Sustainable Consumption: A Scale Development and Validation

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Introduction. In recent years, there has been widespread consensus among the general public as well as the academics that sustainable consumption is important. Accordingly, several firms (e.g., Target) and research studies (e.g., Manchiraju & Sadachar, 2014) have focused on sustainable consumption, be it apparel/fashion or otherwise. In general, sustainable consumption refers to "the use of goods and services that respond to basic needs and bring a better quality of life, while minimizing the use of natural resources … so as not to jeopardize the needs of future generations" (Reisch, 1998, p. 9 cited in Dolan, 2002). However, Dolan (2002) noted the lack of specific attention to the concept of sustainable consumption itself. For example, to date, there seems to be no measurement scale that pertains to one's general sustainable consumption.[1] Therefore, the purpose of the present study is to develop a valid sustainable consumption (SC) scale. Furthermore, the psychometric properties of the newly developed SC scale are tested using multiple samples.

Procedure. The authors of the present study extensively reviewed literature related to sustainable consumption (e.g., energy consumption, recycling, etc.). Based on the extant literature, 19 items were generated. The 19 items generated were reviewed by three experts. Based on the experts' feedback, two items were deleted and two items were reworded. Finally, the scale consisted of 17 items, which was used for data collection along with other relevant variables (i.e., happiness, altruism, gratitude, and purchase intentions towards luxury products). The scale development procedure is consistent with the recommendations outlined by Gerbing and Anderson (1988).

Sample. Data were collected using an online survey following approval for use of human subjects. Sample 1 consisted of 240 undergraduate students (91% female; M_{age} = 19.69, SD = 1.80; 68% 'White,' 18% 'Hispanic,' 10% 'Black,' 3% 'Asian or Pacific Islander,' and 1% responded 'other'). Sample 2 consisted of 240 undergraduate students (87% female; M_{age} = 19.78, SD = 1.96; 76% 'White,' 9% 'Hispanic,' 10% 'Black,' 3% 'Asian or Pacific Islander,' and 2% responded 'other'). Sample 3 consisted of 317 national adult participants via Amazon Mechanical Turk (AMT) (77% female; M_{age} = 33.19, SD = 12.14; 77% 'White,' 6% 'Hispanic,' 6% 'Black,' 7% Asian or Pacific Islander, 1% Middle Eastern, and 3% responded 'other').

Results. Utilizing sample 1, reliability analysis of 17 items indicated 3 items to be eliminated due to low inter-item correlations. The resulting Cronbach alpha was .945. Exploratory Factor

[1] We acknowledge that there are adapted forms of scales (E.g., purchase intentions towards sustainable products) or other facets of sustainable consumption (E.g., anti-consumption—voluntary simplicity). However, these scales do not capture general sustainable consumption.

Analysis (EFA) utilizing principal components extraction and varimax rotation indicated the remaining 14 items to be unidimensional, accounting for 59% of the total variance of the sustainable consumption measure. Using sample 2, a Confirmatory Factor Analysis (CFA), indicated initial inadequate model fit. Model modification based on fit indices and item loadings, resulting in a 5-item model with good model fit ($\chi^2 = 26.71$, $df = 5$, $p < .001$; CFI = .987; RMSEA = .097; SRMR = .017). To replicate the 5-item factor structure in a unique sample, sample 3 demonstrated good model fit ($\chi^2 = 50.42$, $df = 5$, $p < .001$; CFI = .953; RMSEA = .17; SRMR = .036) accounting for 76% of the total variance of the sustainable consumption measure. Additionally, the Cronbach's alpha for AMT sample was .86. Correlational analyses were conducted using the AMT sample. The newly developed scale positively correlated with happiness (r = .704, $p < .001$), gratitude (r = .245, $p < .001$), and altruism (r = .493, $p < .001$). On the other hand, sustainable consumption was marginally correlated with purchase intentions towards luxury products (r = .105, $p = .065$).

Scale Items. (1 = "Strongly disagree" and 7 = "Strongly agree")

1. I pay premium for products (e.g., apparel) that were manufactured in an environmentally friendly way.
2. I buy eco-friendly apparel even if I have to forgo some clothing options.
3. I avoid products made by brands (companies) that are known for engaging in environmentally harmful behaviors.
4. I buy clothing made of organic materials (e.g., organic cotton).
5. I spend time trying to increase my knowledge about sustainable products.

Conclusion. In summary, we developed a psychometrically robust SC scale using the new paradigm proposed by Gerbing and Anderson (1988). Furthermore, the study employed several different samples; both students and general adults. Additionally, the newly developed scale demonstrated adequate reliability. We encourage future studies to employ the developed scale to understand various issues related to sustainable consumption.

References

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