

A Prediction Model for Environmentally Responsible Apparel Purchases:
The Moderating Effects of Risk Aversion

Jiyun Kang, Texas State University, USA

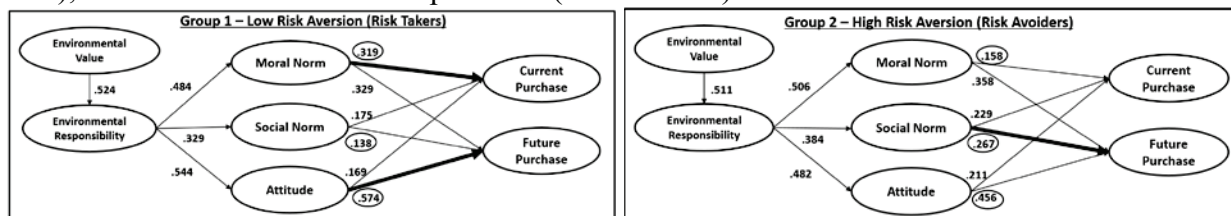
Keywords: Sustainability, environment, purchase, risk aversion

Research Rationale and Purpose: Individuals cannot significantly diminish their environmental impact by reducing consumption, for example by taking shorter showers or turning off the lights (Bazilchuk, 2016). Instead, a recent global-scale study confirmed that what really matters for the environment is what consumers purchase (Ivanova et al., 2015). Consequently, the author for this study aims to develop and test a model predicting consumers' purchases of *environmentally responsible apparel* (hereafter ERA), such as clothing made with recycled materials or 100% organic cotton grown without application of pesticides. Environmentally significant behavior that includes purchases of environmentally conscious options typically involves multilevel interactions among psychological and behavioral factors (Lazaric & Oltra, 2012); therefore, such behavior cannot always be explained with a single theory (Stern, 2000). To better predict purchases of ERA, this current study attempts to synthesize two theories into one prediction model: Stern's (2000) value-belief-norm model (VBN) and Fishbein and Ajzen's (1975) theory of reasoned action (TRA). Although each has been applied in sustainable consumption, there has been little attempt of combining the two theories to predict ERA purchases. Grounded by the theoretical framework, the author develops a structural model in which environmental value, environmental belief, moral norm, social norm, and attitude predict current and future purchase of ERA. Importantly, this study sheds light on an enduring personality trait—*risk aversion*—and its moderating role within the prediction model. Risk aversion, referring to “the extent to which people feel threatened by ambiguous situations and have created beliefs and institutions that try to avoid these,” is a critical factor in consumer decision making (Bao et al., 2003, p.737). This current study premises that consumers with different levels of risk aversion (i.e., risk takers versus risk avoiders) are different in how they feel about ERA as it is related to their ERA purchase decision.

Methods: An online survey was conducted using a large sample from a state university in the southern U.S. An email invitation for the survey was sent to the entire undergraduate student body (N = 33,278). Such a homogeneous sample is appropriate for testing a theoretical model (Kwon & Rudd, 2007). A total of 1,518 responses were used for empirical model testing. All of measurement items were adapted from established scales: *risk aversion* measuring the tendency of not taking risks in purchases, regardless of product type (Matos et al., 2007); *environmental value* assessing how important preserving the environment is to an individual, *environmental responsibility* assessing how responsible individuals, as consumers, believe they are for environmental problems, and *moral norm* measuring subjective feelings of personal obligation to purchase ERA (Jansson et al., 2010); *social norm* measuring the perception of social support for ERA purchases (Ajzen, 1991); *attitude* measuring overall favorable preposition toward ERA purchases and *current purchase* measuring actual purchases (frequency, expenditure, and

quantity) of ERA (Chan, 2001); *future purchase* measuring the inclination of buying ERA in the near future (Baker & Churchill, 1977).

Results: Structural equation modeling was utilized. The reliability and validity of all measures were ensured based on measurement model testing. A structural model was then estimated and demonstrated an acceptable fit: GFI = .928, CFI = .956, NFI = .949, RMSEA = .06. All direct relationships were positively significant at a p value of .01: from environmental value to environmental responsibility ($\gamma = .517$); from environmental responsibility to moral norm ($\beta = .497$), social norm ($\beta = .359$), and attitude ($\beta = .511$); from moral norm to current purchase ($\beta = .225$) and future purchase ($\beta = .346$); from social norm to current purchase ($\beta = .198$) and future purchase ($\beta = .199$); from attitude to current purchase ($\beta = .202$) and future purchase ($\beta = .519$). The model accounted for about 27% of the variance of current purchase (SMC = .270) and 81% of the variance of future purchase (SMC = .805). Next, to test mediators in the model, the author conducted decomposition tests using the bootstrapping method. The results demonstrated that all mediators—environmental responsibility, moral norm, social norm, and attitude—were significant per the bias-corrected percentile method. Lastly, multi-group analyses were conducted to test the moderating effects of risk aversion. Based on the median split, the respondents were divided into two groups, a low risk aversion group (“risk takers”, $n = 777$) and a high risk aversion group (“risk avoiders”, $n = 741$). Chi-square difference tests between the unconstrained model and the measurement weight model confirmed measurement equivalence. Next, chi-square difference tests between the unconstrained model and the structural weight model indicated that there were significant differences between the two groups: $\Delta X^2 = 40.74$ ($df = 24$), which supported significant moderating effects of risk aversion. Critical ratios (C.R.) for differences between parameters showed which paths were significantly different: paths from moral norm to current purchase (C.R. = -2.72), from social norm to future purchase (C.R. = 2.51), and from attitude to future purchase (C.R. = -2.08). Detailed estimates are shown below.



Note. All paths are significant at $p < .01$. ○ indicates significant differences of the effect sizes between groups per multi-group analyses.

Implications: The model developed in this study significantly increases predictability for ERA purchase, especially for future purchase, by synthesizing VBN and TRA. The results make further theoretical contributions by showing that risk aversion is a significant moderator: moral norm—the feeling of ethical obligations rooted at a highly personal level—is a stronger driver for risk takers to engage in current purchase; meanwhile, social norm—beliefs that are highly susceptible to external influences—is a stronger predictor for risk avoiders to engage in future purchase. Practitioners who seek to effectively market ERA should approach risk takers and risk avoiders differently by focusing on factors more strongly impacting their purchase decisions.

Note: Due to the page limit, the full list of references will be provided by the author upon request.