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RESEARCH ARTICLE

Breaking down purchasing intentions: selecting policy instruments for sustainable consumption

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ABSTRACT

Despite the breadth of sustainability issues, research on sustainable consumption mostly concentrates on environmental-orientated consumption and values. Alongside environmentally oriented approaches, policies mixes encouraging sustainable consumption need to account for socially responsible purchasing behaviour, such as ensuring inclusivity, as well as for the cognitive biases and heuristics underpinning such practices. This study investigates consumer motivations in Hong Kong through analysing a territory-wide survey to inform knowledge regarding the social aspect of sustainable consumption behaviour. We find a correlation between sense of belonging and social consumption intent, and empathy and social consumption intent, which is not the case for sustainable consumption intent. There is no significant correlation between moral obligation and sustainable consumption intent or between sense of belonging and sustainable consumption intent. Finally, knowledge is positively correlated to social and sustainability consumption intention. This provides insights into how policy tool mixes can be more impactful in motivating sustainable purchasing practices while identifying gaps in the conceptualization and understandings of sustainability that need addressing.

1. Introduction

Developed economies house about 20% of the world's populations and are responsible for almost 80% of the life cycle impacts of consumption (Tukker et al., 2008). Rising incomes in developing Asia, particularly China, has seen an increase in consumer expenditure since 2007 and this is predicted to continue (Hodgson, 2013, Deloitte, 2017). Even with the setback brought about by the COVID-19 pandemic in 2020, a prolonged slowdown in the property sector and job insecurity, household consumption and manufacturing are expected to continue to be a major driver of economic growth (Ganbold, 2024). While such a trend brings economic benefits, it carries environmental and social repercussions such as increased waste and pollution along with the associated health issues associated with such practices. The case of Hong Kong SAR, in China, is taken as an

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example of a high consumption developed society when exploring factors that influence sustainable consumption.

Sustainable consumption has become a prominent research field, with scholars from different disciplines exploring factors that influence sustainable consumption (Y. Liu et al., 2017). Alongside this, governments are increasingly concerned with developing policies to encourage sustainable practices (Lehner et al., 2016). Subsequently, how policy packages can be designed and implemented to encourage sustainable consumption is of interest. Governments can utilise a range of policy tools, including both traditional measures, such as regulations, as well as behavioural ones, namely nudges.

Finding the optimum mix of policies remains a challenge as policy instruments often seek to influence behaviour through assumptions about consumers and markets based on neo-classical economics (Evans et al., 2017). The result is often policies aimed at 'internalising the cost of environmental damage', removing subsidies or applying taxes and addressing information deficits (Murphy & Cohen, 2001). While this approach has considerable popularity, it has not ensured widespread sustainable consumption due to its failure to account for the role of beliefs and value positions (Murphy & Cohen, 2001).

Despite the spectrum of sustainability issues spanning biosphere, social, ethical and economic themes, research in sustainable consumption tends to concentrate on environmental consumption and environmental values, overlooking these social dimensions. The social dimension of sustainability is evident in consumption actions that support inclusive employment, fair wages and community capacity building (World Bank, 2023). Even in pivotal studies on sustainable consumption, environmental behaviour, which focuses on the consumption of products/services with minimal environmental impact, remains the focus (e.g. Lehner et al., 2016; Y. Liu et al., 2017). Policies encouraging sustainable consumption need to account for both socially and environmentally responsible purchasing, which points to the need for further research on social consumption.

Where social variables in the study of sustainable (mostly environmental) consumption have been adopted, they are often studied in terms of 'subjective norm/social influence' on purchasing intention (e.g. Joshi & Rahman, 2015). Quoquab et al.'s (2019) multiple-item scale proposed for measuring sustainable consumption behaviour breaks behaviour down into 55 operational constructs under three categories. Only one category addresses social sustainability, which includes only seven out of the 55 constructs. A systematic review undertaken by Sesini et al. (2020) reveals four major research clusters in the study of sustainable consumption, of these, only the fashion and clothing cluster possess a more substantial proportion of studies that include the social dimension of sustainability. The other research clusters focus on the environmental or economic dimensions of sustainability (Sesini et al., 2020).

Subsequently, the focus on the rational and autonomous consumer as well as the environmental dimension of sustainability means that social influences as well as cognitive biases and heuristics are often overlooked. As consumption operates in the context of a free market economic system, the application of behavioural policy tools, such as nudges, tend to be preferred by consumers over a reliance on more traditional tools based on individuals being rational utility maximisers (Michalek et al., 2016). Understanding the behavioural assumptions that underpin sustainable purchasing

behaviour, with a focus on better understanding the impact of the social context and internal consumer dynamics, may provide insights into how the mix of policy tools can be better designed to motivate desirable consumption practices.

There is a research gap in the Asian context, meaning a comprehensive picture regarding sustainable consumption in different cultural-geographic locations is lacking (Chell et al., 2016; Ip et al., 2017; Liang et al., 2017). It was found that across major cities in Asia, Bangkok, Japan and Seoul, engaging in green purchasing behaviour was the least conducted behaviour of the environmental practices examined (Phuphisith et al., 2020). When looking into the issue, a study on sustainable consumption practices in Korea and Japan found that the failure to engage in sustainability-orientated practices is not due to an information deficit, as both countries appropriately recognise sustainable consumption. Rather, in Japan in particular, social norms that normalise sustainable consumption behaviour, were found to be a promising intervention in this area (Lim et al., 2019). In China, it was found that environmental attitudes, specifically perception of self-responsibility, greatly influenced green purchasing intentions (Liu et al., 2012). It is worth noting, these studies also took an environmental-based understanding of sustainability, targeting participants 'pro-environmental self-identity' or green purchasing behaviour/green products or defining sustainable consumption as consumers' environmental decision-making process, so overlooking the social elements of sustainability.

Hong Kong, as a developed and economically strong city, is also in a position to act to resolve sustainability solutions as technology and economic concerns should not act as a barrier (Wong & Wan, 2011). This study investigates consumer motivations and understandings in Hong Kong to inform knowledge regarding the social aspect of sustainable consumption behaviour. Focus is on the social dynamics behind sustainable consumption behaviour to develop insights for the design of policy mixes that can better affect positive behavioural shifts.

2. Policy design and behavioural assumptions

By designing policies, governments deliberately and conscientiously attempt to engineer a certain response to a policy problem (Olejniczak et al., 2020). Behavioural insights are able to inform policymaking by providing evidence about policy problems and the expected behavioural implications of policy tools (Ewert, 2020). As such, understanding the behavioural assumptions that policy instruments are based on is essential in influencing consumer consumption patterns (Howlett, 2018). By identifying the behavioural motivations that drive sustainable purchasing behaviour, the appropriate policy tools can be inferred and more impactful policy mixes employed.

2.1. Policy instruments and policy toolkits

Different policy instruments are based on different behavioural assumptions and so aim to bring about different types of behaviour change (Ewert, 2020). Policy packages that rely too heavily on one type of policy instrument may not induce the desired behaviour change, a mix of tools may be needed (Howlett et al., 2015). Additionally, many contemporary instruments are hybrids, reliant on a mix of mechanisms to achieve their objectives (Peters, 2018). Behavioural insights are

able to inform policymaking by providing evidence about policy problems and the expected behavioural implications of policy tools (Ewert, 2020). As such, understanding the behavioural assumptions that policy instruments are based on is essential in influencing consumption patterns. By identifying the intentions that precede sustainable purchasing behaviour, the appropriate policy tools can be inferred.

Initially, policy design literature focused on the distinction between coercive and non-coercive measures (Lowi) or mapped specific government measures (Olejniczak et al., 2020). Policies could be considered as 'hard', those that restrict choice, or 'soft', which work to guide individual behaviour in a certain direction (Michaleck et al., 2016). These initial typologies of policy tools (e.g. Hood, 1983; McDonnell & Elmore, 1987) assume that people think about and compare options before making a utility maximising decision in accordance with their individual (stable) preferences. The underlying cognitive operation is, therefore, ruled by rational thought processes. Schneider and Ingram (1990) are notable in linking policy tools with their underlying behavioural assumptions. In particular, their analysis includes symbolic and hortatory tools, which assume people are motivated from within and will act based on their beliefs and values. Unlike the other policy instruments in their typology (authority, incentive, capacity and learning tools), this category looks to make use of cognitive biases.

While these frameworks provide the foundation for understanding how policy instruments impact society, policy tools operating on the assumption of consumers exhibiting rational behaviour tend to focus on the effective use of resources (markets and information) without paying much attention to the behavioural characteristics of public policy (Leong & Howlett, 2020). Traditionally, the motivations of the human targets of policies have received little attention in the policy design literature (Howlett et al., 2020). This places the focus of policy making on the adjustment of policy tools instead of considering the nature of such tools and how they operate within the population, or if a suitable mix of tools are being implemented to match the nature of cooperation and compliance called for by the situation. Such a shift is required due to the failure of rational-agent models to predict behaviour (Leong & Howlett, 2020).

Following influential thinkers, including Simon (1955, 1957), Kahneman (2011) and Thaler and Sunstein (2009), human thinking is recognised to be strongly influenced by automatic and intuitive processes. Thinking is determined by heuristics, mental shortcuts and cognitive biases arising from restricted cognitive capacity and attention span (Beckenbach, 2015; Reisch & Hagen, 2011). The incorporation of behavioural insights in the form of nudges extends the spectrum of 'soft' policy instruments beyond interventions that address deliberate thinking into the sphere of intuitive and automatic decision-making. This extension constitutes an important step towards more effective regulation that targets changes in human behaviour. Table 1 illustrates how nudges complement the existing policy toolkit from a regulator's perspective, taking into account the psychological foundations of human behaviour (Michalek et al. 2016)

Such understandings support arguments for more systematic analysis of the motivations behind policy targets so that a better pairing of tools and targets can occur (Howlett et al., 2020; Leong & Howlett, 2020). Behavioural tools seek to influence

Table 1. Environmental policy toolkit and underlying behavioural assumptions.

Restrictive ←							→ Non-restrictive
Type	Regulatory		Economic		Informational		Behavioural
Intervention category	Eliminate choice	Restrict choice	Market-based	Incentive based	Affirmative	Negative	Change in choice architecture
Mode of operation	Mandatory regulation	Standards	Fiscal (dis)incentives	Non-fiscal (dis)incentives	Encouraging behaviour	Warnings, moral suasion	Nudges
Behavioural assumptions	Rational utility maximisers, reliant on type 2 systems						Uses type 1 systems
	Assumes responsive to organisational structures of leader-follower relationships		Influenced by manipulation of money, liberty etc. Cupidity of targets		Assumes barriers are from a lack of information. Assumes willingness to trust contents etc.		Bounded rationality, takes advantage of cognitive biases and heuristics
Examples	Emissions limits for coal-fired power station	Green emission stickers for city centres	Emissions trading schemes, taxes	Award certification for least wasteful companies	Ride your bike to work week	Public campaign on deforestation	Cognitive, affective or physical nudges
	Hard ←						→ Soft

(adapted from Evans et al., 2017: 21; Howlett et al., 2020; Schneider & Ingram, 1990)

purchasing behaviour by utilising understandings from psychology, sociology and cultural studies (Sonigo et al., 2012).

2.2. Behavioural policies: nudges

A prominent behavioural tool is a 'nudge', which are any aspect of a decision environment that 'alters people's behaviour in a predictable way without forbidding any options or changing their economic incentives' (Thaler & Sunstein, 2008, p. 8). This can be achieved through simplifying information, making changes to the physical environment, utilising social norms or having a default choice that facilitates a socially or environmentally desirable decision (Lehner et al., 2016). They are targeted at addressing behaviours that are not consistent with the model of rational economic behaviour (OECD, 2017).

Relevant here are studies that investigate how to incorporate nudges into public policy to complement traditional policy instruments (Lourcenco et al., 2016; Vlaev et al., 2016). 'Green' nudges aimed at encouraging pro-environmental behaviour are gaining attention (Schubert, 2017) and have been posited as a means to translate sustainable intentions into the corresponding behaviours (Papies, 2017). A recent review, however, found that only 37.84% of studies focused on the pro-environmental context and, of these studies, the majority (18.92%) focused on waste reduction and waste recycling (Wee et al., 2021). This indicates the need for further investigation into the impact of nudges in sustainable purchase behaviour, particularly into the social dimension and not just the pro-environmental context, of sustainability.

By better understanding consumer's values towards society and how these influence their purchasing intentions, policy mixes that possess a complementary behavioural rational can be employed. There is, therefore, a need for a more systematic analysis regarding the underlying rationale that motivates consumers as policy targets to make socially friendly consumption choices (Howlett, 2018; Howlett et al., 2020). This will enable policymakers to craft policy mixes more adept at incentivising sustainable consumer purchasing behaviour.

3. Breaking down sustainable consumption behaviour

Increasingly, there is recognition that supply-side policies need to be complemented by demand-side approaches in policy toolkits to encourage sustainable decision-making (Lehner et al., 2016). This has translated into behavioural insights being called on to inform the design, implementation and evaluation of policy instruments. These insights can aid policymakers' understanding of consumer behaviour and factors that may trigger desired behavioural outcomes. Rather than operating on the outdated assumption that consumers are rational decision makers (Tversky & Kahneman, 1974), behavioural insights allow policies to be designed that recognise and leverage more recent insights into human behaviour (Lehner et al., 2016).

Evaluating the effectiveness of policy tools, especially when involving nudges, can be challenging. Variations in methodologies and study designs can significantly impact results, making it difficult to induce the factors that contribute to impactful nudge policies with certainty (Michalek et al., 2016; Zhang et al., 2023). Inconsistencies found between (and at times within) studies of nudges in the environmental and social policy domains

lead to concerns regarding their overall effectiveness (Bryan et al., 2021; Chater & Loewenstein, 2022) and creates challenges for policy makers (Ferraro & Shukla, 2020; Zhang et al., 2023). Understandings are further muddied as experimental tests are unable to accurately predict the behaviour of individuals in real-world contexts (Alemanno & Spina, 2014; Michalek et al., 2016). Identifying the behavioural basis for socially orientated consumption behaviour can equip policy makers with a better understanding of how to design nudges that are more likely to motivate sustainable consumption behaviour.

3.1. Understanding nudges

The dual process theory is frequently drawn on by behavioural scientists and practitioners (e.g. Evans, 2008,; Lehner et al., 2016; Michalek et al., 2016) to provide insights into the psychological functioning of nudges (van Gestel et al., 2020). Accordingly, human cognition and decision-making consists of two interacting processes: an automatic, intuitive process (System 1) and a reflective, deliberate process (System 2) (Evans, 2008; Evans & Stanovich, 2013). System 1 operates quickly and involuntarily, while System 2 consciously evaluates alternatives with mental effort and attention (Kahneman, 2003). Both systems work together in decision-making, with System 1 informing System 2's calculations (Hansen & Jespersen, 2013; Michalek et al., 2016). System 2, however, is often slow or may not engage, leaving many decisions to System 1, which is predisposed to cognitive biases (Kahneman, 2012; Momsen & Stoerk, 2014).

Nudge theory primarily focuses on influencing automatic and involuntary behaviour and decision-making (System 1 cognition) but can also indirectly impact reflective and self-aware decision-making (System 2 cognition) through interaction between the two systems (Grüne-Yanoff & Hertwig, 2016; Hansen, 2016; Hansen & Jespersen, 2013). When overloaded, System 1 relies on heuristics, or mental shortcuts, to simplify tasks and find adequate, albeit imperfect, solutions (Kahneman, 2012). The values and beliefs that individual's hold, as well as the influence of social norms is seen as more influential in determining individual's behaviours in these circumstances (Lehner et al., 2016; Murphy & Cohen, 2001).

3.2. Socially orientated consumption behaviour to inform the design of policies

Individuals' values have been found to be influential in motivating decisions to (not) engage in sustainability behaviours (de Groot & Steg, 2008, Dietz et al., 2005). Better understanding of how their social values motivate sustainable consumption will provide further insights when designing behavioural policies and tool mixes. Research often holds a narrow conception of sustainable development. Emphasis tends to be on the environmental dimension of sustainability, with less focus on the social dimensions (Peattie & Collins, 2009). Research on the impact of environmental related factors of consumption behaviour includes work on how environmental involvement results in more sustainable behaviour (Grimmer & Miles, 2017), how valuing ecological attributes leads to ecological consumer behaviour (Fraj & Martinez, 2006) and the relationship between a persons' love of nature and consumption behaviour (Dong et al., 2020).

Drawing on the sustainable consumption literature, empathy, moral obligation and perceived social support are taken to comprise a person's social orientation for the

purposes of this study. The variable of knowledge, namely knowledge of socially oriented enterprises (SEs), is also included to examine the operation of rational and emotional factors when targeting an individual's intention to consume sustainably. Testing whether knowledge or emotional factors have a higher correlation to consumption decisions can inform if cognitive or affective-based nudges could be more effective.

An individual's relationship with their surroundings can influence their behaviour (Hockerts, 2017). Notably, a sense of belonging, or community, has been identified as a significant predictor of sustainable consumer behaviour or environmental action (Blake, 1999; Lee, 2014). In Hong Kong, a sense of community has been found to catalyse active participation in a group in regard to sustainable consumption behaviour (Lee, 2014).

Moral obligation represents an individual's belief about expected and acceptable behaviour and has been found to act as a determinant of behaviour (Forster & Grichnik, 2013; Hockerts, 2017; Rivis et al., 2009). Shaw and Shiu (2002) proposed that moral obligation serves as a causal antecedent to intention and attitude to ethical consumption. Similarly, Wells et al. (2011) found that consumers' sense of environmental responsibility impacted consumption behaviour. It has also been noted that marketing and policy efforts aimed at increasing consumers' sense of responsibility towards the environment is more productive than trying to create a positive attitude towards sustainability (Luchs et al., 2015).

Tied to sense of belonging and moral obligation, an individuals' experiential and emotional connection to nature is related to their purchasing decisions and recycling and reuse behaviour (Dong et al., 2020), indicating that the role of emotions, and so empathy, could impact consumption behaviour. More broadly when looking at environmental policy, Czap et al. (2017) find that empathy can temper self-interest, disputing the rational assumptions of conventional policy design. This supports Joshi and Rahman's (2015) findings that an individual's emotions have a positive and direct effect on green purchase intent and behaviour. Interestingly, empathy and sense of belonging may even be able to inspire collective action for the common good (Lejano, 2023).

The variable of knowledge has been widely studied in the sustainable consumption literature, contributing to the rationale behind employing informational-based policy tools and its correlation with sustainable consumption behaviour helps to explain the effectiveness of cognitive-based nudges. In sum, the majority of studies discovered that knowledge has a positive impact on the intention and behaviour of purchasing sustainable products, with some reporting that a lack of information has a negative impact (Joshi & Rahman, 2015) and presents a significant hurdle in practicing environmentally responsible behaviour (Kennedy et al., 2009).

Although it is the social orientation of the consumer that is largely of interest here, we utilise the respondent's knowledge of social enterprises (SE) to investigate if knowledge of socially responsible products influences their purchasing intentions. Knowledge regarding SEs is chosen as SEs tackle social concerns, particularly those focused on social welfare and equity, and so purchasing from such enterprises serves to support societal wellbeing (Tsai et al., 2020). This prevents the investigation being limited to a single type of product or label category, which can be influenced by consumer preferences.

To better understand motivations underpinning consumer behaviour, we develop several hypotheses. These consider the social motivations that may underpin certain consumption behaviour, which provides broader insights into how policy tool mixes

can be more appropriately designed and better suited to policy targets. Following studies relating to sustainable consumption (e.g. Rezai et al., 2012; Sparks & Shepherd, 1992), behaviour and intention are held to be highly correlated (Liu et al., 2017). Hence, this paper takes purchasing intent as a relatively accurate predictor to actual consumption behaviour.

To develop our overall understanding of sustainable consumption, we hypothesise the following:-

H1: Social orientation is positively related to social consumption intent.

This can be broken down to:

H1A: Empathy is positively related to social consumption intent

H1B: Moral obligation is positively related to social consumption intent

H1D: Sense of belonging is positively related to social consumption intent

We also hypothesise that:

H2: Knowledge about SEs is positively related to social consumption intent.

This paper also tests a third hypothesis for sustainable consumption intent:

H3: Social orientation is positively related to sustainable consumption intent.

Again, social orientation can be broken down into:

H3A: Empathy is positively related to sustainable consumption intent

H3B: Moral obligation is positively related to sustainable consumption intent

H3C: Sense of belonging is positively related to sustainable consumption intent

As well as

H4: Knowledge about SEs is positively related to sustainable consumption intent.

This will shed light on whether individuals who are more socially orientated are more likely to be sustainable consumers and so exhibit sustainable consumption intentions. Empathy, morality and an individual's sense of community have all been found to impact a person's consumption decision-making; therefore, these factors are held to comprise an individual's social orientation. This would materialise in the intent and purchase of products/services from SEs. By understanding the impact of a person's social orientation on their consumption intentions, policy tool mixes can be better formulated to target these components. This will also answer calls to further understandings regarding social

dynamics accompanying nudges (Zorell, 2020), the need to better understand policy targets (Howlett et al., 2020) and will provide policy makers and researchers with a more comprehensive understanding of the social and behavioural elements of sustainable consumption behaviour and policy approaches.

4. Materials and methods

Hong Kong, SAR, China, is considered to be a high consumption city, which imports most of its goods and resources. During the COVID-19 pandemic, this was compounded with increased consumption of PPE and packaging from online shopping and food deliveries. This has also resulted in a serious waste management challenge for the Hong Kong government. The government has implemented various policies to tackle these sustainability issues, for example as set out in Hong Kong's Climate Action Plan 2030+ and Waste Blueprint for Hong Kong 2035, which include actions to ban certain single-use plastics and the plan to charge for municipal solid waste disposal. These initiatives, have, however, faced challenges in dealing with Hong Kong's high density, high rise environment, struggling with implementation delays, monitoring and enforcement issues as well as a lack of sufficient infrastructure. Hong Kong's Consumer Council has also undertaken various educational and awareness raising campaigns to promote sustainable consumption across the Hong Kong population (Consumer Council of Hong Kong, 2021).

Equally, the SAR is facing pressing issues of poverty, inequality and an ageing society, making the city's social sustainability an equally pressing concern. In 2020, there were estimated to be between 2936 and 5740 SEs operating in Hong Kong. The majority of these are small in nature, with less than 10 employees, relatively young, being in operation for 4 years or less, and focused on creating impacts in health, smart cities and employment (British Council, 2020). Institutionally, Hong Kong lacks a specific legal registration for SEs, meaning that SEs must choose from a range of legal forms. The majority choose to register as private companies limited by shares or as a company limited by guarantee. Other popular forms include registering as non-profit organisations or as charities (British Council, 2020).

In terms of policy, The HKSAR Government is increasingly recognising the importance of SEs for social innovation in Hong Kong, often providing support in the forms of grants or funding. There are three main funds that the government offers support through, the Enhancing Employment of People with Disabilities through Small Enterprises Project, Enhancing Self-Reliance Through District Partnership Programme and the Social Innovation and Entrepreneurship Development Fund (SIE Fund) (British Council, 2020). The government promotes awareness of SEs through broadcast and print media as well as through online channels (Au, 2014). The SIE fund also has a 'public awareness promotion' arm, however, this is relatively passive as it requires those interested to actively seek out the information from the website. Thus, awareness of SEs is not considered to have reached the critical masses and there is no explicit policy tool to directly channel resources towards knowledge dissemination in this area. Overall, the approach taken to sustainability in Hong Kong is approached in a silo, with environmental and social problems being addressed separately.

By providing insights into the local population's consumption behaviours and understandings, policy tool mixes can be better formulated to account for the complexities

involved when dealing with these challenges and in understanding local perceptions towards socially responsible consumption practices. Social orientation and consumption behaviour in Hong Kong was investigated through a territory wide survey. This survey is part of a larger study soliciting community views on the sustainability vision/needs for Hong Kong and the awareness and knowledge of the community on social entrepreneurship in Hong Kong. The study was approved by the Human Research Ethics Committee of the research institution.

4.1. Social innovations for sustainable communities: territory wide survey

The survey targets individuals residing in Hong Kong (fluent in Cantonese, Putonghua or English), aged 15 or older. This included an over-sampling of respondents aged 15–24 and 60–69, with an effective sample size of 1100 respondents. Sampling occurred through obtaining a random sample list and a two-stage stratified sample design was adopted. The records in the frame of quarters were first stratified by geographical area and type of quarters. A letter was sent to the sampled households, inviting one household member aged 15 or above residing in Hong Kong to be interviewed.

A pilot study was conducted with a sample of 30 respondents in Hong Kong from 25th April to 3rd May 2019. The results were used to refine the questionnaire, survey design and related operational procedures. Participants were invited to complete a 15–20 minute questionnaire (in both English and Chinese), with questions about the sustainability needs for Hong Kong 2030–2050 and knowledge of social entrepreneurship in Hong Kong. The questionnaire also included questions on demographic background. Participants received a HKD50 supermarket coupon as a token of gratitude. The survey was conducted through computer assisted personal interviews (CAPI) from the 17th −28 June 2019. Of the 3,300 valid sample cases, 1,100 cases were successfully completed and the response rate was 60.3%.

Quality checkers were also deployed, 15% of the interviews (165 cases) were randomly selected from 1,100 successful cases to be checked. Out of these 165 cases, 114 (10.4%) were successfully checked as 22 of the cases could not be contacted and the remaining 29 refused to participate. For the questionnaires, quality control was met if the respondents confirmed they had been interviewed in the proper manner and at least three of the four questions in the Quality Back-check Questionnaire had been asked during the interview.

To measure the dependent variables of social consumption intention, the survey asked questions regarding the respondent's willingness to pay (Table 2). Specifically, how much more money they would be willing to pay for a meal if the restaurant turns into a SE. Respondents could state they were not willing to pay more, or choose whether they

Table 2. Breakdown of dependent variables.

Dependent variables	Survey questions
Sustainability consumption intention (Ss3)	A restaurant near you is selling a lunch box you enjoy for $50 each. The restaurant wants to switch to sustainable ingredients, but they cost more to produce. How much are you willing to pay for the same lunch box that you enjoy?
Social consumption intention (Sc3)	A restaurant near you is selling a lunch box you enjoy for $50 each. The restaurant wants to switch to a social enterprise hiring people with disabilities, but the operation cost will increase. How much are you willing to pay for the same lunch box that you enjoy?

Table 3. Breakdown of independent variables.

Independent variables	Survey question	Question breakdown
Sense of belonging (Sns)	How would you comment on the following statements about your sense of belongings towards your community?	S1: I can have what I need in this community. S4: I belong to this community. S5: I influence how the community functions. S7: I have the impression I am connected to the community.
Moral obligation (Mrl)	How would you comment on the following statements about yourself and the society?	M1: It is an ethical responsibility to help people less fortunate than ourselves. M2: We are morally obliged to help socially disadvantaged people. M3: Social justice requires that we help those who are less fortunate than ourselves. M4: It is one of the principles of our society that we should help socially disadvantaged people.
Empathy (Emp)	How would you comment on the following statements about yourself and the society?	E1: When thinking about socially disadvantaged people, I try to put myself in their shoes. E2: Seeing socially disadvantaged people triggers an emotional response in me. E3: I feel compassion for socially marginalized people.
Knowledge of social enterprises (k)	Have you heard of social enterprises before?	Yes/No
	How much do you know about social enterprises (SEs)?	SEs are commercial accomplishments ran by Non-Government Organisation (NGOs) SEs are charities SEs are enterprises that achieve social and/or environmental goals SEs make use of business models in response to community needs SEs are enterprises that operate on a self-sustainable basis while pursuing social/environmental objectives

would pay 10%, 20%, 30%, 40% or 50% more for the meal, indicating a higher social consumption intent.

Willingness to pay (WTP) was chosen as higher prices of environmentally friendly products have been found to be a significant barrier to their purchase (Buder et al., 2014; Gleim & Lawson, 2014). Using WTP is recognised to explicitly account for the price factor and so considered a more realistic proponent when predicting purchasing behaviour (De Pelsmacker et al., 2005). Findings show that consumers are willing to pay more for sustainable products, providing they perceive the environmental benefit associated with the product as an added benefit (Gam et al. 2010). As such, WTP has been found to be significant in decisions to buy more sustainable products (Moser, 2015). It should, therefore, act in a similar manner when investigating socially responsible product choice. As intention is a hypothetical construct, it is not directly observable (Meyerhoff, 2006); therefore, a respondent's WTP is taken as an indication of intention. It has been found that consumer attitudes clearly influence behaviour and that intention to perform a behaviour is the strongest predictor of stated behaviour (Meyerhoff, 2006; Shaw et al., 2000).

Independent variables were assessed by asking respondents to comment on how they felt about certain statements (Table 3). These questions were largely sourced from Hockerts (2017), due to the reliability associated with this study. A Likert scale was used, ranging from 1 being strongly disagree to 5 being strongly agree, to measure how

respondents felt. The input variables were assessed individually, aside from the knowledge variable, which is a sum of a several questions that followed a different response pattern.

The control variables, age (AGE), gender (Gnd) and education (Edu), were added into the model to account for their effects on consumption intention. Although studies on the impact of demographic factors on consumption have not revealed conclusive findings, they were included to account for their potential effects. Any impact on intention is more likely, therefore, to be caused by the independent variables being investigated.

5. Results

The survey achieved a response rate of 60.3% (1100 successfully completed cases out of 3300 valid sample cases). Of these, most respondents were female (54%), adults and in full-time employment. Most of the respondents also achieved an education level of upper secondary or higher (Table 4).

Generally, 85% of respondents have heard of SEs. Opinions differed as to their form, with 62% believing that SEs are run by NGOs and operate on a self-sustaining basis (56%), while 34% believe that SEs are charities. Respondents are mainly made aware of SEs through the media (57%) and only 34% utilise existing accreditation systems to identify a SE.

In terms of the impact of consumer's social orientation on sustainable consumption, our findings show that there is a significant correlation between sense of belonging and social consumption intent (H1c). This is, however, not the case for sustainable consumption intent. There is no significant correlation between moral obligation and sustainable consumption intent (H3b), and between sense of belonging and sustainable consumption intent (H3c). The results also show that there is no significant

Table 4. General sample characteristics.

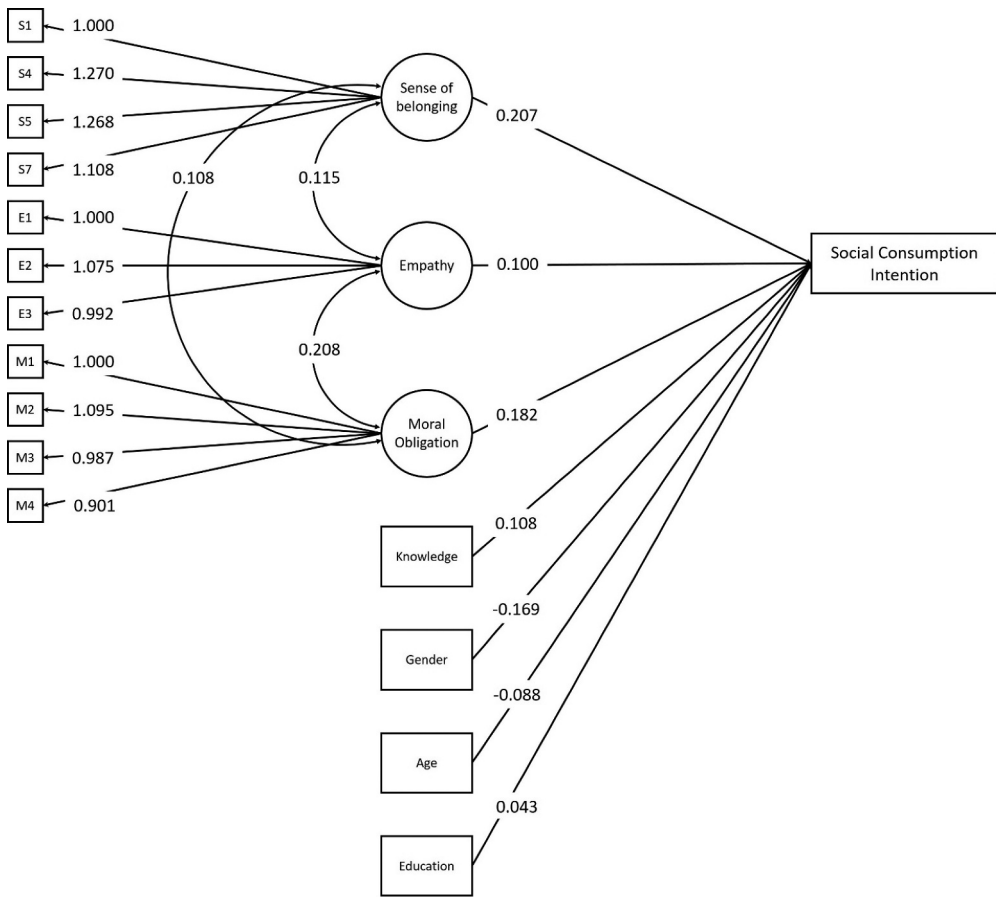| Characteristic	%
Gender	
Male	46
Female	54
Age	
15–29	24
30–49	32
50–64	27
65+	17
Employment status	
Full-time employment	47
Part-time employment	9
Unemployed	2
Student	11
Retired	19
Home-maker	12
Education level	
Primary and below	10.3
Lower secondary	14.7
Upper secondary	37.5
Non-degree post-secondary	8.5
Bachelor's degree	25.9
Master's degree	2.9
Doctorate degree	0.2

Figure 1. Path diagram of structural equation model to explain social consumption intention.[1]

correlation between empathy and the social consumption intent (H1a) or sustainable consumption intent (H3a). Finally, the results suggest that knowledge of SEs is positively correlated to increased social consumption intention (H2) and sustainable consumption intention (H4).

Structural equation modelling (SEM) tools, performed using *R* software for statistical data analysis, were utilised for data analysis and to test the relationships between the variables. SEM was chosen due to its ability to test complex relationships among multiple variables, both observed and latent, using a combination of regression and factor analysis. SEM is also better suited as it can test multiple hypothesis simultaneously, which can indicate the most important predictors of the outcome variable. Finally, as a Likert scale was utilised in the survey, making SEM more suited due to its ability to model latent variables, which can improve the accuracy of estimates and reduce bias in results.

The proposed equational model to explain social consumption intention was constructed using the three latent variables of sense of belonging, moral obligation and empathy and the variables of SE knowledge, gender, age and education level (Figure 1). A similar model was built to test sustainable consumption intention and these models were then compared (Figure 2). The Comparative Fit Index (CFI) and Root Mean Square error of
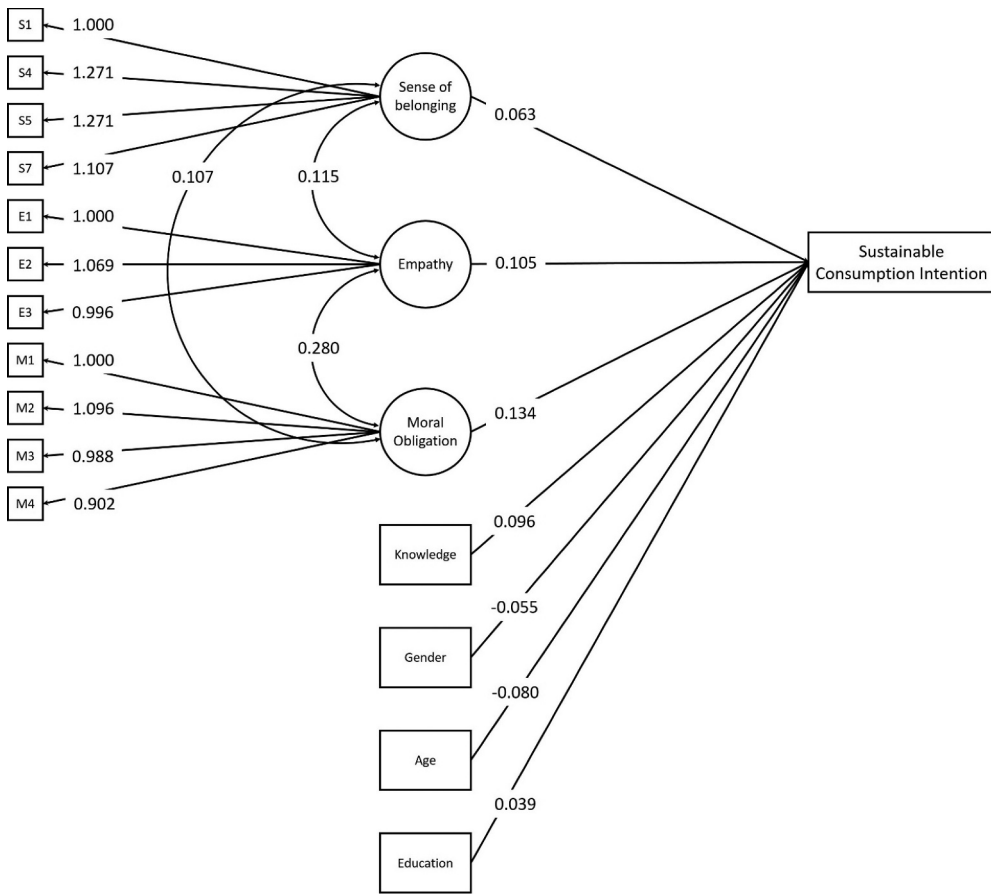
Figure 2. Path diagram of structural equation model to explain sustainable consumption intention.

Table 5. Model fit indices for the measurement model.

Social consumption intention model	Sustainable consumption intention model
CFI= 0.947	CFI=0.945
RMSEA = 0.053	RMSEA = 0.054

Table 6. Regression coefficient table showing relationship between social orientation, knowledge of social enterprises, demographic characteristics and social and sustainable consumption intention.

	Social orientation				Control variables		
	Empathy	Moral obligation	Sense of belonging	Knowledge of social enterprises	Gender (Female = 0)	Age	Education
Social consumption intention	0.100	0.182*	0.207**	0.108***	−0.169***	−0.088***	0.043
Sustainable consumption intention	0.105	0.134	0.063	0.096***	−0.055	−0.080***	0.039

*= significant $p < 0.05$.

approximation (RMSEA) all exceeded their acceptable levels (Table 5). As such, the measurement models are a good fit for testing both social and sustainable consumption intention relationships.

From the coefficients, the results show a positive impact (p < .05) on social consumption intention for the variables moral obligation (β = 0.182), sense of belonging (β = 0.207), SE knowledge (β = 0.108), while gender (β = −0.169) and age (β = −0.088) were found to have a negative impact age. For sustainable consumption intention, a positive impact (p < .05) was found for the variable of SE knowledge (β = 0.096), while age was found to have a negative impact (β = −0.080) (Table 6).

6. Discussion and conclusions

This study provides insights into which behavioural assumptions may be more effective in motivating sustainable purchasing practices, especially when implemented as part of a policy mix containing nudges and information/communication provision policy tools. By investigating the behavioural assumptions that underlie policy choices, this investigation supports calls for utilising behavioural insights alongside conventional policy tools as being able to maximise the effectiveness of public policy (Ewert, 2020), while identifying gaps in the conceptualisation and understandings of sustainability.

While previous research has studied the effect of information provision on behaviour, there is a lack of clarity on this relationship. Our finding that knowledge of SEs has a positive effect on both social and sustainable consumption intention compliments previous studies that find that green purchasing is a rational behaviour (Zhang & Dong 2020). Thus, affirming that policy tools based on the assumption that consumers can behave rationally, particularly information and communication policy tools, are likely to remain an important component in motivating sustainable consumption practices.

Other studies have, however, shown that the provision of more information does not necessarily result in behaviour change (e.g. Abrahamse et al., 2005; Lehner et al., 2016; Steg & Vlek, 2009) and that policies based solely on rational mechanisms often fail. This failure can be explained by incorporating behavioural understandings, which demonstrate that there are other factors at play in influencing consumer behaviour (Strassheim, 2021).

In particular, behavioural interventions that hinge on descriptive information provisions have been found on review to be largely ineffective at influencing sustainability consumption behaviour. Studies have found that these types of nudges need to be combined with financial measures or a behavioural intervention, such as a default, to be impactful. Studies also have pointed to the utility of including information-based behavioural interventions alongside harder regulations, such as taxes, as they have the potential to increase consumer's acceptance of the more stringent policy measure (Osman et al., 2021).

There are several potential reasons for social factors being a better predictor of social consumption intentions and not for sustainable ones. Namely, the outcome of social consumption can often be perceived as more tangible, involving benefits to the purchaser's community. Consumers can often better understand the implications of supporting SEs (in this case, the employment of people with disabilities). In contrast, it can be difficult to communicate the local and proximal impact of sustainability actions to consumers

(here, the use of sustainable ingredients), such changes often involve uncertainty and longer time frames (Schill & Shaw, 2016; White et al., 2019). Concepts such as 'sustainable' are also more abstract, making it difficult for consumers to ascertain the expected benefits.

6.1. Policy implications

Unlike with communication and information provision tools, understandings on the operation and effect of behavioural policy tools are still evolving. Contributing to this research, this study indicates that higher social orientation equates to increased social consumption intention. As such, an individual's social orientation, based on factors of moral obligation and sense of belonging, is a better predictor of their social consumption intentions than it is at predicting an individual's sustainable consumption intentions. Consequently, our hypothesis is partially valid for social consumption intention. This suggests that policy tools that aim to enhance citizens' moral obligation and sense of belonging to their community should be further explored as they are likely to encourage more sustainable consumption practices. It also suggests that nudges that appeal to people's morality and emotions can be designed to tap into consumers' moral obligation and sense of belonging to trigger an increased intention to select sustainable products.

When designing policies to transform sustainable consumption into the mainstream, regardless of which policy tool is employed, the nuanced and complex nature of the sustainability concept should be incorporated. By uncovering that different combination of social and cognitive factors are influential to sustainable consumption in general, and specifically to social consumption, this study demonstrates why blanket measures aimed at increasing sustainable purchasing behaviour may fall short. The difference in findings between social and sustainable consumption intentions of policy targets provides nuanced understanding into the correlation between specific personal attributes and social consumption intentions, and whether such variables can also be assumed to be applicable to sustainable consumption. As the correlation between the tested social variables and social consumption intent was not extended to sustainable consumption intent, this calls for the need to develop future research based on the psychological basis of sustainable consumption, particularly, research into its constituent components.

Our results clearly show the importance of people feeling that they belong to a community as a predictor for their consumption intent towards social causes. Policies targeted at building social capital and growing communities could be expected to contribute to an increase in community member's willingness to contribute to that community. Targeting consumers' moral obligation could also be an effective way for policy makers to increase support for SEs, and this could influence how information is presented and disseminated.

When designing policies to support social entrepreneurship, there are a few additional considerations policymakers should take into account. Some SEs may not want to be officially recognised as such, they may be seeking to present a more corporate or trendy image or as some consumers have an outdating image or misunderstandings about the quality of SE products or services (Au, 2014). Additionally, the most desirable outcome is to reduce consumption practices that produce waste, policies must be mindful about encouraging over-consumption practices and in balancing social impact with the

avoidance of environmental harm (Nejad et al. 2024). Enhanced monitoring of consumption and waste practices using holistic metrics that more effectively account for both the social and environmental impacts could provide vital information for the government in achieving sustainability goals and in moving towards a circular economy.

6.2. Policy implications for the Hong Kong context

These findings can inform the design of policies to be incorporated into policy tool mixes. For example, in the Hong Kong context, sustainable consumption policies tend to be limited to the environmental realm and are mostly concerned with energy efficiency labelling and consumer-pay schemes on plastic bags (Hong Kong Consumer Council, 2021). Consumers are encouraged to purchase in a more socially orientated manner through the SEE mark, a non-governmental recognition of a business being a SE introduced in 2014, or through the recently announced government SE tree mark (SE, 2020). Our survey found, however, that the SEE accreditation is not widely recognised.

The two policy streams could also be aligned so that complementary policy tools can be designed and socially beneficial practices and services beyond SEs are better supported. This could include devising an overall sustainability rating, promotion through joint platforms or community events or incorporating community or morality framing into environmental policies (e.g. into material relating to the single-use plastic ban and to encourage recycling behaviour through the GREEN$ scheme). Policies to incorporate understandings of SEs and social innovation as part of the curriculum in schools could also help increase knowledge and support of SEs and better align different sustainability goals (Chui et al., 2023).

The government SE tree mark was developed by the Home Affairs Department and introduced in 2020, it is aimed to enhance public awareness of SEs and encourage them to purchase SE's products and services. Through this tree mark, the government has recently undertaken a more extensive public awareness campaign to promote SEs through broadcast, social media and a dedicated website. This is necessary as we found that only 34% of consumers in our survey used accreditation systems to distinguish SEs. While part of this promotional activity includes a short series on SEs and their role within the community, there needs to be more explicit recognition of how SEs can be supported or engaged with by the lay community, especially as the tree mark features very briefly at the start of each episode.

The other promotional media, with a greater focus on promoting the tree mark, is only available in Cantonese, and takes a more tourist-style approach. Introducing a particular district through the notable landmarks and SEs to visit. While these do take a more community approach, they do not build a connection between people and place and are limited in the knowledge they impart regarding SEs' activities and importance. Aligned with our findings, efforts could be improved by mainstreaming pro-social behaviour, integrating social behaviour into the communities by normalising social entrepreneurial initiatives and SEs. This could be done through the government awarding tenders to SEs where appropriate or themselves practicing more inclusive employment policies. This could potentially greater incorporate SEs and social values into societies, inspiring enhanced social cohesion and corresponding purchasing behaviour.

Aside from the issues brought up from our survey in respect to perception, there is also the institutional issue regarding the legal status of SEs in Hong Kong. Those that register as charities, companies limited by guarantee or non-profit have an easier time accessing government and other sources of funding and capital. On the flipside, these SEs also reported being stigmatised as 'charities' and believed to lack business acumen, hindering their access to investment capital (British Council, 2020). By following the example of countries such as the United Kingdom and South Korea, and granting SEs specific legal status, resources could be better tailored and mobilised in their support. This could also help clarify understandings of SEs with the public, as our survey found that there was some confusion over what an SE is in the community as respondents were largely unaware of the range of forms SEs could register.

6.3. Limitations and future research directions

Empathy is the only factor found to not influence the intention to purchase socially responsible goods. Empathy may be a better indicator for behaviour towards the environment rather than towards individuals (Brown et al., 2019), and self-orientated motivations, as opposed to moral emotions (including empathy) may play a bigger role in consumers' happiness when purchasing products (Hwang et al., 2016). This suggests the need for further research into the effect empathy has on consumption intentions.

While this study investigates consumers purchase intentions, several limitations are present as it was not able to investigate whether these intentions were successfully translated into actual behaviour. There is an issue of self-reporting bias (Moore & Rutherfurd, 2020) when surveying actual behaviour, especially when investigating behaviour that is considered to be socially desirable. Utilising intention helps to address this limitation as it was considered to be a more reliable indicator in this context as issues such as memory inaccuracy and access to products were avoided and participants could instead refer to an easily understandable scenario.

As this study has shed light on consumer intent with social and sustainable products, extending this investigation to consumers' purchase behaviour is likely to be an interesting avenue for further research. Incorporating questions regarding the respondents' involvement in the community could have also aided the reliability of responses. Measuring WTP was also confined within the survey, the use of alternative methods, such as simulations or market data, may have enhanced the findings. Nonetheless, direct surveys are a well recognised method for measuring WTP and, given the scope and reach of the survey, a direct survey of WTP was the most cost and time effective approach (Breidert et al., 2006).

We also recognise that while the survey was constructed by drawing on recognised and reliable studies, namely Hockerts (2017), there are differences in wording between the questions that may have influenced participants' responses. For example, 'less fortunate' may be perceived differently to 'socially disadvantaged'. No feedback was received on this from the pilot survey and so we remain aligned with the literature in this area, but this may warrant further investigation in the future.

Care must also be taken as, sustainable consumption only displayed a significant correlation to knowledge, none of the other factors were found to be significant in inspiring sustainable consumption behaviour. Further investigation is needed to

ensure that designing policy mixes based on our recommendations does not result in negative unintended consequences for the environment. While we have focused on the different facets of sustainability in our identification of the role of social factors, we are not proposing that policies should trade-off between social and environmental impacts. Rather, the government should take a more integrated and holistic under-standing or sustainability that incorporates social considerations alongside environ-mental ones, avoiding pitting social (in this case largely economic) needs against environmental ones.

This study extends the research agenda of sustainable consumption, specifically into understanding social drivers and values in relation to social consumption. Overall, the importance of understanding policy targets and their motivations when designing beha-vioural policy interventions is affirmed. Enhanced understandings of factors such as personal social attributes in relation to desired sustainable behaviour intent enables better design of behavioural policy tools, such as nudges, to maximise their effectiveness. It also means that further research on policy toolkits can build on those exploring the interactions between policy tools from different categories (mandatory, economic), and expand on the interactions between different behavioural tools, such as the complemen-tarity between those targeting behaviour at the point of consumption (nudges) and those that target the precursors, e.g. sense of belonging.

Note

1. The sign of each value indicates the positive or negative correlation between each indepen-dent variable and the dependent variable. This value represents the extent to which the mean of the dependent variable changes with a one-unit shift in the independent variable, while keeping other variables in the model constant. This property of holding other variables constant is essential, as it enables the assessment of each variable's effect in isolation from the others.

   For example, in Figures 1 and 2, age showed negative correlation with social consumption intention with coefficient of 0.088 and 0.080 which means if the age increases by 1, the average social consumption intention decrease by 0.088 and average sustainable consump-tion intention decrease by 0.080.

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No potential conflict of interest was reported by the author(s).

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