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Sustainable Consumer Behaviors: The Effects of Identity, Environment Value and Marketing Promotion

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Abstract: As the extreme climate crisis increases, sustainable development is at the forefront of the public mind. However, as one of the major catalysts of sustainable development, sustainable consumer behavior (SCB) is still not being adopted by mainstream consumers. Therefore, this study attempted to find a new way to encourage sustainable consumer behaviors. Based on identity theory, environment value research, and marketing practice, three important factors relevant to SCB are yet to be combined into one model: specifically, moral identity, altruistic values and promotion. Therefore, this study aimed to clarify the relationship between SCB, moral identity and altruistic values and study whether promotion influences the link between SCB and altruistic values. A survey that adopted the previously validated scale was distributed on social media to collect the data. The findings show that: (1) moral self- and group-identity encourage SCB; (2) altruistic values predicts moral self- and group- identity; (3) the relationship between altruistic values and SCB is fully mediated by moral self- and group-identity; (4) promotion does not affect the relationship between altruistic values and SCB. Finally, this study contributes by giving policy makers tools that show how to use identities and values to encourage SCB.

Keywords: sustainable consumer behaviors; moral identity; altruistic values; promotion

1. Introduction

As the extreme climate crisis increases, ‘sustainability development’ is at the forefront of the public mind [1,2]. In 2015, the United Nations set Sustainable Development Goals to call all countries to grow their economies while addressing social and environmental needs [3]. After that, countries enacted different policies to face all facets of sustainable development issues. For example, at the 26th United Nations Climate Change Conference, 20 countries agreed to move away from using fossil fuels [4]. One of the major catalysts of sustainable development is encouraging sustainable consumer behaviors (SCBs) [5,6].

SCB is a combination concept of consumption and sustainability [7]. That is, SCB is defined as consuming in ways that aim to preserve the planet, protect it and promote its well-being [8]. Although SCB is vital, research suggests that mainstream consumers still do not behave sustainably [9,10]. Therefore, understanding the factors influencing SCB and how to persuade people to increase SCB is of growing academic interest. This study will contribute to the extant literature in the following ways.

In this study, firstly, moral identity is considered relevant to SCB [11]. Moral identity signifies the importance of helping, which is important in SCB because adopting SCB means helping others; in this case, the planet and human beings [10]. However, this identity is less well studied as research tends to focus heavily on environmental identities [6]. Specifically, the relevant type of environmental identity is individually-focused; the extent to which a person sees themselves personally representing their self-concept [12,13]. Environmental group-focused identities are also widely embraced, representing how people see themselves in relation to other people, which is a group-concept [14]. What this means is that moral self-
and group-identities may be both important, but this moral (socioeconomic) dimension of SCB was less studied in the past [6,11,14,15]. Therefore, this study will assess moral self- and group-identities to check the extent of their relevance in explaining SCB.

Secondly, altruistic values play a crucial role in explaining SCB [16,17]. The European Social Survey in 2016 suggested that altruistic values are as important as other values in European countries [18]. However, prior literature tends to focus on environmentally relevant values rather than morally relevant values, like altruism [6]. This means that altruism may be also important as it would most likely predict like-minded moral identities. Thus, this study will provide more insights into how altruism predicts moral identities.

Thirdly, promotion could be a tool to narrow the value–action gap. Evidence suggests that the value–behavior inconsistency could be reduced by priming [19] and promotion may be the tool. For example, Bhattacharjee et al. (2014) indicate that people's perceptions of companies that care about the environment play a role in decision-making [20]. However, what research has not done is to encourage altruistic values using promotion. Therefore, this study will see whether promotion increases SCB.

Taking the above together, our study aims to fill these gaps by proposing a new model (see Figure 1/Table 1). In the following section, how this model develops with the corresponding hypotheses is firstly discussed. Then, the methodology is presented, followed by the analysis and results. Finally, the practical implications and caveats of the study will be given. It is hoped that this study will contribute to a deeper understanding of SCB and persuade people to increase their SCB.

![Figure 1. Model of study.](image)

<table>
<thead>
<tr>
<th>Hypotheses (H)</th>
<th>Evidence</th>
<th>Positive or Negative Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a: Altruistic values predict moral self-identities</td>
<td>✔</td>
<td>Positive</td>
</tr>
<tr>
<td>H2b: Altruistic values predict moral group-identities</td>
<td>X</td>
<td>Positive</td>
</tr>
<tr>
<td>H2a: Moral self-identity predicts SCB</td>
<td>X</td>
<td>Positive</td>
</tr>
<tr>
<td>H2b: Moral group-identity predicts SCB</td>
<td>X</td>
<td>Positive</td>
</tr>
<tr>
<td>H3a: Altruistic values predict SCB</td>
<td>✔</td>
<td>Positive</td>
</tr>
<tr>
<td>H3b: Moral self- and group-identity mediate the relationship between altruistic values and SCB</td>
<td>X</td>
<td>NA</td>
</tr>
<tr>
<td>H4: Promotion has a moderation effect on the relationship between altruistic values and SCB</td>
<td>X</td>
<td>Unknown</td>
</tr>
</tbody>
</table>

Evidence column lists whether previous literature indicate the relationship between variables. ✔ means evidence exists. X means there is no evidence.

2. Literature Review

2.1. Sustainable Consumer Behaviors

Sustainable consumer behavior is a complex and elusive notion and include various dimensions [21]. In past research, there is a lack of consensus on its definition [5,22]. On the one hand, much literature follows the notion of the Oslo Symposium (Norwegian Ministry
of Environment 1994) and limits SCB within the environmental dimension [5,22,23]. This means an emphasis on increasing life quality while reducing natural resource use. On the other hand, some research criticizes the Oslo definition since it stemmed from the political sphere and did not require a change in society [24]. Therefore, these scholars conceptualize SCB as an integrative perspective encompassing two dimensions, socioeconomic and ecological [22], based on Brundtland (World Commission on Environment and Development 1987). This definition concerns the resource deprivations that both endanger the environment and human well-being [25]. As both well-beings are important for sustainability development, our ultimate understanding of SCB includes both the socioeconomic and ecological.

2.2. Literature That Explains SCB

Historically, the research investigates SCB motivations from two different perspectives [26,27]. In general, most previous research could be roughly categorized into psychology-based and social-context-based approaches [23,28], or similarly the external and internal approaches [27]. The psychology-based approach focuses on identifying individuals’ intrinsic SCB motivations. Some believe that intrinsic-driven SCB is longer lasting than the SCB driven by external factors [28]. Meanwhile, social-context-based SCB values the importance of the structural circumstances in society. Many different social-context-based factors are studied [29], such as the policy [30] and social environment [27]. On a whole, SCB psychological factors are crucial because the cumulative impact of individual behaviors could lead to large global change [2,5]. Meanwhile, the social-context factors cannot be ignored since individual behavior cannot “evade the structural circumstances that surround it” [28]. Therefore, our study will measure both of them.

In recent decades, most SCB motivations research has been based on three dominant theories [31]. First, there is the theory of planned behavior (examining the relationship between three key components, namely, attitude, subjective norms, and perceived behavioral control, that together shape an individual’s behavioral intentions and behavior.) [32]. Second is norm-activation theory (including three variables, awareness of consequences, ascription of responsibility and personal norms, that explain behavior) [33], and third, value–belief–norm theory (this postulates that values influence pro-environmental behavior via pro-environmental beliefs and personal norms) [34]. It is worth noting that these theories focus on the intentional SCB rather than the unconscious habitual behaviors [35]. Nevertheless, research shows that the key construct of these three theories only occupied 36% of the variance of SCB [31], which implies other variances are ignored. Therefore, this study would like to explore other variances that could explain SCB. One possible missing factor is identity [11]. The following part will explain what identity is and why this study focuses on moral identity.

2.3. Identities

Evidence suggests that identities influence individuals’ behaviors [36,37] and have two levels of understanding [38]. Identities generally refer to how individuals see themselves [39,40] and are seen as a strong prediction of behaviors [37]. Specifically, there are two prominent theories, identity theory [38] and social identity theory [41]. The two theories have both differences and similarities. In common, they both acknowledge that the self is an object and can be categorized in a particular way [42]. The difference is that consumers categorize themselves as an occupant of a role in identity theory, while consumers see themselves as belonging to a social group in social identity theory. Based on these two theories, it is clear that there are two categories of identity, self-identity and group-identity. This study will consider both to understand SCB.

One important identity related to green and ethical consumption (SCB) is moral identity [43,44]. Moral identity is operationalized by Hart et al. (1998) as “a commitment to one’s sense of self to lines of action that protect others’ welfare” [45]. The relationship between moral identity and consumer engagement in SCB was examined by Salciuviene et al. [46].
However, few studies have linked moral identity and SCB directly. Moreover, even though moral identity and SCB may be related, they are not necessarily the same. For example, you may behave morally, but may not adopt SCB, because you do not link environment or social problems to individual actions. Our study will fill the void and examine the link between them.

Furthermore, when understanding moral identity at self- and group-level, past literature suggests that it is also a two-dimensional construct. It contains internalization and symbolization [46,47], which reflect two types of identity, respectively. Symbolization refers to the degree to which individuals express morality publicly (hereafter ‘moral group-identity’) while internalization is the degree of how central morality is in one’s self-concept (hereafter ‘moral self-identity’) [46]. For a comprehensive understanding of SCB, the study will look at both of them. According to Wang et al. (2021), identities are predicted by values [48]; therefore, the next section will explain why values are included in our model and which specific ones are relevant to moral identities.

2.4. Values

Values play an important role in SCB. Schwartz (1992) conceptualizes values as “desirable goals, varying in importance, that serve as guiding principles in people’s lives” [33]. Different people who endorse the same values may prioritize them in various order, resulting in different behaviors [16]. In SCB, studies show that four values (biospheric, altruistic, egoistic and hedonic) are particularly related to SCB [35,49]. Those with these four values are more likely to act sustainably. However, much past literature exclusively studied environmentally relevant values (i.e., biospheric value) while studying socially relevant values, such as altruistic values, less [6]. This may generate an academic void. According to the European Social Survey in 2016 [18] and Bouman and Steg (2019) [50], not only biospheric values, but also altruistic values are highly endorsed by European countries and Israel. Therefore, our study will focus on the influence of altruistic values on SCB.

Altruistic values are one’s preference to maximize the outcomes of others [16]. For example, someone who prioritizes altruism is unwilling to purchase goods from companies that support child labor. From this example, we can see that there are communalists and differences between altruistic values and moral identities. In common, they both predict SCB and demonstrate concerns about others but they are conceptually different. Altruistic values are an abstract principle that you strive for life and moral identities are how you see yourself [13]. Therefore, our study believes it is important to test the two concepts separately in one model.

2.5. Relationship between Altruistic Values and Moral Identities

In SCB, past research was controversial regarding the link between values and identities. On the one hand, Kim (2016) [51], Ruepert et al. (2016) [52], Van der Werff et al. (2013) [13] and Wang et al. (2021) [48] suggest that identities are partly derived from values and values influence identities, which in turn influence SCB. On the other hand, others argue that values are regarded as an integral part of identities. For instance, Gatersleben et al. (2014) suggest that identities are broader concepts that incorporate values [35]. Taken together, these findings demonstrate that altruistic values and moral identities are related. Therefore, this study will explore their relationship. Finally, because consumers face promotional messages almost every day [53], this study will explore how promotion influences our model.

2.6. Promotion

Promotion may encourage value-congruent behaviors [54]. Research shows that although values are relatively stable, people may not think about their values in daily decision-making [19]. This means that only when values are cognitively activated could they guide behaviors [19]. Therefore, to fill the value–behavior gap, some research explores how to energize individuals’ values. For example, Verplanken and Holland (2002) proved
that self-focus enhancement could stimulate value-congruent behaviors [19]. However, this study argues that self-focus enhancement is not practical in daily life and a more effective method is needed. Promotion could be the answer since it can trigger certain value systems [54] and influence people’s purchasing decisions [55]. For the effect of promotion, however, past research presents controversial views. Liao et al. (2020) [56] argue that participants who have a higher exposure to advertising are more likely to purchase sustainably, while Ali et al. (2020) [57] find that extrinsic motivations would reduce the intrinsic motivations of SCB. Therefore, this study will test the moderation effect of promotion on the relationship between altruistic values and SCB.

2.7. Present Study

The present study draws on different literature to identify whether SCB could be encouraged in a new way. Based on the above, four hypotheses are put forward (see Figure 1/Table 1). Firstly, this study accepts that values predict identities based on the past literature and altruistic values are most likely to be relevant to moral identities. Therefore, this study expects that altruistic values predict moral identities at an individual and group level (H1a and H1b). Next, this study hypothesizes that moral self- and group-identity will predict SCB based on the identity theory and social identity theory (H2a and H2b). Meanwhile, this study aims to test the idea that altruistic value predicts SCB (H3b). Furthermore, this study assumes that moral self- and group-identity mediate the relationship between altruistic values and SCB (H3b). Finally, in the real world, consumers are influenced by marketing messages every day. Therefore, the study will test whether marketing could affect something. This study hypothesize that promotion has a moderation effect on the relationship between altruistic values and SCB (H4).

3. Methods

The positivism research paradigm and quantitative approach are employed. Evidence suggests that when answering questions based on existing theories and numerically conducting research, this type of paradigm is most fitting [58]. This approach is most efficient for validating the hypotheses.

All analyses were processed by IBM SPSS Statistics 27.0.1. This study computed the composite score for each variable (i.e., SCB, moral self- and group-identity, altruistic values) by calculating the mean of respective items.

3.1. Participants

The participants were approached on Facebook for European residents and on WeChat for Chinese because they are popular and widely used [59,60]. The research link was shared in the group or forum in English or Chinese, and thus this study used self-selection and convenience sampling. This non-probability sampling relied on subjective judgment sampling, which is practical for exploratory research, like ours [58]. Since this study explores theoretically assumed relationships rather than aim for generalizability, non-probability sampling was appropriate.

This study had 106 participants complete, 44 in the control group and 62 in the prime condition. The size of the sample does not matter for non-probability sampling [58] as long as 30 participants are guaranteed in each experimental condition, considered sufficient for this type of research [61].

Demographically, 97% of participants were Chinese, 69% were female, and 95% were aged from 15 to 35 years old (M = 26.07, SD = 5.738). This result matched the Chinese social network system users’ age distribution [62] and the gender statistics in papers that studied the WeChat platform [63].

3.2. Procedure

A questionnaire on Qualtrics was adopted to collect the primary data. Firstly, all participants were informed of the study’s aim and asked to give consent. Once having
consented, people answered demographic questions. Next, participants were randomly divided into two groups (control/altruistic experimental group). The experimental group was exposed to an advertisement priming the altruistic values while the control group was not. Then, altruistic values, moral self- and group-identity and SCB were measured for all participants. Finally, participants could choose to enter the prize draw, which was used as an incentive for participation. The data were collected from July to August 2022. Figure 2 summarizes the survey flow and please find detailed questionnaire in Supplementary Materials.

![Survey flow](image)

**Figure 2.** Survey flow | Participants are divided randomly into two groups and then their altruistic value, moral identity and SCB are measured.

3.3. Measure.

All questions used the 7-point Likert Scale because it is the most parsimonious. It enables participants to provide more accurate sentiment responses and gives more data points for statistical analysis [64].

### 3.2.1. Sustainable Consumer Behaviors

A total of ten questions from Geiger et al. (2018) [22] and Sudbury-Riley and Kohlbacher (2016) [65] were adopted. In the SCB domain, there are many different types of consumption and existing research on measurement is fragmented. This paper used the integrative framework from Geiger et al. (2018) [22] to select the relevant behaviors. Specifically, this study chose behaviors in both socioeconomic and ecological sustainable dimensions, in general consumption (not restricted to certain industries) and the purchase phase that were affected directly by promotion. Additionally, this study aimed to know how individuals behaved rather than consider only sustainable intentions. This study found that the validated Ethically Minded Consumer Behavior scale (EMCB) [65] met all these criteria. Therefore, participants were asked ten questions from the EMCB scale to ascertain their SCB. The internal consistency (Cronbach’s alpha) [66] was 0.936 (M = 4.927, SD = 1.179), which means that the factor loading was sufficient for our analysis.

### 3.2.2. Moral Self- and Group-Identity

The methods for measurement of moral self- and group-identity were both adopted from Aquino and Reed II (2002) [46]. This scale is the only one available that seems sufficient and has been widely used in the literature showing suitable inter-item reliability in the past (Salciuviene et al. 2022) [10]. Participants were told about a person with nine validated moral characteristics and were asked to what extent they (participants) agreed with 10 statements (five for self-identity and five for group-identity). Cronbach’s alpha of self-identity was 0.825 (M = 5.562, SD = 1.092), while Cronbach’s alpha of group-identity was 0.862 (M = 4.874, SD = 1.178).

### 3.2.3. Altruistic Values

Altruistic values questions were adopted from the well-validated Environmental Portrait Value Questionnaire (E-PQV) [67]. Compared with the traditional environment value measurement scale, the Environment Schwartz Value Survey, the E-PQV can overcome the disadvantages of users’ incomprehensibility and overthinking [67]. This means it is easier to use, comprehensive and clear. Specifically, participants were asked to respond to five items.
related to whether each description was similar to themselves (Cronbach’s alpha = 0.851, M = 5.428, SD = 1.034).

3.2.4. Promotion Stimuli

Two distinct advertisements of a hypothetical brand were used (i.e., Choi and Winterich 2013 [68]), one of which included the information that primes altruistic values. A marketing-style advertisement was adopted because customers are exposed to them often [55]. A hypothetical brand was also used to avoid the influence of participants’ past brand experiences on the surveys [69]. Thirdly, semantic implicit priming messages (e.g., “You are a person who is caring . . . ”) were used to unconsciously activate the related concepts (i.e., altruism). Participants were required to watch the advertisement for ten seconds and then answer five check questions (e.g., to what extent the characteristics ‘care’ describe a watch brand) to confirm whether the message was received; 58% of participants passed the check questions.

4. Results

Firstly, this study conducted a series of simple linear regression analyses to test whether altruistic values predicted moral self- and group-identity (see Table 2). As expected, altruistic values were positively related to two variables, supporting H1a and H1b (see Figure 1/Table 1). The more strongly participants endorsed altruistic values, the stronger their moral self- and group-identity. Moreover, compared with moral group-identity ($\beta = 0.424$), moral self-identity played a more important role ($\beta = 0.705$). Overall, altruistic values did predict moral self- and group-identity and the former was more important.

<table>
<thead>
<tr>
<th>Altruistic Values</th>
<th>Moral Self-Identity</th>
<th>Moral Group-Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\beta$</td>
<td>$t$</td>
<td>Sig.</td>
</tr>
<tr>
<td>0.705</td>
<td>10.141</td>
<td>&lt;0.001</td>
</tr>
</tbody>
</table>

Then, this study used multiple linear regression to test if moral self- and group-identity would predict SCB. The results (see Table 3) indicated that both moral self- and group-identity were significantly related to SCB and explained 35.5% of the variance in SCB, supporting H2a and H2b (see Figure 1/Table 1). Participants who more strongly endorsed moral self- and group-identity were more likely to adopt SCB. This means that SCB does contain a moral component in some way.

<table>
<thead>
<tr>
<th>SCB</th>
<th>$\beta$</th>
<th>$t$</th>
<th>Sig.</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moral self-identity</td>
<td>0.320</td>
<td>3.488</td>
<td>&lt;0.01</td>
<td>0.355</td>
</tr>
<tr>
<td>Moral group-identity</td>
<td>0.367</td>
<td>4.002</td>
<td>&lt;0.001</td>
<td></td>
</tr>
</tbody>
</table>

Next, this study used simple linear regression to examine if altruistic value predicted SCB. The results (see Table 4) demonstrated that altruistic value could predict the SCB supporting H3a (see Figure 1/Table 1). People who had altruistic values were more like to adopt SCB.

Table 2. Simple linear regression of moral self- and group-identity on altruistic values.

Table 3. Multiple linear regression of SCB related to moral self- and group-identity.

Table 4. Simple linear regression of SCB related to altruistic value.
After that, to test if altruistic values affected SCB via moral self- and group-identity, this study selected bootstrapping analysis by SPSS PROCESS macro. Bootstrapping is a mainstream approach to statistical mediation analysis [70]. Since it is not based on the assumptions of normal distributions, it could provide more accuracy than other approaches [71], especially for small samples [70]. In our study, 5000 sample sizes were applied at a 95% confidence interval. This study found that the relationship between altruistic values and SCB was fully mediated by moral self- and group-identity, corresponding with H3b (see Figure 1/Table 1). Specifically, the bootstrapping estimate of the indirect effect of moral self-identity was from 0.0124 to 0.4145 while the indirect effect of moral group-identity was from 0.0584 to 0.3012. The fact that both ranges did not contain zero indicated that a mediation effect existed. Meanwhile, as shown in Figure 3, the effect of altruistic values on SCB was no longer significant ($\beta = 0.437, p < 0.001$) when self- and group-identity were included ($\beta = 0.144, p = 0.313$), indicating that the effect was fully, not partially, mediated. In conclusion, moral self- and group-identity are partly derived from altruistic values, which in turn affect SCB.

Finally, this study tested the moderation effect of promotion by testing the two-way interactions. Referring to the test procedure proposed by Dawson (2014 [72]), the first step was to mean-center altruistic values by subtracting the mean from the original data. Although whether the data is centered does not make any difference [73], centering does affect the estimation and significance of the other terms [72]. Secondly, this study calculated the interaction term by multiplying the altruistic values and moderation variable (promotion). Thirdly, regression analysis was applied (altruistic value, promotion and interaction term as the independent variables and SCB as the dependent variable). As shown in Table 5, the coefficient of the interaction term was insignificant ($\beta = 0.204, p = 0.054$), refuting H4 (see Figure 1/Table 1). To further examine the unanticipated result, this study referred to the research of Song and Kim (2019 [74]) and Steg and De Groot (2012 [16]) and hypothesized that promotion may exclusively work on customers with high altruistic values. Therefore, this study ran the same process on the 95 participants.

### Table 4. Simple linear regression of altruistic value on SCB.

<table>
<thead>
<tr>
<th></th>
<th>$\beta$</th>
<th>$t$</th>
<th>Sig.</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Altruistic Values</td>
<td>0.437</td>
<td>4.959</td>
<td>&lt;0.001</td>
<td>0.191</td>
</tr>
</tbody>
</table>

Figure 3. Indirect effects of altruistic value on SCB via moral self- and group-identity, bootstrap analysis. $a$, regression coefficients of altruistic value on SCB; $c'$, regression coefficients of altruistic value on SCB with moral self- and group-identity involved.
whose composite score of altruistic was higher than 4 and found that the result became significant ($\beta = 0.358$, $p < 0.5$). This means that promotion does not change the nature of the link between altruistic values and SCB for all customers, but does for customers with high altruistic values.

Table 5. Moderation effect of promotion on the link between altruistic values and SCB.

<table>
<thead>
<tr>
<th></th>
<th>All Participants ($n = 106$)</th>
<th>High Altruistic Values Participants ($n = 95$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$\beta$</td>
<td>t</td>
</tr>
<tr>
<td>Centered altruistic values</td>
<td>0.262</td>
<td>2.458</td>
</tr>
<tr>
<td>Promotion</td>
<td>0.211</td>
<td>2.394</td>
</tr>
<tr>
<td>Interaction item</td>
<td>0.204</td>
<td>1.950</td>
</tr>
</tbody>
</table>

5. Discussion

The present study was designed to find how to persuade people to increase their SCB by understanding the factors influencing SCB. In particular, the relationship between altruistic values, moral self- and group-identity and SCB as well as the moderation effect of promotion were studied. The data analysis results supported $H_{1a,1b,2a,2b,3a,3b}$, but refuted $H_4$ (see Figure 1/Table 1). In the following, four findings will be discussed respectively.

Firstly, the study showed that altruistic values predicted moral self- and group-identity. The more strongly one endorsed altruistic value, the more strongly one saw themselves as a person who acted morally. This is consistent with the research of Gatersleben et al. (2014 [35]), who showed that altruistic values and moral identities are moderately correlated and Berzonsky et al. (2011 [75]), who demonstrated that value orientations and identity styles are associated. Moreover, the study also observed that altruistic values affected moral self-identity to a larger extent ($\beta = 0.705$) than moral group-identity ($\beta = 0.424$). There were two possible explanations. Firstly, data collection methods might lead to the phenomenon. In a situation where the individual does not directly locate within a recognized social context, group-identity is less salient [46]. For our study, since the survey was distributed online and participants finished it individually, self-identity was stronger during the process. Secondly, the age of participants in our study made moral self-identity stronger. According to Krettenauer and Victor (2017 [76]), with age, self-identity motivation increases, whereas moral group-identity motivation decreases. In this study, the mean of the participants was 26 (young adulthood), during which moral group-identity motivation was weaker than its counterpart. This finding shows that age and the data collection method need to be considered in the future as they affect altruistic values’ influence on moral self- and group-identity.

Secondly, this study found that both moral self- and group-identity were positively related to SCB. The stronger an individual’s moral self- and group-identity, the higher the possibility of SCB. The result is in line with the study of Saliuviene et al. (2022 [10]). This study argues that these similar findings are caused by the need for humans to avoid cognitive dissonance [11,77]. However, this study also found that moral self- and group-identity only explained 36% of the variance of SCB, indicating that they did not have a main effect on SCB. They would interact with other variables to affect SCB, such as the price of the product [78,79], and influence the cognitive effort expended in researching, decision-making and searching for the products [79] and habits [80,81]. This means that SCB includes moral identities and suggests that a more complicated model of explaining SCB needs exploring.

Thirdly, this study also tested whether altruistic values could predict SCB, aligning with the finding of Steg et al. [16]. Meanwhile, another important finding was that the relationship between altruistic values and SCB would be mediated by moral self- and group-identity. This is in accord with the studies of the relationship between values, identities and SCB by Van der Werff et al. (2013 [13]) and Wang et al. (2021 [48]). This
result could likely be explained by the nature of values, which are abstract and general and only could affect behaviors indirectly [52]. Nevertheless, this result is contrary to that of Schultz and Zelezny (1998 [82]), who show that values could affect behaviors directly as well. This contradiction may be explained by the use of different mediated variables. The study of Schultz and Zelezny (1998 [82]) measures the general awareness of environmental problems, while according to Steg and De Groot (2012 [16]), it is more likely that the effect of values on behaviors is mediated by variables including “behavior-specific or context-specific beliefs, attitudes and norms” rather than general environmental beliefs. Furthermore, full mediation was found, suggesting that values were indeed related to SCB via identities. This outcome supports previous research by Van der Werff et al. (2013 [13]) and Wang et al. (2021 [48]), but differs from the finding of Gatersleben et al. (2014 [35]), who found values and behaviors are partially mediated by identities. These different outcomes also may be explained by the measure of different types of values and identities. Gatersleben et al. (2014 [35]) considered biospheric values and frugal identities, while this study used altruistic values and moral identities. This finding indicates that altruistic values relate to SCB indirectly via moral self- and group-identity, but further testing in different contexts is needed to corroborate such novel findings.

Fourthly, this study did not verify the moderation effect of promotion on the link between altruistic values and SCB. This finding is contrary to previous studies which suggest that green marketing moderates the positive relationship between customer values and green purchase intentions [56] or the finding that extrinsic motivations would decrease individual intrinsic motivations toward SCB [57]. One explanation was that promotion did not work for all kinds of customers. According to Song and Kim (2019 [74]) and Steg and De Groot (2012 [16]), only when customers highly endorse altruistic values are they persuaded by the advertisement. By contrast, when the values are not central to a particular person, there is less likelihood of value-congruent actions following the stimuli, as verified by our results. Another possible explanation is that an ineffective advertising strategy was used in our study. Song and Kim (2018 [83]) suggest that effective advertisement needs to elicit consumers’ positive perception of the product quality first before communicating altruistic messages. Overall, these findings suggest promotion may not solely activate an individual’s value for all customers and thus additional ways of priming can be used (e.g., Kettle et al. (2011 [84])).

5.1. Caveats and Future Research Directions

The key caveats of the current research need to be considered when interpreting the results, which also inform future research directions. Firstly, our model was tested within a collectivistic culture context, namely a Chinese sample, because of the non-probability sampling approach. While our findings may not be generalizable, this approach was necessary because this contributes to consumption very much. To check if this model is generalizable, future research may benefit from testing this in other cultural contexts, such as an individualistic culture [85,86].

Secondly, self-reported data may be biased. Self-reports may lead to people completing the survey in a consistent [52] and self-serving way. That is, the self-reports might not reflect actual purchase behaviors [22]. However, this study was able to establish these and test our proof of concepts of whether these values and moral identities matter. However, to make the model more predictive of behaviors, future research would benefit from conducting a field experimental study, testing our model in relation to actual, in store, purchase choices [11].

Thirdly, what if people do not have these altruistic values and moral identities? That is, SCB can be adopted by people who do not endorse related values, but are motivated by egoistic (self-serving, i.e., financially focused) values or hedonic (having fun, i.e., enjoyment focused) values [16]. Therefore, although altruistic values and moral identities were the scope of our paper, these other values and relational identities (self-serving identities and having fun identities) can be included.
5.2. Practical Implications

The findings have practical implications. Firstly, policymakers could leverage altruistic values to enhance SCB. Our results suggested that altruistic values encourage SCB. This means that if altruistic values are leveraged, citizens’ SCB is very likely to occur. Specifically, for the young who are in the phase of establishing their values, policymakers could prime these people via education. For example, schools could provide adolescents with the opportunities to explore prosocial actions such as helping pick up litter in their classroom.

Secondly, moral identities also could be leveraged. This study found that moral self- and group-identity fully mediated altruistic values and SCB, indicating that it also could be targeted. Specifically, for adults, interventions targeting identities rather than values may be a more efficient method because identities can be more easily encouraged rather than values [13]. According to research after individuals adopted SCB, it was incorporated into their own identity, which means that identity could be influenced by past experiences [87]. Thus, persuading adults to recognize or engage in SCB can encourage such identities [13].

Thirdly, our model is theoretically practical since it combines both the altruistic values [33] and identity literature [38] for the first time in an SCB context (to the authors’ knowledge). Usually, these values and identities are studied separately, but we combined them successfully. For people who are interested in values, identities and sustainability, this paper and model can be used and adapted for further development of the identities and values literature together.

6. Conclusions

In the study, we studied the relationship between altruistic values, moral self- and group-identity and SCB and the moderation effect of promotion (see Figure 1). Our results revealed that moral self- and group-identity were related to SCB, altruistic values were related to moral self- and group-identity and the relationship between altruistic values and SCB was fully mediated by moral self- and group-identity. Meanwhile, these results showed that promotion did not moderate the relationship between altruistic values and SCB. Although with some caveats (i.e., the non-probability sampling, the self-reported data and a void of encouraging people without related values and identities), this study combines altruistic values and moral identities in a new way to explain SCB. We expect that this model could be further tested in different cultures or by measuring actual behaviors and that policymakers could use these values and identities to enhance SCB.

Supplementary Materials: The detailed questionnaire can be downloaded at: https://www.mdpi.com/article/10.3390/su15021129/s1.

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