managers can leverage consumer moral identity to promote sustainable consumption by emphasizing ethical and eco-friendly aspects of their products and services. Creating a sense of community among customers committed to sustainability can foster a shared commitment to ethical choices. Businesses can facilitate sustainable choices by providing reusable shopping bags, recycling bins, and composting options, making it easier for consumers to align their actions with their values. Offering information and education about sustainable consumption through gamification activities can engage and educate consumers, particularly younger audiences, on the benefits of sustainable choices both at home and in the workplace. Highlighting external factors related to moral identity is insufficient for positive behavioural change. Businesses and policymakers need to incorporate activities that reinforce internalization dimension linked to internal moral values. Encouraging specific actions, such as choosing sustainable products, reducing the consumption of environmentally harmful goods, and promoting an image of a philanthropic consumer, can contribute to strengthened consumer moral identity.

Strategies for Public Policymakers. Social promotion activities can be employed to strengthen moral identity, which proves to be a cost-effective approach. Campaigns emphasizing the environmental and social benefits of sustainable consumption may be more persuasive than those focusing solely on cost savings or convenience.

Governmental policies and regulations aligned with consumers' moral values, penalizing environmentally harmful behaviour, can garner public support and promote ethical choices. Education and awareness campaigns should focus on helping consumers

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1
2
3 understand the moral implications of their consumption choices, such as ethical
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5 sourcing of products and environmental impact. Recognizing the link between moral
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7 identity and sustainable behaviour, public policymakers can craft more effective
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9 strategies to encourage environmentally friendly choices. Symbolization-related
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11 activities, such as volunteering in local community-oriented projects, can reinforce
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13 moral identity, motivating consumers to make choices consistent with their values,
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15 including opting for sustainable products.
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19 In summary, by understanding the complex link between moral identity,
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21 engagement with sustainable consumption and SCB at home and in the workplace,
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23 businesses and public policymakers can design more effective strategies, encouraging
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25 consumers to embrace environmentally friendly choices and promoting sustainable
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27 lifestyles.
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5.3. Research limitations and future research directions

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34
35 The study focuses on two personal factors, consumer moral identity, and consumer
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37 engagement, in relation to SCB at home and in the workplace environments. Future
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39 studies could explore additional variables such as social sustainability (Paille *et al.*,
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41 2018), moral imagination (Hargrave, 2009), flow (Csikszentmihalyi, 2000), or
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43 motivation (van der Werff *et al.*, 2013) to provide a more comprehensive understanding
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45 of predictors for SCB. The sample exhibited a notable gender imbalance, with a higher
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47 number of female participants. Future studies should employ different sampling
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49 methods to achieve a more balanced representation, enabling a more robust examination
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51 of hypothesized relationships across genders.
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57 Given the previous theoretical work suggesting spill-over effects from one
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59 sustainable consumer behaviour environment to another, future studies should delve
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deeper into this relationship. Exploring other potential contexts for social learning about sustainable consumption can contribute to a more comprehensive understanding. In addition, aiming to define more precise trajectories of the SCB spill-over effect, future research could draw on novel theoretical insights, potentially exploring concepts derived from identity process theory (Frezza *et al.*, 2018). This approach may provide a richer understanding of how sustainable behaviours manifest across different environments.

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Figure 1. An illustration of theoretically proposed relationships

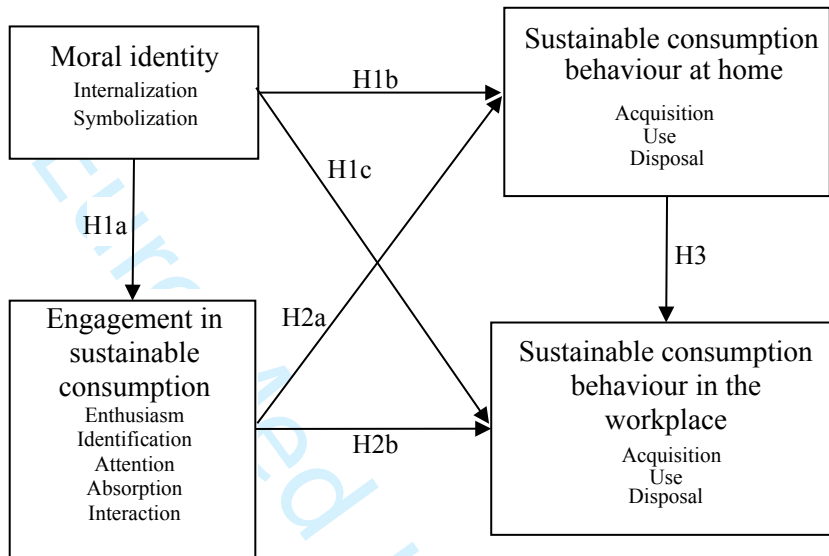
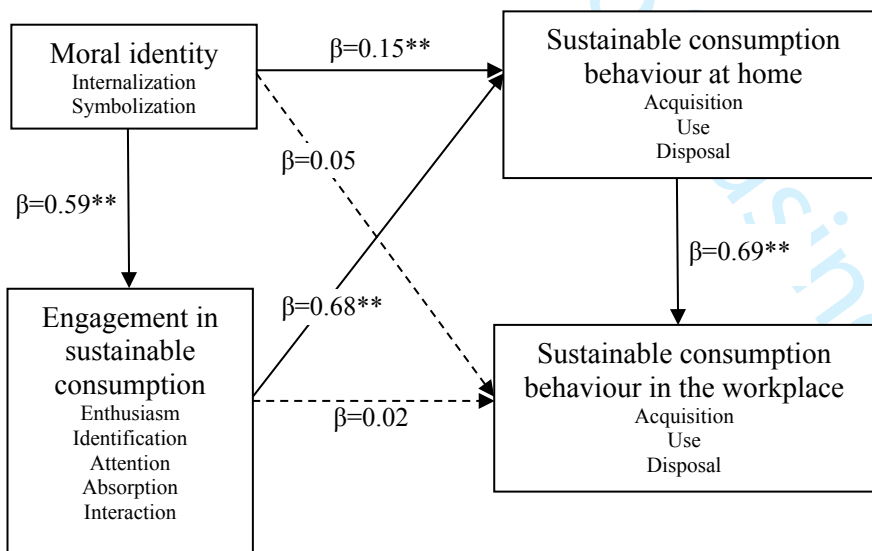
Figure 2. Results of empirically tested relationships (note: **= $p < 0.01$)

Table I. The characteristics of the higher-order measurement model

Factor	Item No.	Outer loadings	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)
Moral identity	Internalization	0.88	0.90	0.86	0.76
	Symbolization	0.86			
Engagement with sustainable consumption	Enthusiasm	0.86	0.91	0.94	0.75
	Identification	0.87			
	Attention	0.90			
	Absorption	0.86			
Sustainable consumer behaviour at home	Interaction	0.84	0.82	0.90	0.74
	Acquisition	0.88			
	Use	0.86			
Sustainable consumer behaviour in the workplace	Disposal	0.84	0.77	0.87	0.68
	Acquisition	0.89			
	Use	0.88			
	Disposal	0.69			

Table II. Results for hypothesized relationships

Hypothesised relationships	Hypothesis	Path coefficient (t-value)	p-value
Moral Identity → Engagement with sustainable consumption	H1a	0.59**	p<0.01
Moral Identity → Sustainable consumption at home	H1b	0.15**	p<0.01
Moral Identity → Sustainable consumption in the workplace	H1c	0.05	p>0.5
Engagement with sustainable consumption → Sustainable consumption at home	H2a	0.68**	p<0.01
Engagement with sustainable consumption → Sustainable consumption in the workplace	H2b	0.02	p>0.5
Sustainable consumption at home → Sustainable consumption in the workplace	H3	0.69**	p<0.01

Note: *-p≤0.05, **-p≤0.01

Appendix A. Definitions of a five-dimensional engagement with sustainable consumption construct.

Dimension	Definition/explanation
Absorption	This dimension refers to the level of consumer's cognitive engagement with sustainable consumption. It reflects the degree to which they actively think about, process information about and understand the importance of sustainable practices and their impact.
Attention	Attention refers to the focus and interest a consumer devotes to sustainable consumption issues. It reflects their willingness to pay attention to the information, messages and marketing related to sustainability.
Enthusiasm	It reflects the emotional connection a consumer has with sustainable consumption. It represents their level of excitement, eagerness, and motivations to engage in sustainable practices.
Identification	It refers to the extent to which a consumer associated themselves with sustainable consumption. It reflects their sense of belonging to a community that values sustainability and their willingness to align their moral identity with these values.
Interaction	Interaction refers to the behavioural aspects of engagement with sustainable consumption. It focuses on the consumer's actions and practices related to sustainability, such as buying sustainable products, reducing consumption and participating in sustainable activities.

Source: Based on So et al. (2014), Hosta and Zabkar (2021) and Banytè et al., (2020)

Appendix B. Items used to measure sustainable consumer behaviour at home and in the workplace.

Sustainable consumption behaviour at home (Items adapted from Littleford <i>et al.</i> (2014), Blok <i>et al.</i> (2015), Geng <i>et al.</i> (2017), Gupta and Agrawal (2018))	Mean (N=586)	SD
Acquisition at home:		
AH_01 I shop considering sustainable consumption principles (responsibility, prudence, honesty).	5.32	1.19
AH_02 I choose environmentally friendly/non-polluting products.	5.29	1.09
AH_03 I take care that my purchases do not lead to accumulation of unnecessary things.	5.66	1.13
AH_04 I choose products packaged in recyclable materials.	5.29	1.20
AH_05 I choose products packaged in recycled materials.	4.98	1.29
Use at home:		
UH_14 I follow an idea that sustainable consumption is using things in moderation.	5.93	1.09
UH_15 When using things/products, I try to reduce waste.	5.84	1.12
UH_17 Whenever possible, I borrow things /means from others.	4.09	1.70
UH_18 Whenever possible, I share things /means with others.	4.96	1.55
Disposal at home:		
DH_25 I avoid discarding things that can be repaired.	5.80	1.23
DH_26 I avoid discarding things that can be used differently or for other purposes.	5.64	1.30
DH_32 I take due care to throw garbage in the assigned bins only.	6.30	1.08
DH_33 I dispose of all hazardous waste (chemical, medical and other harmful waste) in the manner prescribed.	5.81	1.33
DH_34 I put all recyclable waste in recycled bins or sell it to the scrap dealers.	6.08	1.18
Sustainable consumption behaviour in the workplace (Items adapted from Littleford <i>et al.</i> (2014), Blok <i>et al.</i> (2015), Geng <i>et al.</i> (2017), Geiger <i>et al.</i> (2018))	Mean (N=541)	SD
Acquisition in the workplace:		
AW_01 If I have an opportunity, I consider sustainable consumption principles (responsibility, honesty, prudence) when choosing things for my workplace.	5.53	1.29

1	AW_02 If I have an opportunity, I choose environmentally friendly / non-polluting products (e.g., paper bags instead of plastic ones, a real towel instead of one-off, ecological dishwasher).	5.47	1.38
2			
3	AW_03 I take care that my choices do not lead to accumulation of unnecessary things.	5.86	1.12
4	AW_04 I choose eco /bio food products in only they are available at stores or/and a cafeteria in my workplace (near my workplace).	4.86	1.60
5	Use in the workplace		
6	UW_07 In the workplace, I follow an idea that sustainable consumption means using things in moderation.	5.94	1.15
7			
8	UW_08 When using things/products in the workplace, I try to reduce waste as much as I can.	5.87	1.14
9			
10	UW_10 I prioritize borrowing things /means from others instead of buying them.	5.08	1.62
11	UW_11 I happily share things /means with others.	5.75	1.38
12	UW_12 I take due care to use all things in a proper manner in my workplace.	6.22	0.91
13	Disposal in the workplace:		
14	DW_19 At my workplace, I segregate my household waste before disposing it.	5.04	1.86
15	DW_20 I dispose of all hazardous waste (chemical, medical and other harmful waste) in the manner prescribed.	5.43	1.66
16			
17	DW_21 I put all recyclable waste in recycle bins.	5.45	1.72

Appendix C. The characteristics of the lower-order measurement model

Higher order factor	Lower order factor	Item No.	Outer loadings*	Cronbach's Alpha	Composite Reliability	Average Variance Extracted (AVE)				
Moral identity	Internalization	MI_01	0.886	0.83	0.90	0.75				
		MI_02	0.903							
		MI_06	0.802							
	Symbolization	MI_07	0.727				0.88	0.91	0.67	
		MI_08	0.851							
		MI_09	0.824							
		MI_10	0.848							
		MI_11	0.831							
	Engagement with sustainable consumption	Enthusiasm	IISC_01				0.762	0.81	0.88	0.64
			IISC_02				0.740			
			IISC_03				0.862			
IISC_04			0.833							
Identification		IISC_06	0.726	0.84	0.89	0.61				
		IISC_07	0.733							
		IISC_08	0.795							
		IISC_09	0.837							
		IISC_10	0.808							
		IISC_11	0.832							
Attention		IISC_12	0.812	0.88	0.91	0.73				
		IISC_13	0.899							
		IISC_14	0.865							
		IISC_15	0.757							
Absorption		IISC_16	0.868	0.81	0.88	0.64				
		IISC_17	0.850							
		IISC_18	0.720							
		IISC_19	0.827							
Interaction	IISC_20	0.867	0.86	0.90	0.70					
	IISC_21	0.887								
	IISC_22	0.767								
	IISC_23	0.832								
Sustainable consumer behaviour at home	Acquisition at home	AH_01	0.847	0.87	0.91	0.66				
		AH_02	0.842							
		AH_03	0.739							
		AH_04	0.825							
		AH_05	0.792							
	Use at home	UH_14	0.761	0.75	0.84	0.57				
		UH_15	0.748							
		UH_17	0.738							
		UH_18	0.776							
	Disposal at home	DH_25	0.730	0.80	0.86	0.56				
		DH_26	0.753							
		DH_32	0.750							
		DH_33	0.716							
		DH_34	0.789							
		DH_35	0.738							
Sustainable consumer behaviour in the workplace	Acquisition in the workplace	AW_01	0.841	0.84	0.89	0.67				
		AW_02	0.871							
		AW_03	0.828							
		AW_04	0.729							
	Use in the workplace	UW_07	0.782	0.83	0.88	0.59				
		UW_08	0.806							
		UW_10	0.747							
		UW_11	0.736							
		UW_12	0.764							
	Disposal in the workplace	DW_19	0.899	0.85	0.91	0.77				
		DW_20	0.823							
		DW_21	0.911							
DW_22		0.832								

Appendix D. Discriminant validity characteristics of the higher-order model

	Engagement with sustainable consumption	Moral identity	Sustainable consumer behaviour at home	Sustainable consumer behaviour in the workplace
Absorption	0.863	0.532	0.54	0.445
Attention	0.896	0.526	0.664	0.572
Enthusiasm	0.857	0.473	0.712	0.577
Identification	0.874	0.523	0.585	0.498
Interaction	0.839	0.529	0.557	0.46
Internalization	0.510	0.882	0.436	0.438
Symbolism	0.529	0.863	0.362	0.382
Aquisition at home	0.649	0.358	0.880	0.668
Disposal at home	0.541	0.378	0.838	0.657
Ussage at home	0.641	0.448	0.863	0.654
Aquisition in the workplace	0.559	0.434	0.688	0.890
Disposal in the workplace	0.285	0.242	0.434	0.692
Ussage in the workplace	0.568	0.45	0.727	0.882

Examining Moral Identity and Engagement with Sustainable Consumption at Home and in the Workplace

We would like to thank our Editors and Reviewers for allowing us to review the manuscript one more time. Please find our answers to your comments below. We used a different font to highlight changes in in the introduction that we added to the text after the revision.

Associate Editor's comments to the Author:

Dear Authors,

The reviewers have re-evaluated your paper and have suggested minor revisions. From my side, there are no additional comments or suggestions. Therefore, I invite you to respond to the reviewers' comments, revise your paper accordingly, and resubmit it.

Thank you very much once again for helpful guidance regarding the review process for our paper. We addressed the minor revision to our article, as presented below.

The end of our answers to the Editor's comments.

Reviewer 1:

Recommendation: Accept

Comments:

I congratulate with the authors for having revised the paper and improved its quality in the review process.

Thank you for your positive recommendation to accept our manuscript and for your helpful guidance on improving our manuscript.

The end of answers to Reviewer's 1 comments.

Reviewer 2:

I really appreciate your effort in revising the document; I read your paper with interest, and I believe the paper is, almost, complete and ready to be published. However, I have some comments that still have to be addressed.

- 1. Introduction: I would ask you to review the introduction more thoroughly. For a deeper view on how to write a compelling introduction, I suggest reading: Grant,**

1
2
3 **A. M., & Pollock, T. G. (2011). Publishing in AMJ—Part 3: Setting the hook.**
4 **Academy of management journal, 54(5), 873-879.**
5

6 Thank you for your very much for your comment and your suggested article guidance. We
7 have now rewritten our introduction following the suggestions by Grant and Pollock (2011).
8

9 As you may notice when reading our introduction, we utilise the following structure:
10

11 'The hook'

12 So, what do we know so far?

13 What do we not know?

14 So what?

15 What will we learn?
16
17
18
19

20 Our 1st paragraph introduces 'the hook'. We then proceed with the 2nd paragraph stating 'So,
21 what do we know so far?'. We continue with our 3rd paragraph to explain 'What do we not
22 know'. With our 4th paragraph we attempt to answer the question 'So what?' The remaining
23 paragraphs explain 'what will we learn?' from our study with the contributions explained at
24 the end of our Introduction along with practical implications.
25

26 We believe that the above structure for our Introduction is now much more suitable to hook the
27 reader into our story and explain the need for our study along with our contributions to
28 knowledge and it improved our manuscript.
29
30
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- 32
33 **2. Please also pay close attention to the images in detail. For instance, ensure all**
34 **arrows are well-aligned, as this too is indicative of diligence, given the effort put**
35 **into your work.**
36

37 Thank you for your observation. We have now improved the images.
38
39

- 40 **3. Please check again all the references to ensure they are in line with the journal**
41 **guidelines.**
42
43

44 Thank you for your observation. We have now rectified the list of references according to your
45 example:
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47 **In EuroMedBJ the authors should report like this example: Surname, initials (year),**
48 **"title of article", journal name, volume issue, page numbers. e.g. Capizzi, M.T. and**
49 **Ferguson, R. (2005), "Loyalty trends for the twenty-first century", Journal of**
50 **Consumer Marketing, Vol. 22 No. 2, pp.72-80.**
51
52
53

54 **The end of our answers to Reviewer's 2 comments.**
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