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## In pursuit of happiness: Disentangling sustainable consumption, consumer alienation, and social desirability. --Manuscript Draft--

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<b>Abstract:</b>	<p>This study makes a novel attempt to disentangle the complex relationships between sustainable consumer behaviors and happiness, while also considering the key issues of social desirability and consumer alienation. Analysis of data collected via a survey administered to a representative sample (n=835) of Japanese consumers suggests that consuming ethically does indeed have a positive impact on life satisfaction, or happiness. At the same time, high levels of need for social approval also positively impacts sustainable consumption and happiness. Feeling alienated from the marketplace, however, has a detrimental impact on happiness. These results suggest a more complex picture than is usually portrayed in studies of ethical consumption and life satisfaction, extend our understanding of an intricate set of relationships, and provide insight for policy makers and managers into the ways in which happiness can be encouraged via consuming ethically and having a more positive perception of business and social norms.</p>
<b>Response to Reviewers:</b>	<p>Responses to the editor: Thank you for accepting our revised manuscript. Please find below our answers to your suggested corrections. On p. 12, just before H5, you write "and are perhaps experiencing being in the out-group". I believe this is a misunderstanding of the theory. As I understand the theory, you tend to perceive any group that you belong to as your in-group. The out-group is always somebody else. But, of course, people can feel in opposition to the mainstream. I encourage you to rethink the formulation.</p> <p>To remove the misunderstanding that those in the in-group may also belong to the out-group, we have removed: "and are perhaps experiencing being in the out-group". The sentence now reads as follows: "Hence, it is possible that those Japanese who demonstrate high levels of social desirability, and therefore are perhaps secure in the in-group, may be happier than</p>

those who seek greater independence from their traditional cultural definitions of acceptable behaviour.”

Regarding H5, you might emphasise more that the relationship is due to the cultural fit on SD with Japanese culture and cultural values.

We thank you for your suggestion to improve our argumentation regarding H5. We have added the following sentence before H5:

“Given the cultural fit of social desirability in Japanese culture and cultural values, we suggest the following relationship: H5: Social desirability has a positive effect on happiness.”.

First chapter shouldn't be called introduction - either no heading or a different one  
Springers automatic proofing system will most likely change the citation style of your paper to APA 7 including a comma between authors. This is a very recent change not yet accommodated fully in our journal's style guide, so I am writing you this as a heads up.

#### References

Titles: only capitalise first word and first word after colon.

We have removed: “introduction”.

We have updated the citation style according to APA 7 with “&” and commas.

In references, we have only capitalised first word and first word after colon. We have also removed two references that were no longer cited in the text of the final version of the manuscript.

We thank you again in helping us to improve and finalize our manuscript.

**In pursuit of happiness: Disentangling sustainable consumption, consumer alienation, and social desirability.**

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## In pursuit of happiness:

### Disentangling Sustainable Consumption, Consumer Alienation, and Social Desirability.

#### Abstract

This study makes a novel attempt to disentangle the complex relationships between making sustainable purchasing choices and happiness, while also considering the key issues of social desirability and consumer alienation. Analysis of data collected via a survey administered to a representative sample ( $n = 835$ ) of Japanese consumers suggests that making sustainable purchases does indeed have a positive impact on life satisfaction, or happiness. At the same time, high levels of need for social approval also positively impacts sustainable consumption and happiness. Feeling alienated from the marketplace, however, has a detrimental impact on happiness. These results suggest a more complex picture than is usually portrayed in studies of ethical consumption and life satisfaction, extend our understanding of an intricate set of relationships, and provide insight for policy makers and managers into the ways in which happiness can be encouraged via making sustainable consumption choices and having a more positive perception of business and social norms.

**Keywords** Sustainable consumption; life satisfaction; happiness; consumer well-being; consumer alienation; social desirability

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19 Undoubtedly, overconsumption (consuming too much) and insufficient levels of sustainable  
20 consumption (consuming ethically) are recognised as major issues in the move towards  
21 sustainable development, required if we are to avoid environmental failure (UN, 2020).  
22  
23  
24 Almost half a century ago, the Limits to Growth Report (Meadows et al., 1972) predicted  
25 global collapse if the world continued on a ‘business as usual’ trajectory. Ridiculed and  
26 dismissed by the popular press and academics alike as a ‘doomsday prophecy’, research has  
27 since supported some of its fundamental hypotheses (Turner, 2012) while few would argue  
28 against the need to act in order to support the United Nations’ resolution to “protect the planet  
29 from degradation, including through sustainable consumption....so that it can support the  
30 needs of the present and future generations” (UN, 2020). Consumer decisions about what to  
31 purchase, how much to purchase, and how much to consume, have direct environmental  
32 consequences (Trudel, 2019). Yet, despite decades of warnings, political action, and research,  
33 little has changed in terms of the damaging impact of consumer behaviours on the planet  
34 (White et al., 2019a). For these reasons, the need for further research into different facets of  
35 consumer behaviours, which may enrich our understanding of sustainable consumer  
36 behaviour, is of paramount importance.  
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While countless research studies demonstrate that consumers profess to have extremely positive attitudes towards sustainable consumption, these attitudes do not always translate to actual shopping behaviour. This so-called ‘attitude-behaviour gap’ (Auger & Devinney, 2007) is well-documented in the literature (Carrington, Zwick & Neville, 2016). Simply put, despite decades of research into attitudes and intentions towards sustainability, we still do not know how to successfully encourage higher sales of sustainable products (White et al. 2019b). Consequently, much research focused on price barriers (Laroche, Bergeron & Barbaro-Forleo, 2001). More recently it has been suggested that one potential underlying reason for the relatively low sales of sustainable products and services is the way in which the benefits of sustainable consumption are communicated to consumers. In designing marketing communications messages, brand and advertising managers need to build credibility among consumers to convince them that using a particular product or service will deliver a specific benefit (Wijaya, 2013). However, the communicated benefits of consuming sustainable products tend to be “psychologically distant, abstract, uncertain, and difficult for consumers to grasp” (Trudel, 2019: 88). The benefits of sustainable consumption are often built around ensuing generations – hence the communicated benefits are for other people, in the future. Yet, consumers prefer outcomes that are more instant with benefits for the self (White et al., 2019a). This theoretical perspective has recently received some empirical support (Ryoo et al., 2020).

One benefit that is extremely attractive to consumers is happiness, which is also one of the most important drivers of human behaviour (Petersen, Dretsche & Loureiro, 2018).

Encouraging sustainable consumption choices through persuasive marketing would be easier if people believed such consumption practices would have more instant benefits, and these benefits were for themselves (Ryoo et al., 2020). In other words, if consumers could be

persuaded that sustainable choices increased their own happiness, sales of sustainable products and services may also increase. Yet the relationship between sustainable consumption and happiness is far from clear. Previous studies have found inconsistencies where sustainable consumption and happiness are not related (Veenhoven, 2004), while others have found either a positive relationship (Rich et al., 2017) or a negative relationship (Cherrier, Szuba, & Özçağlar-Toulouse, 2012). We will argue that this gap in knowledge is due to three potential reasons. First, there are inconsistencies in the ways in which happiness and life satisfaction are conceptualised in the literature. Second, we suggest that because there are myriad different sustainable consumption behaviours that have been spotlighted in previous empirical studies, comparisons between literatures is extremely difficult. Finally, we also suggest that too much previous research is based on sustainable attitudes and intentions, which, given the attitude-behaviour gap (Auger & Devinney, 2007), is problematic when drawing conclusions about this potentially important relationship. Consequently, the first aim of this research is to delve into the relationship between happiness and one specific aspect of sustainable consumption: that of making sustainable consumption shopping choices. In so doing, we add some clarity to the extant knowledge base as well as contributing to an enhanced understanding of how happiness can potentially be used to encourage consumers to make more sustainable choices when shopping.

Research encompasses an array of variables as potential antecedents, moderators, or mediators on the various aspects of sustainable consumption, and it would be impossible for one study to include all potentially important measures. In addition to considering happiness, we include two relatively unique perspectives on consumer behaviour and sustainable consumption: consumer alienation and social desirability. A dominant theme in the field of sustainable consumer behaviour is a concern with the different ways in which sustainable



consumer behaviour is motivated by a congruence with self-beliefs and/or self- image (see, for example, Legere & Kang, 2020). Noteworthy within this strand is that social or group identity strongly influences sustainable consumer behaviour (Minton et al., 2018), with people likely to avoid behaviours that threaten their social identity (Trudel, 2019). On this basis, prior research has examined the impact of reference groups such as political affiliations or even dissociative stereotype groups (Brough et al., 2016). More specifically, research focusing on voluntary simplifiers has found that they appear to reject conventional consumerism, with many distancing themselves psychologically from mainstream society obsessed with consumption (Peyer et al., 2017). However, research has to date not considered the specific concept of consumer alienation from the marketplace. By introducing this novel perspective, our second aim is to add to this strand of knowledge, especially, as White et al. (2019a) note, researchers should be mindful that marketing encourages the very consumption mind-set that contributes greatly to environmental harm. Given our first aim of exploring happiness as a potentially powerful marketing tool for encouraging sustainable consumption, a consideration of alienation from the marketplace will enrich our understanding of the ways in which sustainable consumption communications strategies need to be designed.

Our third aim pertains to examining the potential relationships and mediating processes occurring between sustainable consumption choices, happiness, consumer alienation, and social influence. Social influence occurs outside affiliation or dissociated groups (Trudel, 2019) and relates to the social norms, or the unwritten rules of how people should behave in society. Indeed, even where there are weak attitudes toward sustainability, in cultures governed by what is socially acceptable, certain behaviours are more likely (Minton et al., 2018). Hence, there is a need to study social norms, especially as they may carry sanctions if not adhered to (Trudel, 2019), which is particularly important in a collectivist culture such as

1 Japan. Increasingly, there is a recognition that a great deal of our knowledge about consumer  
 2 behaviour stems from cultures with independent selves, such as those found in North  
 3 America and many European countries (Voyer et al., 2017). An insight into the ways in  
 4 which social influence relates to sustainable consumption, happiness, and consumer  
 5 alienation will provide a richer theoretical insight into a complex and novel nomological net  
 6 that, in turn, will enhance understanding of the ways in which sustainable consumer choices  
 7 need to be positioned in the marketplace. Such a perspective is potentially particularly  
 8 valuable in an Asian context.

18 Sustainable consumption is an umbrella term that encompasses a range of important  
 19 behaviours including improving resource efficiency, minimising waste, the use of natural  
 20 resources and toxic materials, waste disposal practices, recycling, and making ethical and  
 21 environmentally friendly purchasing choices (UN, 2020). Given the breadth of this  
 22 characterisation, it is unsurprising that much of the burgeoning research pertaining to  
 23 sustainable consumer behaviour focuses on various antecedents to one defined aspect of it  
 24 (Wooliscroft et al., 2014). Several strands of research can be traced within this body of  
 25 knowledge. First is an immense amount of research pertaining to specific environmental  
 26 issues, such, as for example, examining a consumer's ecological footprint or the consumption  
 27 of 'greener' products (Verhofstadt et al., 2016), often considering price differentials  
 28 (Kushwah, Dhir, & Sagar 2019). A second stream considers social justice and human rights  
 29 in relation to fair trade and corporate social responsibility (Ladhari & Tchetgna, 2017). A  
 30 third considers overconsumption, with studies of anti-consumption including voluntary  
 31 simplifiers (Kuanr et al., 2020; Oral & Thurner, 2019), or brand rejection based on  
 32 ideological compatibility due to a belief that some brands are detrimental to society (Lee &  
 33 Ahn, 2016). Undoubtedly, this literature is important in furthering our understanding of

consumption behaviour towards ‘greener’ products, fair trade and socially responsible products, and anti-consumption. However, given that recent definitions of sustainable consumption incorporate each of these three facets (UN, 2020), it is unsurprising that recent calls for further research implore the consideration of these different strands in order to ensure this multidimensionality of sustainable consumer behaviour is taken into account (Buerke et al., 2017; Sudbury-Riley & Kohlbacher, 2016; Wooliscroft et al., 2014).

We respond to these calls by incorporating this multidimensionality in our consideration of a specific aspect of sustainable consumption: that of making sustainable choices when shopping. We chose to focus on this aspect of sustainable consumption for three major reasons. First, in Japan, where our study is set, strict recycling behaviours are mandatory in law (Ministry of the Environment, 2014). Hence including recycling behaviours, as so many other studies do, would not necessarily reflect consumer decisions or choice, but would rather be a reflection of legal behaviour. Second, it is possible that some behaviours included in some studies are not solely due to sustainable reasons. For example, underlying motivations for reducing energy could, at least in part, be motivated by finances (Schmitt et al., 2018) while consumption choices such as buying locally produced foods can be motivated by reasons such as taste and freshness (Hashem et al., 2018). Finally, because of the attitude-behaviour gap (Auger & Devinney, 2007; Carrington et al., 2016) we chose to focus on a type of sustainable consumption that measures actual – as opposed to intended – behaviour (Sudbury-Riley & Kohlbacher, 2016).

In sum, the overall goal of this study is to make an original contribution by disentangling the complex relationships between making sustainable choices when shopping and happiness, while also considering the novel issues of consumer alienation and social desirability in a

collectivist culture. Our results uncover a negative effect of consumer alienation on social desirability and on happiness. In addition, the effects of social desirability and sustainable consumption appear to positively mediate the relationship between consumer alienation and life satisfaction. It is to the hypotheses in order to build a model for testing empirically that we now turn.

## Conceptual Framework

### Sustainable Consumption and Happiness

As a whole, findings from sustainable consumption literature that considers various aspects of happiness, life satisfaction, well-being, and quality of life are inconsistent and ambiguous. Indeed, of the hundreds of studies that comprise any one of a number of ways to examine happiness, life satisfaction, well-being, quality of life and the relationship with some aspect of sustainable consumption, one can find plenty of examples where there is a positive relationship (e.g., Csutora & Zsóka, 2013; Rich et al., 2017), little or no relationship (e.g., Veenhoven, 2004), or even a negative relationship (e.g., Cherrier, Szuba, & Özçağlar-Toulouse, 2012). In fact, in the latter study, numerous difficulties including financial, time, and social struggles in the face of attempting to both consume less and to make sustainable consumption choices were reported. We suggest there are at least three underlying reasons for this inconsistency: (1) conceptualisations of the traits under study; (2) conceptualisations of the behaviours under study; and (3) the attitude-behaviour gap we explained earlier.

The first possible reason pertains to the myriad of different perspectives on what are ‘happiness’, ‘subjective well-being’, ‘life satisfaction’, and ‘quality of life’. Indeed, a recent co-word analysis and comprehensive literature review (Dettori & Floris, 2019) highlights a

situation where all of these terms have been used interchangeably in the sustainability literature, while in other instances researchers fail to define or fully conceptualise the constructs under study. This situation makes it very difficult to synthesise empirical studies and draw overall conclusions. Careful perusal of the psychology literature clarifies the different terminology. Subjective well-being is the higher order term representing a person's overall evaluation of his or her life (Heintzelman et al., 2020). Underpinning this higher order term are three facets: life satisfaction, positive affect, and negative affect. Positive and negative affect are emotions, while life satisfaction is a cognitive judgment (Diener et al., 1985), a "broad cognitive life appraisal" (Heintzelman et al., 2020, p. 361) also referred to as happiness. Indeed, the study of life satisfaction is known by psychologists and philosophers as the science of happiness (Diener, 2000; Sumner, 1996), and measures of life satisfaction are the preferred way to define and study happiness (Ganglmair-Wooliscroft & Wooliscroft, 2019). Hence, we use the terms happiness and life satisfaction interchangeably. Irrespective of culture, happiness is of utmost importance to human beings and has fascinated scholars since ancient times (Boujbel & d'Astous, 2012). Happiness is associated with a wide range of benefits, making it of utmost importance to the well-being of individuals, organisations and society (Heintzelman et al., 2020). Happiness takes a major spotlight in both psychology (Ganglmair-Wooliscroft & Wooliscroft, 2019) and consumer behaviour (Sirgy, 2020). Consequently we focus on happiness as our dimension of overall well-being in our study.

The second possible reason for the lack of consistent findings across empirical studies also pertains to conceptualisation: in this instance to the definition and conceptualisation of the actual behaviours under study. The intrinsic link between national economic growth and personal consumption has led to the supposition that increased consumption leads to increases in well-being (Venhoeven et al., 2016). Paradoxically, however, the literature on

low consumption lifestyles, also referred to as voluntary simplification, also suggests that reducing consumption leads to increased happiness (Boujbel & d'Astous 2012; Rich et al., 2017). We suggest that just as inconsistency arises in the ways in which research defines and studies different aspects of well-being, so too these different results may be due to consideration of different characteristics of sustainable behaviour. Indeed, evidence suggests many people demonstrate multiple types of sustainable behaviour (Gregory-Smith, Smith, & Winklhofer, 2013), hence it is important to clearly define which behaviour(s) comprise the focus of the study. Such multiple findings emerged in Csutora & Zsóka's (2013) research. They included a wide range of pro-environmental attitudes and activities in their study of sustainable behaviour and happiness. Noteworthy was their finding that far greater numbers of their sample participated in activities such as recycling and reducing energy use as opposed to engaging in the purchasing and consumption of environmentally friendly and/or ethical products. Similarly, Jacob, Jovic, & Brinkerhoff (2009) found making sustainable choices when grocery shopping scored much lower than behaviours such as recycling or purchasing local food produce. Hence, even within the same sample, it seems that results depend very much on the specific behaviour(s) under study: yet these are not always clear, and/or past research has included a range of very different behaviours without necessarily analysing them separately. Interestingly, scrutiny of the wide body of sustainable consumption literature reveals a relatively small amount of studies that focus on shopping behaviour. Consequently, we focus here on the sustainable choices that people make while shopping.

Finally, an additional problem arises when attempts are made to disentangle overall attitudes towards sustainability and actual consumer behaviour, given the attitude-behaviour gap (Auger & Devinney, 2007) outlined in our introduction. This widely-observed phenomenon

(Carrington et al., 2016) suggests research that considers attitudes, beliefs and intentions may well over-inflate their impact on actual consumer behaviour (White et al., 2019b). Yet, the vast majority of empirical evidence pertaining to sustainability and life satisfaction incorporates attitudes, beliefs, and intentions (Ladhari & Tchetgna, 2017) rather than actual consumption behaviours. For this reason, we limit our review of the happiness and sustainable consumer behaviour literature to those studies that have considered actual – as opposed to intended – behaviour.

The removal of studies that consider attitudes rather than behaviours, along with those that consider measures of well-being other than happiness, reduces our pool of empirical evidence on which to base our first hypothesis considerably. Schmitt et al. (2018) included 39 pro-environmental behaviours in their study, with only a few directly linked to actual shopping choices. Even then, it is difficult to evaluate choices such as ‘buying an efficient vehicle’ as being solely for environmental, rather than financial, reasons. Nevertheless, those behaviours specific solely to making sustainable shopping choices (purchasing environmentally friendly cleaners, avoiding excess packaging, purchasing products made from recycled materials) that were included did significantly and positively relate to life satisfaction. Likewise, making environmentally friendly product choices when supermarket shopping has been found to be significantly and positively related to happiness (Venhoeven et al., 2016; Xiao & Li, 2011), a result that also emerged in Hwang & Kim’s (2018) research into Fair Trade coffee purchases. Welsch & Kühling (2011), too, found that people achieved higher subjective well-being when they consumed more environmentally friendly products at the same time as reducing the overall quantity consumed.

On balance, then, the empirical evidence appears to point toward a positive relationship between sustainable consumer behaviour and happiness. Theoretically, this makes sense: people can feel happy due to ‘doing the right thing’ as making sustainable choices contributes to the common good (Hartmann et al., 2017). Additionally, the so-called ‘warm glow’ theory (Andreoni, 1990) may be important in the pursuit of happiness. The warm glow effect goes beyond civic duty and suggests that the benefits of making the right choices are not only utilitarian, there are also individual benefits too, as doing the right thing enhances intrinsic satisfaction (a warm glow). Indeed, this quote from the Ethical Consumer (2019), the alternative consumer organisation that advocates myriad ways in which consumers can shop more sustainably, appears to reflect the warm glow theory: “There is something very satisfying about shopping ethically. It is often difficult to define but those who shop ethically feel empowered knowing that the small changes they are making are a vote that can lead to big environmental and social impacts”. Hence, we suggest:

**H1:** Sustainable consumer behaviour has a positive effect on happiness.

## **Consumer Alienation**

Forty five years ago, Lambert & Kniffin (1975) suggested the concept of alienation as a potentially valuable way of understanding consumer discontent and developing positive action for “mitigating the problems of consumerism” (p. 36). Drawing on earlier alienation theory (Seeman, 1959), they proposed a theory comprising four dimensions of consumer alienation from the marketplace: feelings of powerlessness (against big businesses); meaninglessness (inability to make intelligent product choices, usually due to insufficient relevant information); normlessness (belief that corporations engage in unethical and socially



undesirable marketing practices);and isolation or cultural estrangement (from mass consumer culture). However, research has paid consumer alienation scarce attention in recent years (Junaid et al., 2019).

Nevertheless, although alienation theory is not applied explicitly, within the more recent anti-consumption literature there is a clear indication that some consumers reject some brands because they distrust corporate motives (normlessness), particularly the motives of large and powerful organizations (powerlessness) (Lee & Ahn, 2016).This distrust of consumers has increased when companies pretending to be green were caught in greenwashing scandals(Szabo & Webster, 2020). Studies of voluntary simplifiers find a growing number of consumers are estranging themselves from consumption cultures where the acquisition of goods and services is an accepted way to live (Boujbel & d'Astous, 2012; Rich et al., 2017). Though no known previous study has explicitly tested this relationship, this literature does suggest that a possible motivation for engaging in sustainable consumption is a feeling of alienation from the marketplace. When consumers feel exploited, they are more likely to opt out of unlimited consumption and to adopt more sustainable consumption. This speculated effect is important because, if supported, its identification would provide marketers with another angle on which to encourage sustainable consumption. On this basis:

**H2:** Consumer alienation has a positive effect on sustainable consumer behaviour.

There is also a research gap pertaining to marketplace alienation and happiness. The consumer alienation literature portrays alienated consumers as unhappy, though this may be because much of the consumer alienation literature emerges from dissatisfied consumers (Singh, 1990). Moreover, in the consumer alienation literature, measures of life-satisfaction per se are missing. In a recent novel experiment utilising neurophysiological techniques,

Szabo & Webster (2020) captured facial expressions when participants interacted with a greenwashing website, and found that perceived greenwashing related negatively to happiness as measured through facial expressions. Likewise, the consumer well-being literature ignores consumer alienation: at least, that is, in terms of its specific measurement. There is, however, a suggestion in the literature that consumer activism, or actions oriented toward altering business systems and practices, relates negatively to well-being (Carrero et al., 2020). Social desirability is a culturally driven mediating factor in Japan at odd with the feeling of consumer alienation. In addition, social desirability is also in contradiction with non-mainstream sustainable consumption. Thus, these two negative effects are expected to result in an overall negative effect of consumer alienation on life satisfaction.

**H3:** Consumer alienation has a negative effect on happiness.

### **Social Desirability**

Social desirability is the need for social approval by behaving in a culturally acceptable way.

A low (high) need for social approval implies a degree of independence (dependence) from cultural definitions of acceptable behaviour. Originally viewed as a measure of either the behaviour of respondents or the social desirability properties of scale items (Crowne and Marlowe, 1960; Walsh, 1990), researchers have since used the concept, almost exclusively, to focus on scale items and few have examined social desirability as a core construct influencing others in a theoretical model. Yet, in addition to examining the quality of measurement items, researchers can utilize social desirability as a personality construct reflecting the need for social approval (Phillips & Clancy, 1972). Recent calls for researchers to expand the sustainable consumption field in terms of choice of potential antecedents, mediators, and motivators have spotlighted culture as a potentially powerful influence (Makri

et al., 2020). Social desirability is more likely to have a moderating effect in correlational analyses in collectivist cultures (Jasielska et al., 2018). Japan's collectivist culture pressures people to conform to social norms, with for example strict regulations pertaining to garbage disposal. However, even within the same culture, consumers can have personal and social reasons for acting sustainably (Minton et al., 2018); hence the inclusion of social desirability may provide insights into the way in which the need for social approval impacts sustainable consumption. Alienated individuals, distance themselves from the pressure of consumption norms by switching to sustainable consumption. Doing so, it is expected that alienation has a negative impact on how they are perceived in terms of social desirability. In spite of this negative impact on social desirability, with most individuals in Japan strongly influenced by social norms, the net impact of social desirability on sustainable consumption is expected to be positive. On this basis:

**H4:** Social desirability has a positive effect on sustainable consumption.

Reviewing the extensive literature in an attempt to explain the counter-intuitive negative relationship between collectivism and happiness found across a range of cultural studies, Jasielska et al. (2018) conclude that unlike individualist cultures marked by personal autonomy and a sense of self, people in collective cultures have less freedom and autonomy due to the expectation that they fulfil social obligations over themselves. For those in collectivist cultures the 'we' takes precedence over the 'I'. These strong bonds lead to in-group-outgroup fear, bias, and prejudice, and these, coupled with lower autonomy, may bring about lower levels of happiness among the out-group. Some cultural change has been noted in Japan with an increasing number of young individuals isolating themselves in a growing urban environment. However, many still view this pursuit as being in opposition to harmony with others, with connotations of egoism and/or social isolation (Uchida and Oishi, 2016).

Hence, it is possible that those Japanese who demonstrate high levels of social desirability, and therefore are perhaps secure in the in-group, may be happier than those who seek greater independence from their traditional cultural definitions of acceptable behaviour. Given the cultural fit of social desirability in Japanese culture and cultural values, we suggest the following relationship:

**H5:** Social desirability has a positive effect on happiness.

Recall that social desirability is the need for social approval by behaving in a culturally acceptable way. In Japanese collective culture, communal welfare, cooperation, and conflict avoidance are important (Jasielska et al., 2018). When companies are perceived to take advantage of consumers, this is interpreted as a source of disharmony, therefore in contradiction with socially acceptable behaviour. Hence, consumer alienation occurs with the perceptions that businesses are breaking these social and cultural norms. Therefore, we suggest:

**H6:** Consumer alienation has a negative effect on social desirability.

Figure 1 shows our proposed resulting model with suggested hypotheses.

### Figure 1 Here

Paradoxically, however, studies of materialism constantly show a negative relationship between consumption and happiness (Carrington et al., 2016; Lee & Ahn, 2016; Ryoo et al., 2020). Consequently, Sheth et al. (2011) suggest tempering consumption should be encouraged as a way to enhance consumer well-being. Undeniably, evidence suggests

voluntary simplifiers are happier than mainstream consumers (Boujbel and d'Astous, 2012; Oral & Thurner, 2018; Rich et al., 2017). There is some evidence to propose one reason for engaging in anti-consumption is to resist the consumerist mainstream (Lee & Ahn, 2016). In other words, this conscious decision to reject or reduce consumption is as an attempt to take back some control (Makri et al., 2020), perhaps in order to reduce the feelings of powerlessness and make a stand against normlessness. Indeed, Kuanr et al. (2020) recently described voluntary simplicity as a counter-culture movement, while voluntary simplifiers may not be alienated because rather than eschewing consumer products and services, they modify their consumption practices by making more sustainable choices (Peyer et al., 2017). Such arguments have led Makri et al. (2020) to recently ponder which circumstances lead to 'reasons against' outweighing 'reasons for' consumption, and urge research to investigate potential mediators. As the literature related to the interactions of the variables included in our model is too limited, we feel that further investigation of additional mediating relationships cannot be formulated in terms of formal hypotheses but rather in terms of research questions conditional on confirmation of our hypotheses. It is plausible that sustainable consumption indirectly influences the negative relationship between consumer alienation and happiness. On this basis and after confirmation of H1, H2 and H3, we suggest as a post-hoc analysis, to explore as a research question (RQ) the mediating effect of sustainable consumer behaviour on the relationship between consumer alienation and happiness.

**RQ1:** Sustainable consumer behaviour has an indirect effect on the relationship between consumer alienation and life satisfaction.

A study in Japan (Tiefenbach & Kohlbacher, 2015) found that an increase in donations in the aftermath of the Great East Japan Earthquake of March 2011 can mitigate the negative effects on subjective well-being. In the context of our model, the dysfunctional management of the

disaster by Tepco, the power company in charge of the atomic reactors may have increased consumers' alienation and was perceived in contradiction with social desirability. By increasing their donations after the disaster, consumers could have reduced the contradiction and increased their well-being. Thus, social desirability could have attenuated the negative effect of consumer alienation on life satisfaction. On this basis and after confirmation of H3, H5 and H6, we suggest as a post-hoc analysis, to explore as a research question (RQ) the mediating effect of social desirability on the relationship between consumer alienation and happiness.

**RQ2:** Social desirability has an indirect effect on the relationship between consumer alienation and life satisfaction.

Going further with post-hoc analysis and following the confirmation of H4 and of RQ1 and RQ2, we propose two additional research questions to further explore the existence of a serial mediation mechanism (with social desirability being the antecedent of sustainable consumption) and the possibility of an indirect moderated regression effect of socioeconomic variables on the relationship between consumer alienation and life satisfaction:

**RQ3:** Social desirability and sustainable consumption serially indirectly effect the relationship between consumer alienation and life satisfaction.

**RQ4:** Socioeconomic variables such as age, gender, education and income may have indirect moderated regression effects on the relationship of consumer alienation and life satisfaction through social desirability and sustainable consumption.

## Method

## Instrument Development

We designed a survey comprising existing and validated scales shown in table 1.

### *Sustainable consumption(SC)*

SC was measured with the Ethically Minded Consumer Behaviour (EMCB) Scale (Sudbury-Riley & Kohlbacher, 2016), a 10-item scale validated in several countries and cultures (including Japan) that conceptualises sustainable consumption as a variety of consumer shopping choices (including rejection) for both environmental and social issues. Hence, the scale incorporates the three important facets(ecological, social, and anti-consumption) of sustainable consumption (UN, 2020). Another particular strength of the scale is that it measures actual shopping behaviour as opposed to intentions or attitudes towards sustainability.

### *Consumer alienation (CA)*

CA was assessed with a 7-item consumer alienation scale (Singh, 1990). Singh's succinct measure was developed from Allison's (1978) original Consumer Alienation from the Marketplace scale which defines consumer alienation as feelings of separation from the norms and values of the marketplace, a perspective reflective of Lambert and Kniffin's original (1975) alienation theory.

### *Life Satisfaction (LS)*

LS was assessed with the 5-item Satisfaction with Life Scale (Diener et al., 1985), a measure of global subjective well-being (not affect), that has been applied extensively (almost 30,000 citations).In an in-depth evaluation of well-being scales conducted by the US Centres for Disease Control and Prevention (Kobau et al., 2010) the scale was shown to demonstrate

good psychometric properties with a range of strengths. In addition to its psychometric properties and it being one of the most extensively used life-satisfaction measures, Kobau et al. (2010) concluded that the scale shows acceptable test–retest reliability over temporal intervals, often services as the base for new scales, has been translated into multiple languages, and is sensitive to life events.

### *Social Desirability (SD)*

SD was measured with the shortened (10-items) Marlowe-Crowne Social Desirability Scale (Strahan and Gerbasi, 1972), which is one of the most common measures of social desirability.

## **Table 1 Here**

### *Socio-demographic Variables*

Socio-demographic data capture included age, gender, education, household income (in bands), socio-economic status, and work status.

Originally designed in English, we translated the survey into Japanese, then back translated it into English. The Japanese version was then comprehensively pretested among 30 Japanese consumers and 6 Japanese-based experts with extensive research experience.

### *Sampling Procedure*

We then utilized the Japanese Social Research Institute Central Research Services (ChūōChōsa Sha) to administer a postal questionnaire to a random sample of 2000 adults, representative of the demographic structure of the Japanese population. To achieve a high



response rate, we used pre-notification postcards, reminder postcards, and a 500 JPY (5 USD) book voucher as an incentive. This pre-notification and incentive allowed us to reach a response rate of 41% for a total of 835 returned questionnaires available for analysis. Table 2 shows the final sample profile in terms of age, gender, education and household income .

## Table 2 Here

### Non response bias and Common Method Variance

We checked for non-response bias. Comparisons of early responses (within 8 days,  $n = 473$ ) and late responses ( $n = 362$ ) across the 4 construct variables and the control variables revealed no significant differences. Clearly, response bias does not appear to be a problem with these data.

Common method variance (CMV) bias can be problematic to cross-sectional studies with single informants. Consequently, following Podsakoff et al.'s (2003) procedural recommendations, we exercised a great deal of precaution in constructing the instrument. We applied Harman's single-factor test, by first conducting an exploratory factor analysis without rotation using all 32 items measuring the four latent constructs of our model ( $SC = 10$ ,  $LS = 5$ ,  $CA = 7$ , and  $SD = 10$ ). Among 9 components with eigenvalues above 1, the first accounted for only 17% of the variance; hence it is unlikely that CMV bias is present.

As shown in table 1, all 10 items measuring sustainable consumption and all 5 items measuring life satisfaction load reasonably well together. Of the 7 items measuring consumer alienation, item 5 (Firms stand behind their products and guarantees.) was the only one positively formulated which may be the reason for its negative and low factor loading.

Therefore it was discarded from further analysis. All 10 items measuring social desirability were all loading reasonably well and positively together.

## Data Analysis Procedures

We conducted the analyses with the PROCESS matrix procedure (Hayes, 2018). This is now the standard reference in social sciences to analyse mediation, moderation and conditional processes to answer research questions related to causal mechanisms underlying human behaviour. PROCESS provides advanced statistical ways to test simple and complex systems of mediation, moderation and conditions by which a variable transmits its effect on other variables whether directly or indirectly.

## Results

### Preliminary Analyses

First we tested the internal validity of the four resulting scales using Cronbach  $\alpha$ . As shown in table 3, all four  $\alpha$  values (underlined in the diagonal) are equal to or above .70, indicating good internal validity. Second, discriminant validity of the four constructs of our model was tested using a robust method proposed by Henseler, Ringle and Sarstedt (2015). The authors' approach uses the correlations matrix of all items underlying the constructs of the model. The heterotrait-monomethod (HTMT) ratios are computed as the average correlations of all heterotraits divided by the geometric mean of the average correlations of the product of corresponding pairs of monotraits. Thus, when monotrait averages in the denominator are high, the ratios are smaller indicating a better discriminant validity.

Using this method, the six pairs of heterotrait-monomethod ratios of the four constructs of our model (.19; .19; .13; .38; .24; .15) as shown below the diagonal in table 3, were found much lower than the best suggested cut-off value of .85 indicated by Henseler et al. (2015). Thus, good discriminant validity of the four scales is confirmed.

All scale items of the original four scales (except item 5 of consumer alienation) were then summated and mean point estimations of the four constructs of the model were computed. Further analyses were conducted using the matrix PROCESS procedure including socio-demographic variables as controls.

### Table 3 Here

#### Hypotheses and Research Questions Testing

Table 4 presents the results of our hypotheses testing using PROCESS V 3.5 model 6 with control of socioeconomic variables of age, gender, education level and income. Support was found for all hypotheses and research questions 1, 2 and 3. All direct and indirect paths were significant as shown by the lower and upper limits of the confidence intervals not including zero. According to Hayes (2018, p. 180) non-significant total indirect effects can coexist with significant indirect mediation effects. This results from a combination of positive and negative indirect effects and does not invalidate the value of uncovering the details of significant simple and serial mediations.

### Table 4 Here

#### Moderated Mediation by Education

In order to answer our fourth research question (RQ4) we first examined a potential indirect moderating effect of each of the socioeconomic variables on our model while holding all others constant. Having found no significant results for age, gender and income, we detected a significant effect for education level. To further investigate the moderating effects of education, we held age, gender, and income constant and ran an analysis using model 7 of the PROCESS routine v3.5. As demonstrated in table 5, when sustainable consumption is the outcome variable, results confirm that the interaction between consumer alienation and education is negative and significant ( $B = -.15$ ,  $t = -3.50$ ,  $p < .01$ ). However, this moderated mediation effect of education is significant on the path from CA to SC only and not on the path from CA to SD or the path from CA to LS as shown by running model 5 (with one mediator and education as the moderator) of the PROCESS routine v3.5 as indicated in table 5.

#### **Table 5 Here**

The index of indirect moderated mediation of education on the path from CA to SC (-0.025), was significant ( $p < .05$ ) with the PROCESS routine bootstrapping procedure giving lower and upper critical interval values not including zero (-0.0484 , -0.0073). Further, the negative coefficient indicates a decreasing effect of education. Hence, while education moderates the negative impact of consumer alienation on sustainable consumer behaviour, this conditional indirect effect of education linearly decreases with increasing levels of education in such a way that the moderation regression effect is no longer significant among more highly educated (university degree and graduate school) respondents. Figure 2 illustrates this finding.

#### **Figure 2 Here**

To confirm possible differences of results between the two groups, we examined separately the simple mediation of CA->SC->LS for highly educated respondents and for those with high school level of education. Process v3.5 model 4 was used with control variables (Age, gender and income). For highly educated respondents (n = 374) both paths from CA to SC and from CA to LS were not significant (CA->SC coefficient = -.022; t = -.42; p = .68 with LLCI = -.1258 and ULCI = .0815); (CA->LS coefficient = -.075; t = -1.04; p = .30 with LLCI = -.2159 and ULCI = .0669) leading to a non-significant mediation of SC on CA->LS. However, the path SC->LS was positive and significant (coefficient = .27; t = 3.8; p = .0002 with LLCI = -.1300 and ULCI = .4133) confirming that this part of our model applies to this group. Figure 3A illustrates this finding.

For respondents with high school degree (n = 385) both paths from CA to SC and SC to LS were significant (CA->SC coefficient = .25; t = 4.12; p = .0000 with LLCI = .1303 and ULCI = .3680; SC->LS coefficient = .17; t = 2.41; p = .0164 with LLCI = .0318 and ULCI = .3124). Thus, both coefficients were positive and in line with our model expectations with a significant mediation of SC on CA->LS. In addition, the coefficient for CA->LS was negative and significant (-.19; t = -2.55; p = .0112; with LLCI = -.3301 and ULCI = -.0426) in line with our model expectation. Figure 3B illustrates this finding.

### Figure 3 Here

## Discussion

Our main contributions result from examination and analysis of the ways in which relatively novel variables interplay. The overall body of extant literature has failed to establish clarity with regards to the relationship between sustainable consumption and happiness. This may be

because research focuses on different facets of sustainable consumer behaviour (Buerke et al., 2017), or indeed different facets of well-being (Ganglmair-Wooliscroft & Wooliscroft, 2019). We therefore contribute to the relatively small amount of prior knowledge pertaining to this link (Hwang & Kim, 2018; Schmitt et al., 2018; Venhoeven et al., 2016; Welsch & Kühling, 2011; Xiao & Li, 2011). Our results suggest that the previously identified link between voluntary simplicity, or consuming less, and happiness (Boujbel & d'Astous, 2012; Oral & Thurner, 2018; Rich et al., 2017) extends to the different facets of sustainable consumption (consuming ethically for environmental and social justice reasons) when the measure of happiness is not based on hedonic motivation.

Of course, understanding the reasons for this relationship is difficult to confirm, and we suggest that further qualitative research probes those underlying reasons. Whatever the underlying motivations, our research undoubtedly lends support to the Ethical Consumer Movement's contention (2020) that shopping in an environmentally friendly and socially responsible way has a positive impact on life-satisfaction. Perhaps, as this movement suggests, consumers who make sustainable shopping choices do feel that they are making a difference to the planet and the people who live on it. The movement suggests that shopping ethically is 'good for body and soul'. As Hunt (2021) argues, "Every time we shop we're voting with our wallet. When we buy from brands that have a positive impact it's like voting for a better world". Conway (2017) also argues that the buzz of new purchases can quickly wear off when the realisation that purchases can have a detrimental impact on the environment or the people who made the product. Theoretically, it is possible that our respondents are motivated to make sustainable shopping choices based on altruism because they contribute to the common good (Hartmann et al., 2017; Schmitt et al., 2018). It is equally possible that our results lend support for the warm glow theory (Andreoni, 1990),

where our respondents feel intrinsically happy by making what they perceive to be good choices which in turn equate to feelings of being a good person which increases happiness (Venhoeven et al., 2016). Of course, individual respondents may be driven by both underlying motivations, to greater and lesser extent, and we suggest further research needs to probe these different theoretical perspectives.

Burgeoning anti-consumption studies suggest that a desire to psychologically distance oneself from mainstream consumer culture motivates the choice to consume less (Kuanr et al., 2020; Lee & Ahn, 2016; Peyer et al., 2017). Yet, the concept of consumer alienation, with its central definition of feelings of separation from the norms and values of the marketplace (Allison, 1978), has been neglected in studies of wider sustainable consumer behaviour. Our findings that consumer alienation relates directly and positively to sustainable consumption, and directly and negatively to happiness, are both novel and noteworthy. Peyer et al. (2017) recently found that in addition to consuming less, voluntary simplifiers also demonstrate greater environmental and social consciousness when making consumption choices. Our results, too, indicate that as a whole (that is, when the measure includes environmental issues, social justice, and rejection), feelings of alienation from the marketplace have a positive effect on sustainable consumption practices. This finding contradicts suggestions that ethical purchasing is becoming mainstream (Ethical Consumer, 2019). Indeed, although sustainable consumption is on the rise, it is still only a relatively small part of consumption overall (White et al., 2019b).

Our results also reveal a negative direct effect of consumer alienation on life satisfaction. This finding makes a novel contribution to the field in several ways. The majority of consumer alienation literature emerges from dissatisfaction with particular brands, and its

implications for repurchase intentions and brand loyalty (Singh, 1990). Activism is the only known dimension of sustainable consumption indicative of consumer alienation previously shown to relate to well-being (Carrero et al., 2020). We therefore expand understanding of this relationship by lending empirical support for it using a multi-dimensional measure that incorporates different facets of sustainable consumption. Perhaps more importantly, however, in answering a recent call (Makri et al., 2020) for more research to investigate potential mediators in order to better understand sustainable consumption behaviour, we provide insights that demonstrate the relationships between alienation, sustainable consumption and life satisfaction seem to be more complex than research usually suggests.

Our finding that sustainable consumption mediates the relationship between consumer alienation and life satisfaction, at first glance, seems to contradict the finding that consumer alienation relates positively to sustainable consumption. However, in-depth analysis of alienation reveals that it has two central aspects: the inability to identify meaningfully with something, and the inability to exert control over it (Junaid et al., 2019). The literature has for some time suggested that voluntary simplification results from the inability to identify meaningfully with the doctrine of consumption (Kuanr et al., 2020). It seems that the second element of alienation – the inability to exert control, or those feelings of powerlessness that are so central to consumer alienation (Seeman, 1959) may actually be the motivator for some consumers to engage in sustainable consumption. In other words, for some, engaging in sustainable consumption is a way of bypassing the mainstream marketplace and maybe feeling more powerful as a result. Perhaps, then, what we have uncovered is an “enlightening link between liberty and alienation” (Junaid et al., 2019: 569) as individuals choose alternatives to those brands that they perceive as unethical or damaging to the environment. In this way, these alienated consumers can increase their satisfaction levels. Certainly, this



interpretation supports the argument that shopping ethically is satisfying and empowering for some consumers who believe that the changes they make are a vote for positive environmental and social impacts (Peyer et al., 2017; Ethical Consumer, 2020).

Much previous sustainable consumer behaviour research has studied subjective norms as part of the Theory of Planned Behaviour (Ajzen, 1985) but this is problematic due to the attitude-behaviour gap (see Carrington et al., 2016). Consequently, we included social desirability, usually used solely to check for response bias (Vesely & Klöckner, 2020) in a novel way by including it as a core construct in our theoretical model. Our results confirmed expectations that social desirability has a direct and positive relationship with sustainable consumption, and a direct and negative relationship with consumer alienation. Whether this means that in Japanese culture breaking of strong cultural norms of harmony and communal welfare by business leads to alienation, is something worthy of further investigation in future cross-cultural research. Likewise, our finding that perceived social pressures to consume sustainably does indeed directly relate to behaviour requires further research, but tentatively we suggest that research into sustainable consumer behaviour includes the measure as a core construct and an alternative to the Theory of Planned Behaviour. This is particularly reasonable given that we found that social desirability had a positive effect on our comprehensive measure of sustainable consumption.

Finally, delving even further, we found that education level moderates the effect of consumer alienation on sustainable consumption. The implications of this finding are threefold. First, though the body of research indicates that socio-demographic characteristics have little *direct* impact on sustainable consumer behaviour (Buerke et al., 2017), our results suggest their influence is subtle, yet they can impact overall results, hence there is a crucial need to hold

sociodemographic variables constant when investigating sustainable consumption. Second, our results have implications for future research insofar as analytical models need to consider potential moderating and mediating variables. Clearly, the complexity of sustainable consumer behaviour requires equally complex consideration of modelling, analysis, and trial of different and novel variables in order to unpick intricate patterns that researchers risk missing with more basic analytical techniques. Finally, and most importantly, the moderation effect of education level on the relationship between consumer alienation and sustainable consumption suggests that better educated people, with higher literacy levels, are perhaps more likely to access more in-depth information pertaining to corporate behaviour, and to be able to fully evaluate such information. Our results seem to suggest that better educated people are perhaps better able to understand greenwashing, and are less likely to believe unsubstantiated claims made by corporations limiting the impact of consumer alienation on their sustainable consumption. The continued rise of digital information means increased exposure to vast amounts of information. Much of this is unregulated, exaggerated, or even false. This has led to a “so-called “post –truth” society in which people consume information that reaffirms their pre-existing beliefs and ideologies rather than attempting the difficult task of identifying the truth” (De Paor and Heravi, 2020: 102218). Investigation into different education levels, literacy levels, and sustainable consumer behaviour seems ripe for further investigation.

Methodologically, we respond to calls for research to include the different facets of sustainable consumption (making consumption choices on the basis of the environment and social justice and refusing to consume) (Buerke et al., 2017; Wooliscroft et al., 2014). This is important given that previous studies have found happiness to be differentially related to different facets of sustainable consumption (Carrero et al., 2020). The use of the EMCB Scale

(Sudbury-Riley & Kohlbacher, 2016), incorporating all these different dimensions, is therefore a strength of the study. An added benefit of the EMBC scale is that it does ask questions pertaining to actual consumption behaviour rather than attitudes, intentions, or behaviours such as recycling. This is also a strength, given the widely acknowledged attitude-behaviour gap from which many studies of sustainable consumption suffer (Carrington et al., 2016). A side benefit of our current study, therefore, is that it validates the EMBC scale on a representative sample not limited to older adults, as was the case with the original scale design. Additionally, we respond to the need to conduct sustainable consumer behaviour research in countries outside North America and Europe, from which the majority of knowledge emerges (Minton et al., 2018; Voyer et al., 2017). Our chosen measure, the Satisfaction with Life Scale, is a measure of happiness that is a global and stable phenomenon, distinct from emotion and fleeting influences (Diner et al., 1985). Having been translated into scores of languages and used in different disciplines lends testimony to its psychometric properties. The incorporation of this measure, coupled with the inclusion of the multi-dimensional EMCB Scale, therefore give confidence to our finding of a direct and positive relationship between sustainable shopping behaviour and happiness.

### Practice and Policy Implications

Marketers struggle to close the attitude-behaviour gap with regards to sustainable consumption (White et al., 2019b), despite empirical evidence that sustainable practices can enhance positive consumer perceptions and ultimately increase profitability (White et al., 2019a). Reasons for this include the ‘present-bias’, where the benefits of consuming sustainably are usually focused on the future; a tendency for benefits to be portrayed for others (e.g., future generations); and fear appeals (e.g., negative consequences of deforestation). Yet consumers prefer more instant benefits (Trudel, 2019), respond well to benefits for the self (Ryoo et al., 2020), and are more likely to engage if positive feelings are

evoked (White et al., 2019b). Our finding that sustainable consumption and happiness are  
 positively related therefore provides marketers with a novel insight into ways to enhance  
 positioning strategies and communications messages. Marketers may find that designing  
 these key marketing tools around happiness, therefore emphasizing more benefits to self,  
 rather than to others, and benefits that will be felt sooner rather than later, results in a  
 narrowing of the attitude-behaviour chasm. Certainly, as O'Brien (2013) candidly notes,  
 negative message framing, which is more often found in the 'doom and gloom' messages  
 about our unsustainable trajectory, have not been as successful as hoped given the relatively  
 low levels of sustainable purchases (White et al., 2019b). Perhaps more success will result  
 from a positive message framing around happiness.

Our consumer alienation results also provide practitioners with insights that are potentially  
 beneficial when designing positioning and marketing communications strategies. Our  
 findings suggest those who are less well educated can mitigate feelings of alienation by  
 shopping sustainably. Hence designing campaigns around this theme could appeal to  
 particular segments. Better educated segments, on the other hand, need more in-depth  
 messages that tackle the deep rooted perceptions that many brands and the companies that  
 make them are powerful and oppressive (Junaid et al., 2019). These segments may respond  
 positively to factual messages that acknowledge greenwashing and demonstrate how a  
 particular sustainable brand avoids it. This is likely to take some time, but nevertheless our  
 results provide a starting point to better understand these better educated, more alienated  
 consumers.

Significant mediating roles of social desirability and sustainable consumption were  
 uncovered on the relationship between consumer alienation and life satisfaction. This

indicated that both social approval and environmental concerns were intervening variables in a collectivist culture. Thus, consumer policy decisions focusing on the impact of sustainable consumption on life satisfaction should also include consumer policy efforts to support social approval as this was shown to mitigate the negative effect of consumer alienation.

It is of course possible that individual consumer choices are unable to have adequate impact on environmental destruction. Certainly, the assumed levels of consumer sovereignty and responsibility have been criticised as erroneous (Carrington et al., 2016). Often, the attitude-behaviour gap is attributed to survey and social desirability bias, both which are amplified in any ethics research (Carrington, Neville & Whitwell, 2014). It is possible, however, that markets are simply not sufficiently evolved to enable consumers to easily make sustainable choices (Carrington et al., 2016). Hence, it is here that consumer policy needs to step in, to ensure more rigid controls of sustainability in raw materials, production processes, product and packaging materials, and ethical supply chains, in order to ensure greater choice in terms of sustainable consumption choices for the final consumer. Certainly, wider availability of sustainable options is needed to begin to close the attitude-behaviour gap.

## Limitations

This study is not without its limitations. It relies on cross-sectional data which may change over time. The examined relationships are correlational and therefore causation requires further investigation. We also acknowledge that all scales used in our model rely on respondents' self-declaration and that applies in particular to behavioural statements included in the sustainable consumption scale. Hence while we argue that this scale has many benefits over scales that capture intentions, we acknowledge that it still relies on self-reported behaviour and is therefore subject to the inherent problems with surveys that attempt to delve

into the complexities of sustainable consumption behaviour (Carrington et al., 2014). We therefore suggest the need for more qualitative studies to investigate happiness and sustainable consumption. Moreover, while our representative sample comes from a collective culture, and therefore has advantages insofar so much sustainable consumer behaviour knowledge emerges from individualist cultures (Voyer et al., 2017), it nevertheless needs replication before judging its generalisability. We recommend future studies to replicate our model and test our hypotheses and research questions in different Asian countries of similar or higher collectivist cultures.

## Conclusions

In recent years, the focus of sustainability has shifted from the economic system to consumer behaviour (Carrington et al., 2016). Hence, organizations need to take a consumer-centric approach to sustainability (Sheth et al., 2011). We chose a relatively unique set of variables on which to build a theoretical model. In so doing, we responded to calls for research to take the multidimensional nature of sustainable consumer behaviour into account (Buerke et al., 2017; Wooliscroft et al., 2014) and to further examine its relationship to happiness (Carrero et al., 2020; Ganglmair-Wooliscroft & Wooliscroft, 2019). We also included the construct of consumer alienation, which the field has almost completely ignored, despite its noted theoretical potential for better understanding problems of consumerism made a long time ago (Lambert & Kniffin, 1975). Finally, as an alternative to adherence to social norms based on the Theory of Planned Behaviour (Ajzen, 1985) and included in many previous studies (Carrington et al., 2016) we utilized social desirability not as an indication of response bias, but as a central construct in our model. This relatively unique set of variables in turn revealed some relatively unique insights into the complex relationship between happiness, sustainable shopping behaviour, consumer alienation, and social desirability. We make several

contributions to the field by advancing knowledge pertaining to theoretical underpinnings of sustainable consumer behaviour, and unpick the complex network of relationships between them. Finally, we offer several practical suggestions for the ways in which marketing can act on these results in order to attempt to reduce the well-documented and highly problematic attitude-behaviour gap.

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Responses to the editor:

Thank you for accepting our revised manuscript.

*Please find below our answers to your suggested corrections.*

On p. 12, just before H5, you write "and are perhaps experiencing being in the out-group". I believe this is a misunderstanding of the theory. As I understand the theory, you tend to perceive any group that you belong to as your in-group. The out-group is always somebody else. But, of course, people can feel in opposition to the mainstream. I encourage you to rethink the formulation.

*To remove the misunderstanding that those in the in-group may also belong to the out-group, we have removed: "and are perhaps experiencing being in the out-group". The sentence now reads as follows:*

*"Hence, it is possible that those Japanese who demonstrate high levels of social desirability, and therefore are perhaps secure in the in-group, may be happier than those who seek greater independence from their traditional cultural definitions of acceptable behaviour."*

Regarding H5, you might emphasise more that the relationship is due to the cultural fit on SD with Japanese culture and cultural values.

*We thank you for your suggestion to improve our argumentation regarding H5. We have added the following sentence before H5:*

*"Given the cultural fit of social desirability in Japanese culture and cultural values, we suggest the following relationship: H5: Social desirability has a positive effect on happiness."*

First chapter shouldn't be called introduction - either no heading or a different one. Springer's automatic proofing system will most likely change the citation style of your paper to APA 7 including a comma between authors. This is a very recent change not yet accommodated fully in our journal's style guide, so I am writing you this as a heads up.

References

Titles: only capitalise first word and first word after colon.

*We have removed: "introduction".*

*We have updated the citation style according to APA 7 with "&" and commas.*

*In references, we have only capitalised first word and first word after colon. We have also removed two references that were no longer cited in the text of the final version of the manuscript.*

We thank you again in helping us to improve and finalize our manuscript.

Figure 1: Research Model and Hypotheses

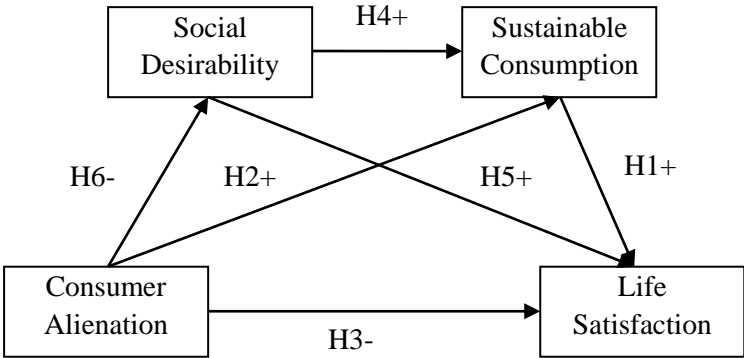


Table 1: Factor Analysis of all item measures with factor loadings

All items measured on 5-point scale (1: Strongly Disagree, 2: Disagree, 3: Uncertain, 4: Agree, 5: Strongly Agree).

<b>Sustainable Consumption</b> , Sudbury-Riley and Kohlbacher (2016)	Factor loadings
1. When there is a choice, I always choose the product that contributes to the least amount of environmental damage.	.58
2. I have switched products for environmental reasons.	.60
3. If I understand the potential damage to the environment that some products can cause, I do not purchase those products.	.64
4. I do not buy household products that harm the environment.	.69
5. Whenever possible, I buy products packaged in reusable or recyclable containers.	.60
6. I make every effort to buy paper products (toilet paper, tissues, etc) made from recycled paper.	.57
7. I will not buy a product if I know that the company that sells it is socially irresponsible.	.61
8. I do not buy products from companies that I know use sweatshop labour, child labour, or other poor working conditions.	.55
9. I have paid more for environmentally friendly products when there is a cheaper alternative.	.69
10. I have paid more for socially responsible products when there is a cheaper alternative.	.60
<b>Life Satisfaction</b> , Diener, Emmons, Larsen, & Griffin (1985)	Factor loadings
1. In most ways my life is close to my ideal.	.55
2. The conditions of my life are excellent.	.58
3. I am satisfied with my life.	.55
4. So far I have gotten the important things I want in life.	.46
5. If I could live my life over, I would change almost nothing.	.52
<b>Consumer Alienation</b> , Singh (1990)	Factor loadings
1. Most companies care nothing about the consumer.	.51
2. Shopping is usually an unpleasant experience.	.47
3. Consumers are unable to determine which products will be sold in stores.	.49
4. In general, companies are dishonest in their dealings with the consumer.	.63
5. Firms stand behind their products and guarantees. (Reverse coded)- Omitted	-.10
6. The consumer is usually the least important consideration to most companies.	.57
7. As soon as they make a sale, most businesses forget about the buyer.	.61

Table 1: Factor Analysis of all item measures with factor loadings (continued)

<b>Social Desirability, M-C1 (10), Strahan and Gerbasi (1972)</b>	<b>Factor loadings</b>
1. I'm always willing to admit when I make a mistake.	.35
2. I always try to practice what I preach.	.39
3. I never resent being asked to return a favour.	.60
4. I am never annoyed when people express ideas very different from my own.	.55
5. I never deliberately say something to hurt someone's feelings.	.40
6. I like to gossip at times. (Reverse coded)	.44
7. There are occasions when I take advantage of someone. (Reverse coded)	.46
8. I sometimes try to get even rather than forgive and forget. (Reverse coded)	.43
9. At times I insist on having things my own way. (Reverse coded)	.46
10. There are occasions when I feel like smashing. (Reverse coded)	.35

Table 2: Sample Profile (n=835) Per Cent

<b>Age</b>	Under 50	47.4
	50 or more	52.6
<b>Gender</b>	Male	48.5
	Female	51.5
<b>Education</b>	Junior high school	8.0
	High school	44.0
	Two year technology college	20.5
	University	26.0
	Graduate school	1.5
<b>Household income</b>	Less than 4 million yen	35.4
	4-8 million yen	44.6
	8 million yen or over	20.0

Table 3 Test of internal reliability and discriminant validity of the four constructs

Cronbach $\alpha$ and HTMT ratios	<b>SC</b>	<b>LS</b>	<b>CA</b>	<b>SD</b>
<b>SC</b>	<u>.87</u>			
<b>LS</b>	.19	<u>.87</u>		
<b>CA</b>	.19	.13	<u>.78</u>	
<b>SD</b>	.38	.24	.15	<u>.70</u>

**SC:** Sustainable Consumption; **LS:** Life Satisfaction; **CA:** Consumer Alienation; **SD:** Social Desirability

Cronbach  $\alpha$  underlined in the diagonal

HTMT ratios below the diagonal

Table 4: Results of path analysis for the serial model with control variables (Age, gender, education and income).

<b>Direct effects</b>	<b>PROCESS v3.5 All items for each scale (except # 5 for CA)</b>	<b>P value, Boot LLCI-ULCI</b>	<b>Hypothesis or Research question supported</b>
	N = 742		
H1: SC->LS	.17**	.0037; .0544, .2788	Yes
H2: CA ->SC	.15**	.0003; .0670, .2246	Yes
H3: CA ->LS	-.13*	.0107; -.2298, -.0303	Yes
H4: SD ->SC	.30**	.0000; .1955, .3971	Yes
H5: SD ->LS	.23**	.0006; .1005, .3684	Yes
H6: CA ->SD	-.10**	.0011; -.1581, -.0395	Yes
Total effect: CA->LS	-.13**	.0095; -.2349, -.0328	Yes
<b>Indirect effects</b>		<b>Boot SE, Boot LLCI-ULCI</b>	<b>Evidence for mediation</b>
RQ1: CA->SC->LS	.024*	.0103; .0072, .0474	Yes
RQ2: CA->SD->LS	-.023*	.0107; -.0469, -.0060	Yes
RQ3: CA->SD->SC->LS	-.005*	.0021; -.0097, -.0013	Yes (serial)
Total indirect effects	-.0038	.0161; -.0360, .0280	NS

SC: Sustainable Consumption; CA: Consumer Alienation; LS: Life Satisfaction; SD: Social Desirability

LLCI = lower limit confidence interval; ULCI = upper limit confidence interval

NS: Non-significant

Table 5: Moderated mediation of consumer alienation on sustainable consumption by education with control variables (Age, gender, education and income).

Test with model 7 of PROCESS v3.5 on path CA->SC				
Outcome: SC	B	SE(HC3)	t	p
Constant	.85NS	.44	1.94	.0531
CA	.51**	.13	4.02	.0001
Education	.50**	.13	3.75	.0002
CA x Education	-.15**	.04	-3.50	.0005
Age	.015**	.002	8.35	.0000
Gender (female)	.20**	.044	4.53	.0000
Income	-.0028NS	.015	-.1916	.8481
Observations	742			
R <sup>2</sup>	.14			
F-test F(HC3)	F(6,735) = 14.34**			
Index of moderated mediation				
RQ4	Index: -.025*	Boot SE 0.05: .0108	Boot LLCI -.0484	Boot ULCI -.0073
Tests of moderated regression on paths CA->SD				
Outcome: SD	B	SE(HC3)	t	p
CA x Education	-.0185NS	.0297	-.6227	.5336
Test with model 5 of PROCESS v3.5 on path CA->LS				
CA x Education	.0288NS	.0523	.5498	.5826

Notes: \* p<.05; \*\* p <.01; SE(HC3) = Heteroscedasticity-Consistent Standard Errors; LLCI = lower limit confidence interval; ULCI = upper limit confidence interval

NS: Non-significant



Figure 2: Conditional effect of the focal predictor (CA) at values of education level on Sustainable Consumption (SC)

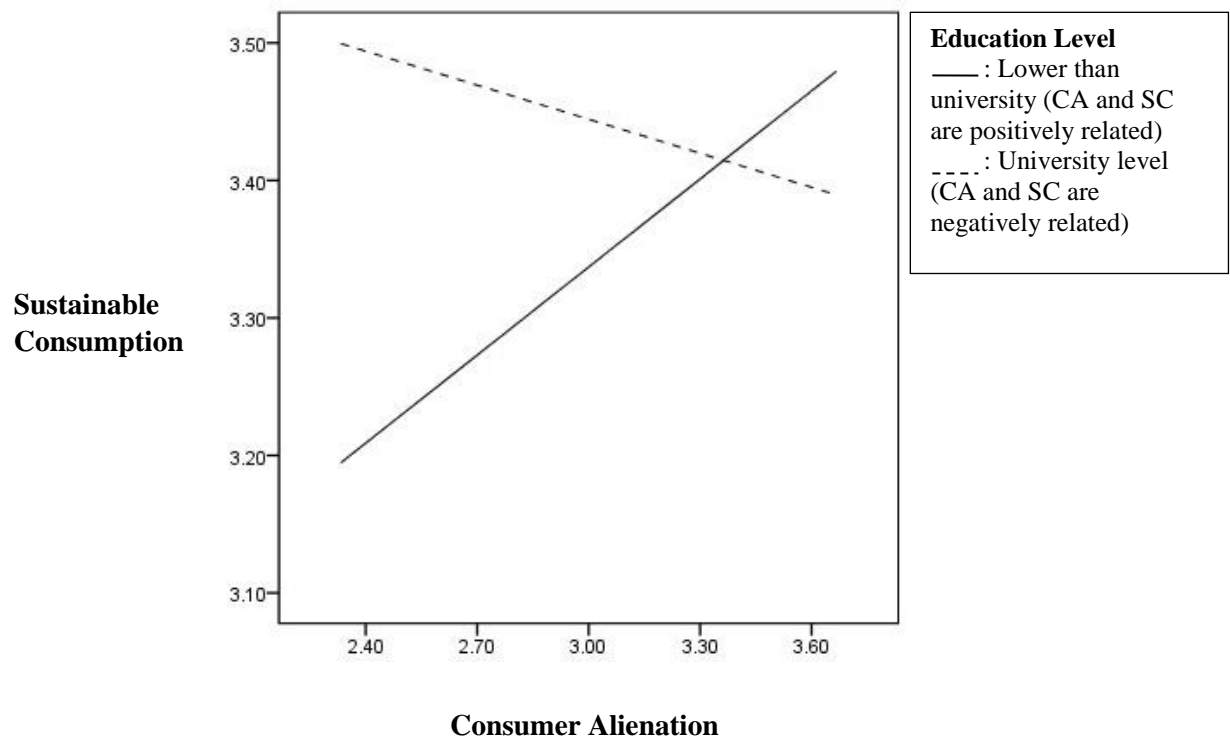
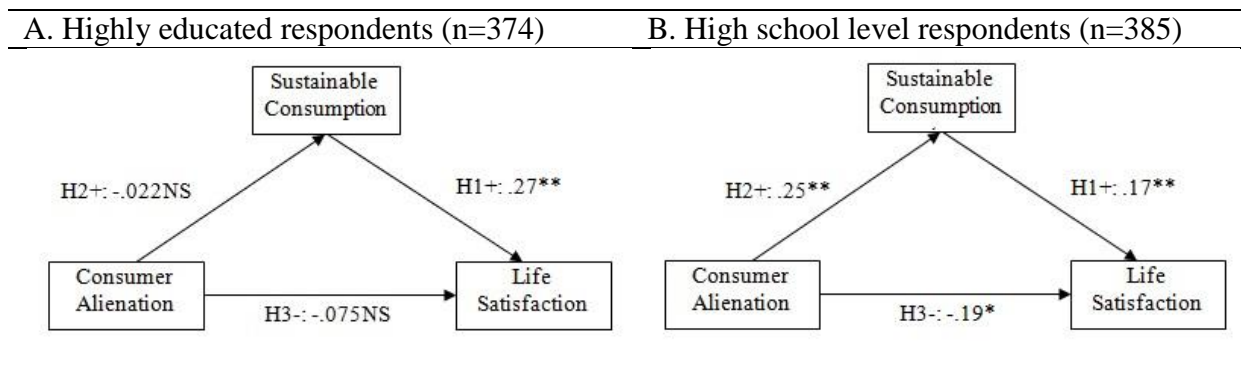


Figure 3: Simple mediation analysis for two different education levels



Notes: Coefficients from PROCESS v3.5 model 4 with control variables (Age, gender and income); NS: Not significant; \*\*  $p < .01$ ; \*  $p < .05$