



Changing the marketplace one behavior at a time: Perceived marketplace influence and sustainable consumption



R. Bret Leary^{a,*}, Richard J. Vann^{a,1}, John D. Mittelstaedt^{a,1}, Patrick E. Murphy^{b,2}, John F. Sherry, Jr.^{b,2}

^a University of Wyoming, Dept. 3275, 1000 E. University Ave., Laramie, WY 82071–2000, United States

^b Notre Dame University, 102 Mendoza College of Business, Notre Dame, IN 46556–5646, United States

ARTICLE INFO

Article history:

Received 31 January 2013

Received in revised form 1 November 2013

Accepted 6 November 2013

Available online 27 November 2013

Keywords:

Perceived marketplace influence
Sustainable consumption behaviors
Environmental concern
Consumer empowerment
Values and beliefs
Environmental psychology

ABSTRACT

This study introduces the construct of Perceived Marketplace Influence (PMI) and investigates its role in mediating the relationship between environmental concern and sustainable consumption behavior. A nationwide survey shows that Perceived Marketplace Influence plays an important role in mediating the relationship between concern and behavior, providing an explanation for prior inconsistencies in this relationship. Accordingly, Perceived Marketplace Influence plays a purposeful role in transforming environmental concern into behavior. This project extends previous research on the relationship between values, beliefs, and behavior by showing that one's perception of influence on the marketplace behavior of others significantly influences one's own marketplace behavior. Improved understanding of this relationship provides updated guidance to firms and policymakers for projecting and encouraging sustainable consumption behavior.

© 2013 Elsevier Inc. All rights reserved.

1. Introduction

In 2011, Americans generated 250 million tons of waste, equaling an average amount of 4.40 lb of waste generated per person *per day* (U.S. Environmental Protection Agency, 2013). The scale of such statistics becomes even more foreboding when one considers that the material resources of five earths would be needed to sustain current resource use if U.S. levels of consumption were to become the global norm (Global Footprint Network, 2009). Embedded within these revealing trends are two important ideas to which the authors draw attention. First, society has a consumption problem that must be addressed. Accordingly, there needs to be a focus on smarter consumption, which is a necessary prerequisite for environmental sustainability (Kilbourne & Mittelstaedt, 2011). An implicit challenge in focusing on smarter consumption is the need to understand what role concern for the environment plays in people's consumption decisions.

Second, a consumption problem of such magnitude must be addressed by the collective, not simply the individual, as it is only in the aggregate that the negative consequences of unsustainable consumption patterns can be eased (Stern, 2000). When facing societal challenges like those described above, solutions can only be achieved

through the concerted actions of many, both in the marketplace and other arenas of life (e.g. Thøgersen, 2005). Building from the understanding that this consumption problem is one that must be dealt with by the collective, the authors pose an important question that deserves attention: does one's belief in their ability to influence this collective (e.g. the marketplace and its actors) affect their decision to follow through on their concern for the environment through complementary behavior?

Much of the previous work in the domain of sustainable consumption focuses on environmental concern and its subsequent relationship to behavior, with mixed results. Contemporary research on this relationship (e.g. Carrington, Neville, & Whitwell, 2014; Luchs, Naylor, Irwin, & Raghunathan, 2010) indicates a striking gap between one's reported level of concern and actual consumption behaviors. These inconsistencies provide a call to action for more work to clarify this concern–consumption relationship.

The authors conceptualize environmental concern as a value guiding environmentally-relevant behavior across situations and contexts (Schultz, 2001). Recent studies (Bamberg, 2003; Steg, Dreijerink, & Abrahamse, 2005) find that, because environmental concern transcends situations and contexts, its effects on situation-specific behaviors are limited. Based on these disappointing findings, Bamberg (2003) recommends that environmental concern no longer be assumed to have a direct effect on behavior and, accordingly, should not be tested as such. Instead, environmental concern should be considered an indirect determinant of behavior, acknowledging that other intervening processes and beliefs influence the association between environmental concern and behavior. Taking our cue from Bamberg (2003), this

* Corresponding author. Tel.: +1 307 766 3124.

E-mail addresses: rleary@uwyo.edu (R.B. Leary), rvann@uwyo.edu (R.J. Vann), jmittels@uwyo.edu (J.D. Mittelstaedt), patrick.e.murphy.72@nd.edu (P.E. Murphy), jsherry@nd.edu (J.F. Sherry).

¹ Tel.: +1 307 766 3124.

² Tel.: +1 574 631 6419.

study proposes that perceived marketplace influence plays a role in mediating the relationship between environmental concern and sustainable consumption behavior.

The purpose of this study is to introduce the construct of Perceived Marketplace Influence into sustainable consumption research, and to test a model clarifying the associations between environmental concern, perceived marketplace influence, and sustainable consumption behavior. Perceived Marketplace Influence (PMI) is defined as the belief that one's efforts in the marketplace can influence the marketplace behavior of other consumers and organizations, and inasmuch serve as a motivation for one's own behavior. This notion of PMI is distinct from earlier conceptualizations of one's perceived influence (e.g., perceived consumer effectiveness (Ellen, Wiener, & Cobb-Walgren, 1991)), as PMI focuses on the belief that our behavior influences the behavior of others, which in turn drives our own behavior. It is proposed here that PMI is a situation-specific belief that will help clarify the relationship between environmental concern and sustainable consumption behavior.

The findings of this study provide multiple benefits, beginning with the introduction of PMI into sustainable consumption discourses. Further benefits include improving our understanding of how market-related beliefs influence sustainable consumption behavior, fulfilling in part the call put forth by Prothero et al. (2011) to explore new theoretical explanations and possible remedies for the gap between environmental concern and corresponding behavior. Greater knowledge of this behavior is vital in the continually evolving conversation on sustainability, as it may help society reverse the negative consequences from waste and resource depletion as portrayed in the opening statistics.

2. Theory: sustainable consumption behavior, environmental concern, and PMI

2.1. Sustainable consumption behavior

We define sustainable consumption as behavior intended to meet the needs of the current generation and benefit the environment without jeopardizing the ability of future generations to satisfy their needs. Early work on sustainable consumption assumed environmentally-relevant behavior undifferentiated and homogeneous, with all such behavior having similar antecedents and consequences (Stern, 2000). More recent research, however, finds sustainable consumption to be multi-dimensional in nature, with varying approaches taken to investigate such behavior, including studies that emphasize recycling (Minton & Rose, 1997), purchasing “green” products (Chan, 2001), and willingness to pay more for environmentally-sound products (Laroche, Bergeron, & Barbaro-Forleo, 2001). Indeed, existing research demonstrates that sustainable consumption is complex, such that “several distinct types” of sustainable consumption behaviors are influenced to differing degrees by a large variety of “causal factors” (Stern, 2000, p. 409). Accordingly, distinct types of sustainable consumption behavior should often be treated as separable behavioral indicators, especially when evaluating antecedents of sustainable consumption. Taking this approach to sustainable consumption behavior, the current research proposes that perceived marketplace influence acts as one such causal factor that influences three distinct types of behavior generally perceived to be sustainable (energy efficiency behavior, eco-conscious buyer behavior, post-consumption behavior) by transforming one's level of environmental concern into action.

2.2. Environmental concern

The literature on environmental concern emphasizes greater understanding of three distinct questions: (1) *who* is concerned about the environment, (2) *how* does this environmental concern affect their behavior, and (3) *why* are they concerned about the environment? Early research on *who* was most likely to display environmental concern focuses on demographic and social variables that typified such

consumers (e.g. van Liere & Dunlap, 1980), with findings remaining relatively consistent over time (Roberts, 1996). However, the findings on *how* one's level of environmental concern ultimately affects behavior are not as clear. While some studies (e.g. Cho, Thyroff, Rapert, Park, & Lee, 2013; Kilbourne & Pickett, 2008) find a positive effect of concern on sustainable behavior, other research (e.g. Alwitt & Pitts, 1996) indicates that this relationship is not always present. These conflicting findings suggest that the direct relationship between environmental concern and complementary behavior in existing literature is inconsistent, at best.

Finally, research on the *why* question of environmental concern focuses on the value structure of consumers (Schultz, 2001; Stern & Dietz, 1994), finding environmental concern to be a value positively related to concern for other people, the earth, and environment. Similarly, Kim and Choi (2005) note that environmental concern is a value that serves to inform environmentally-relevant behavior across multiple contexts. As previously noted, however, the relationship between this value of environmental concern and subsequent behavior is inconsistent across studies (Fransson & Garling, 1999; Steg et al., 2005). Steg et al. (2005, p. 416) offer an explanation for these inconsistencies by suggesting that “the relationship between general values and behavior seems to be mediated by other factors like behavior-specific beliefs.” The current research contends that perceived marketplace influence acts as a behavior-specific belief that mediates the relationship between environmental concern and sustainable consumption behavior.

2.3. Perceived marketplace influence (PMI)

Social perception is a powerful influencer of judgment and behavior. Within the environmental concern and sustainable consumption literature, much of the work on the link between perception and behavior focuses on Perceived Consumer Effectiveness (PCE), which is the belief that the efforts of an individual can make a difference in the solution to a problem (Ellen et al., 1991). While PCE has been studied in the context of sustainable consumption (e.g. Cho et al., 2013; Roberts, 1996), no observed research investigates whether one's perceived influence on other marketplace actors in turn inspires one's own behavior.

The current study takes such a perspective, proposing that when people perceive their actions to influence the marketplace behavior of others, their own behavior is affected by this belief. More specifically, the current research introduces the construct of Perceived Marketplace Influence (PMI) to propose that, to varying degrees, some people believe their decision to engage in sustainable behavior influences the marketplace behavior of other consumers and organizations. In turn, this perceived influence encourages these individuals to behave in a sustainable manner. The concept of PMI is similar in nature to PCE in that individuals are making judgments about their operative capability to influence a situation through action (Bandura, 1997; Ellen et al., 1991). However, rather than solely looking at whether someone feels their actions are individually making a difference in environmental problems, PMI captures an individual's belief that their actions are actively influencing the behavior of other marketplace actors.

Consumer research supports the notion that individuals commonly feel the need to justify and defend their behavior to both themselves and others (Bettman, Luce, & Payne, 1998). PMI is consistent with this notion, as one's perceived influence on others can provide a reason for engaging in a behavior that is justifiable and defensible. For instance, when individuals deem their behavior to motivate others to strive towards the same goal, it is easier to justify their own behavior, as they consider their actions to be contributing to a “larger collective group of consumers” (Farah & Newman, 2010, p. 353). While it is necessary that this group of consumers work together to solve societal problems, the individual orientation of PMI is also distinct from collective efficacy, which refers to consumers' shared belief in the ability of the group to solve problems (Bandura, 1997; Illia, Bonaiuto, Pugliese, & van Rekom, 2011). In general, these individuals with a greater sense of perceived influence tend to exhibit a higher degree of subjective power (Mourali &

Nagpal, 2013), leading to a greater orientation for action and behavior (Galinsky, Gruenfield, & Magee, 2003). This tendency towards action and behavior among those who believe in their perceived influence suggests that PMI likely informs the relationship between environmental concern and sustainable consumption behavior.

Past research in environmental psychology (O'Sullivan & Taylor, 2004) notes that one's level of environmental concern shapes one's beliefs, which ultimately influence behavioral action. Thus, beliefs are a powerful mechanism through which values like environmental concern are translated into action. This is similar to the relationship proposed by Stern (2000), in which beliefs mediate the relationship between values and behavior, and also to the argument from Kim and Choi (2005, p.592), who state that “values typically influence behavior indirectly through more specific attitudes or beliefs.” One's belief about his or her perceived influence on others is particularly salient in turning one's values into behavior, as those who have confidence in their ability to make a difference on others are more likely to act on their values (Kim & Choi, 2005).

This research contends and tests that PMI is a behavior-specific belief (Steg et al., 2005) that mediates the relationship between environmental concern and three distinct types of sustainable consumption behavior (See Fig. 1). If true, the findings would indicate that PMI is a belief that transforms the value of environmental concern into sustainable consumption behavior. Further, it would show that the relationship between environmental concern and sustainable consumption is shaped in part through our beliefs about the influence of our actions on others: we act not just out of concern for the environment, but also on the belief that our actions influence the behavior of others.

3. Sample and measures

3.1. Sample and data collection

The sample for this study was drawn from a nationwide panel of U.S. consumers. Respondents were pre-qualified and the data collection was overseen by a marketing research firm. Individuals were randomly selected from a large pool of potential respondents and completed an online survey, with a final sample size of 460 attained. Respondents were equally distributed across gender, with 225 men (48.9%) and 235 women (51.1%) participating.

3.2. Measures

The measures utilized in this study were scales taken from prior research and adapted where needed to test the proposed relationships (see Table 1 for all items, standardized factor loadings, means, standard deviations, and AVE's).

Table 1

Item, standardized factor loading, mean (standard deviation), average variance extracted.

Constructs and Items	Loading	Mean (std. dev.)	AVE
Environmental concern ($\alpha = .86$)			.62
When deciding what to buy, consumers should balance what is cheapest with what is in the best interest of the environment and society	.76	5.20 (1.46)	
Those who consume more bear the greatest responsibility when it comes to protecting the environment	.64	5.15 (1.59)	
Consumers should consider the environment as one of their stakeholders when making decisions	.86	5.51 (1.37)	
To be environmentally responsible, consumers need to make purchases that account for the earth's physical and social limits	.86	5.55 (1.31)	
Perceived marketplace influence ($\alpha = .82$)			.62
I believe my individual efforts to be environmentally friendly will persuade others in my community to purchase environmentally friendly products	.78	4.56 (1.51)	
The choices I make can influence what companies make and sell in the marketplace	.73	5.22 (1.35)	
If I buy environmentally friendly products, companies will introduce more of them	.85	5.14 (1.35)	
Post-consumption behavior ($\alpha = .92$)			.79
I recycle paper	.85	3.63 (1.36)	
I recycle plastic	.93	3.71 (1.39)	
I recycle glass	.88	3.50 (1.49)	
Energy efficiency behavior (Spearman–Brown = .65)			.51
I replace light bulbs with energy efficient bulbs	.77	3.89 (1.15)	
I buy ENERGY STAR rated appliances	.66	3.57 (1.23)	
Eco-conscious buyer behavior ($\alpha = .89$)			.74
I make every effort to buy paper products made from recycled paper	.84	4.74 (1.56)	
When I purchase products, I always make a conscious effort to buy those products that are low in pollutants	.88	4.58 (1.51)	
I try only to buy products that can be recycled	.86	4.53 (1.54)	

Notes. α = Cronbach alpha; measurement model: $\chi^2_{(80)} = 181.76$; CFI = .98; RMSEA = .05.

The measure for Environmental Concern was four items from Mittelstaedt, Murphy, and Sherry (2009). Respondents were asked questions relating to their overall concern for and responsibility towards the environment on a 7 point Likert-type scale anchored by *Strongly Disagree* and *Strongly Agree*. Reliability was assessed using Cronbach's alpha ($\alpha = .86$).

Based on the understanding that sustainable consumption behavior is multi-dimensional in nature with several distinct types (Stern, 2000),

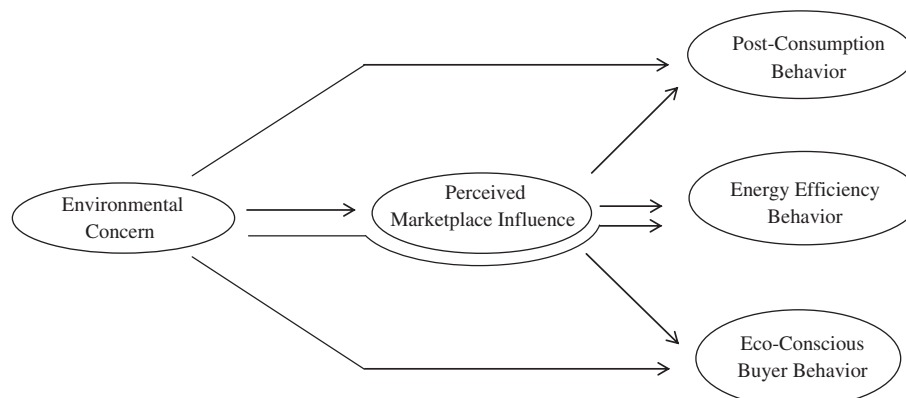


Fig. 1. Conceptual model.

three different sets of behaviors generally perceived to have a positive environmental impact were used as dependent variables in our model: post-consumption behavior, energy efficiency behavior, and eco-conscious buyer behavior. We define post-consumption behavior as those that involve the responsible disposition of products through recycling. Energy efficiency behavior is defined as the purchase and use of products that are designed to reduce the overall amount of electricity needed for their operation. Finally, eco-conscious buyer behavior is defined as concerted effort by consumers to select and purchase products that are generally perceived to be less detrimental to the environment than traditionally-produced products.

Post-consumption and energy efficiency behavior were measured using a list of behavioral items developed by Mittelstaedt et al. (working paper), asked on a 5 point scale (*Never–Always*). Three post-consumption questions asked how often respondents recycled paper, plastic, and glass items ($\alpha = .92$). Two energy efficiency behavior questions asked how often participants buy ENERGY STAR rated appliances and replace traditional light bulbs with more energy efficient bulbs. The Spearman–Brown coefficient was used to assess the reliability of energy efficiency behavior, as this coefficient is the most appropriate and robust indicator of the reliability of two-item scales (Eisinga, Grotenhuis, & Pelzer, 2013). The Spearman–Brown coefficient for energy efficiency behavior was .65, signifying a reliable measure (Napoli, Dickinson, Beverland, & Farrelly, in press). Finally, eco-conscious buyer behavior was measured using three items, asked on a 7 point scale (*Strongly Disagree–Strongly Agree*) from the ecologically conscious consumer behavior (ECCB) scale (Roberts, 1996). These questions asked respondents whether they make conscious decisions to purchase products made from recyclable material or those low in pollutants ($\alpha = .89$). While the items in these scales are not intended to be comprehensive indicators of these relatively global ideas, they are meant to capture a small subset of important behaviors within these sustainable behavior domains.

The degree of perceived marketplace influence (PMI) was measured using an adaptation of Roberts (1996) perceived consumer effectiveness scale. In order to gauge their perceived influence on other marketplace actors (e.g. other consumers and companies), respondents were asked questions regarding whether they perceived their sustainable behavior to persuade others to buy similar products and also influence companies to introduce more sustainable products. The three item measure used a 7-point Likert-type scale (*Strongly Disagree–Strongly Agree*) with a resulting alpha value of .82. Table 2 lists correlations between these constructs.

4. Results

4.1. Measurement model

A confirmatory factory analysis (CFA) measurement model using AMOS 19 was estimated before analyzing the data within a structural model, consistent with the two-step approach recommended by Anderson and Gerbing (1988). An excellent fitting model was attained from the CFA: $\chi^2_{(80)} = 181.76$, CFI = .98, IFI = .98, RMSEA = .05. All item standardized factor loadings were significant ($p < .001$) and above .7 except for one environmental concern item, which loaded at .64, and one energy efficiency item (.66). Convergent validity was supported as all Average Variance Extracted (AVE) values exceeded the .5

criterion suggested by Fornell and Larcker (1981). Discriminant validity was supported as all AVE values were greater than all squared interfactor correlations (Hair, Black, Babin, Anderson, & Tatham, 2006). It should be noted, however, that the two-item scale for energy efficiency behavior limits the ability to appropriately validate this measure (Hair et al., 2006).

4.2. Structural model

After assessing the measures through the CFA, a structural model testing the proposed relationships was derived from the conceptual model in Fig. 1. The resulting fit of the structural model was found to be acceptable: $\chi^2_{(83)} = 288.66$, CFI = .95, IFI = .95, RMSEA = .07.

In order to test whether PMI mediates the effect of environmental concern on behavior, a bootstrapping procedure with 2000 resamples was used, consistent with recent research (Zhao, Lynch, & Chen, 2010) proposing bootstrapping to be a more appropriate test of mediation than traditional methods. Support for this relationship was found, with PMI mediating the relationship between environmental concern and sustainable consumption behavior. The direct effect of environmental concern on PMI was positive and significant ($\beta = .67$; $p < .001$), with a 95% confidence interval (CI) excluding zero (.560 lower limit, .782 upper limit). Similarly, the direct effect of PMI to post-consumption behavior was positive and significant ($\beta = .33$; $p < .01$), with zero excluded in a 95% CI (.061, .695). PMI was also significantly related to energy efficiency behavior ($\beta = .34$; $p < .05$; 95% CI: .035, .717) and eco-conscious buyer behavior ($\beta = .54$; $p < .001$; 95% CI: .218, .861). Finally, the indirect effect of environmental concern (EC) through PMI on all three sets of behavior was positive and significant, with zero excluded in a 95% CI: EC \rightarrow post-consumption ($\beta = .22$; $p < .01$; 95% CI: .043, .540), EC \rightarrow energy efficiency ($\beta = .23$; $p < .05$; 95% CI: .028, .547), EC \rightarrow eco-conscious buyer behavior ($\beta = .36$; $p < .001$; 95% CI: .146, .663).

As anticipated, however, the direct effect of environmental concern on all three sets of sustainable behavior in the mediated model was not significant. The relationship between environmental concern and post-consumption behavior was non-significant ($\beta = .10$; $p = .48$; 95% CI: $-.253, .340$). Similarly, the direct effect of environmental concern on energy efficiency behavior was also non-significant ($\beta = .16$; $p = .32$; 95% CI: $-.228, .422$), and the direct effect of environmental concern on eco-conscious buyer behavior was non-significant ($\beta = .32$; $p = .06$; 95% CI: $-.015, .583$). Accordingly, we find evidence confirming the proposed relationship, with PMI exerting a mediating influence on the relationship between environmental concern and sustainable consumption. See Fig. 2 for model results with standardized path coefficients.

5. Discussion

The results from this study show that Perceived Marketplace Influence (PMI) mediates the relationship between environmental concern and sustainable consumption behavior. These findings indicate that environmental concern is a necessary *but not sufficient* requirement for an individual to engage in sustainable consumption practices; it is beneficial for this value to be accompanied by the belief that their actions are making a difference through their impact on other marketplace actors. As such, PMI plays a purposeful role in translating environmental concern into actual behavior that is generally perceived to be sustainable by consumers.

Perhaps more importantly, this research provides initial support that one's belief of influence on others can actually influence one's own behavior. In other words, when one feels that his or her behavior influences others, it in turn impacts his or her own behavior. This unique conclusion has yet to be observed in the literature. The findings from this study build on the value-belief-behavior link by showing that an individual only has to *believe* that their actions influence the behavior of

Table 2
Correlation matrix.

Construct	1	2	3	4	5
1. Environmental concern	1.0				
2. Perceived marketplace influence	.52*	1.0			
3. Post-consumption behavior	.26*	.27*	1.0		
4. Energy efficiency behavior	.33*	.34*	.34*	1.0	
5. Eco-conscious buyer behavior	.57*	.58*	.46*	.45*	1.0

* Significant at the .01 level (2-tailed).

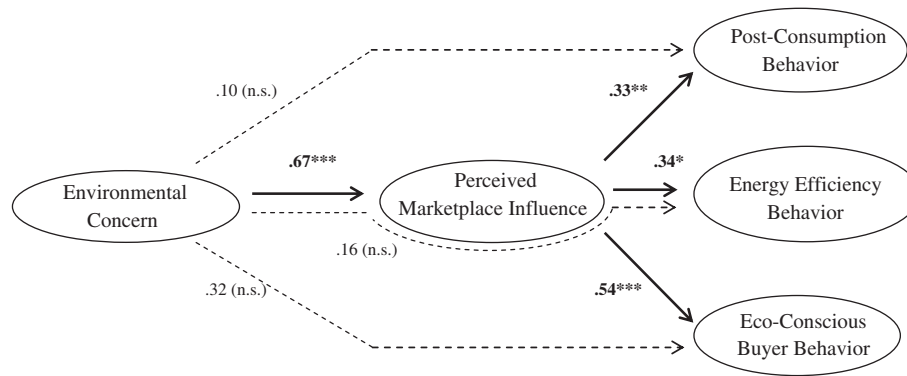


Fig. 2. Model results and coefficient values (*** $p < .001$; ** $p < .01$; * $p < .05$).

others in order for their own behavior to be positively changed; no actual evidence of such a change has to exist.

As interesting as the finding is that PMI mediates the concern–behavior association, the fact remains that environmental concern significantly influenced behavior before PMI was introduced into the model. Why does PMI intervene in this relationship? The authors believe that the answer lies in the distinction between environmental concern as a value and PMI as a belief. Concern for the environment is a global ideology (Bamberg, 2003) that manifests itself in behaviors across contexts. However, the expression of environmental concern varies in different situations because efficacy-related beliefs such as PMI intervene in the decision to pursue a specific course of action. These efficacy-related beliefs are powerful determinants of behavior within a specific context (Steg et al., 2005). In the domain of sustainable consumption behavior, evidence from this study supports that PMI is both an important factor in determining the expression of the more global value of environmental concern and a strong predictor of behavior. Still, such a belief may be more tacit than explicitly-held global values. Seen in this way, it is understandable that individuals often view concern as driving their behavior even though relevant efficacy-related beliefs such as PMI more directly determine behavior.

From the firm's perspective, this research can impact practice in a number of different ways. First, for firms pursuing green marketing, caution should be employed when utilizing self-reported environmental concern to estimate market potential. Identifying which efficacy-related belief is relevant to a particular set of market behaviors should be a key first step for market research as it may function as a barrier or enabler to adoption. For products and services positioned as “sustainable consumption” opportunities, PMI would be a relevant belief to investigate in members of a targeted market segment.

Ironically, PMI may also be very closely related to motivations present in situations typically considered harmful to the firm. For example, Braunsberger and Buckler (2011) identify the belief that consumers have the power to harm the bottom-line and impact the behavior of offending firms as two major motivators for boycott participants. This “sanction power” (Rezabakhsh, Bornermann, Hansen, & Schrader, 2006, p. 6) may only be impactful when combined with efforts of others and recognized by the firm. PMI captures both a belief in the impact on other consumers as well as anticipating responsiveness from the firm. In effect, a similar sense of “empowerment” for consumers can positively contribute to the adoption of ideology-driven consumption practices. For firms in an ethical or environmental market niche, the same belief that is troublesome to other firms may define, in effect, active members of their consumer population.

With the goal of increasing sustainable consumption behavior, firms and policymakers may be able to shrink the gap between environmental concern and behavior by encouraging PMI. Measures taken by firms and policymakers should encourage consumers to believe they are part of a large group of consumers (Thøgersen, 2005) that rely on the networked effects of their individual actions to successfully alter the

marketplace behavior of firms and other consumers. When individual actors in the marketplace believe that their consumer votes (Dickinson & Hollander, 1991) count, consumers are more likely to act in a manner consistent with their values, including environmental concern.

6. Limitations and future research

This study represents an initial attempt to understand the role that PMI plays in sustainable consumption behavior, and does not empirically address the distinction between PMI and related constructs such as PCE. While the current research begins to lay a foundation for the conceptual distinction between these constructs, future research is needed to further explicate the empirical differences between PMI and related constructs and control for social desirability bias.

This research tests the relationship between environmental concern, PMI, and three sets of behavior generally perceived to be environmentally-friendly. Considering the multi-dimensional nature of sustainable behavior (Stern, 2000), future research should test the mediating relationship with other types and sets of behavior to provide a greater understanding of how PMI influences behavior. As our use of a two-item scale for energy efficiency behavior limits our ability to appropriately validate the measure (Hair et al., 2006), future PMI-related research should utilize scales with three or more items to represent all behavioral constructs. Further research can also explore other behavior-specific beliefs or constructs that might attenuate or mediate the concern–behavior relationship. Finally, we believe that a richer understanding of PMI opens the door for generalizing the construct across domains. Specifically, future research should determine what other types of behavior PMI might influence beyond sustainable consumption.

7. Conclusion

Following the call of Bamberg (2003) and others, this research explores possible intervening forces in the relationship between environmental concern and actual behavior. We introduce the concept of Perceived Marketplace Influence (PMI) as a measure of a consumer's belief that their actions affect the behavior of other marketplace actors (e.g. other consumers and firms). This research finds that PMI mediates the relationship between concern and behavior, thus helping to explain prior inconsistencies in this relationship. Furthermore, this research also expands previous research on the relationship between values, beliefs, and behavior by showing that one's perceived influence on the behavior of others actually influences one's own behavior. The findings of this research ensure that the door is not by any means closed on research into sustainable consumption. Instead, it is clear that more work needs to be done. After all, as the opening statistics suggest, we must rethink and reduce our consumption practices if we wish to give future generations an equal opportunity to enjoy this Earth that we all call home.

Acknowledgments

The authors would like to thank Mark Peterson for comments on an earlier version of this manuscript and also insights gathered from the Summer School on Theories in Environmental and Economic Psychology (STEEP) at Aarhus University, Denmark, Summer 2012.

References

- Alwitt, L. F., & Pitts, R. E. (1996). Predicting purchase intentions for an environmentally sensitive product. *Journal of Consumer Psychology*, 5, 49–64.
- Anderson, J. C., & Gerbing, D. W. (1988). Structural equation modeling in practice: A review and recommended two-step process. *Psychological Bulletin*, 103, 411–423.
- Bamberg, S. (2003). How does environmental concern influence specific environmentally related behaviors? A new answer to an old question. *Journal of Environmental Psychology*, 23, 21–32.
- Bandura, A. (1997). *Self efficacy: The exercise of control*. New York: Freeman.
- Bettman, J. R., Luce, M. F., & Payne, J. W. (1998). Constructive consumer choice processes. *Journal of Consumer Research*, 25, 187–217.
- Braunsberger, K., & Buckler, B. (2011). What motivates consumers to participate in boycotts: Lessons from the ongoing Canadian seafood boycott. *Journal of Business Research*, 64, 96–102.
- Carrington, M., Neville, B., & Whitwell, G. (2014). Lost in translation: Exploring the ethical consumer intention–behavior gap. *Journal of Business Research*, 67, 2759–2767.
- Chan, R. Y. K. (2001). Determinants of Chinese consumers' green purchase behavior. *Psychology and Marketing*, 18, 389–413.
- Cho, Y. N., Thyroff, A., Rapert, M. I., Park, S. Y., & Lee, H. J. (2013). To be or not to be green: Exploring individualism and collectivism as antecedents of environmental behavior. *Journal of Business Research*, 66, 1052–1059.
- Dickinson, R., & Hollander, S. C. (1991). Consumer votes. *Journal of Business Research*, 22, 335–346.
- Eisinga, R., Grotenhuis, M., & Pelzer, B. (2013). The reliability of a two-item scale: Pearson, Cronbach, or Spearman–Brown? *International Journal of Public Health*, 58, 637–642.
- Ellen, P. S., Wiener, J. L., & Cobb-Walgren, C. (1991). The role of perceived consumer effectiveness in motivating environmentally conscious behaviors. *Journal of Public Policy & Marketing*, 10, 102–117.
- Farah, M. F., & Newman, A. J. (2010). Exploring consumer boycott intelligence using a socio-cognitive approach. *Journal of Business Research*, 63, 347–355.
- Fornell, C. D., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 18, 39–50.
- Fransson, N., & Garling, T. (1999). Environmental concern: Conceptual definitions, measurement methods, and research findings. *Journal of Environmental Psychology*, 19, 369–382.
- Galinsky, A. D., Gruenfield, D. H., & Magee, J. C. (2003). From power to action. *Journal of Personality and Social Psychology*, 85, 455–466.
- Global Footprint Network (2009). *How we can bend the curve: Trending toward a sustainable future*. (Retrieved from <http://www.footprintnetwork.org>).
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). *Multivariate analysis* (6th ed.). Upper Saddle River, NJ: Pearson Education, Inc.
- Illia, L., Bonaiuto, M., Pugliese, E., & van Rekom, J. (2011). Managing membership threats through collective efficacy. *Journal of Business Research*, 64, 631–639.
- Kilbourne, W. E., & Mittelstaedt, J. D. (2011). From profligacy to sustainability: Can we get there from here? In D. Mick, S. Pettigrew, C. Pechmann, & J. O'zanne (Eds.), *Transformative consumer research for personal and collective well-being* (pp. 283–300). New York: Routledge.
- Kilbourne, W. E., & Pickett, G. (2008). How materialism affects environmental beliefs, concern, and environmentally responsible behavior. *Journal of Business Research*, 61, 885–893.
- Kim, Y., & Choi, S. M. (2005). Antecedents of green purchase behavior: An examination of collectivism, environmental concern, and PCE. *Advances in Consumer Research*, 32, 592–599.
- Laroche, M., Bergeron, J., & Barbaro-Forleo, G. (2001). Targeting Customers who are willing to pay more for environmentally friendly products. *Journal of Consumer Marketing*, 18, 503–520.
- Luchs, M. G., Naylor, R. W., Irwin, J. R., & Raghunathan, R. (2010). The sustainability liability: Potential negative effects of ethicality on product preference. *Journal of Marketing*, 74, 18–31.
- Minton, A. P., & Rose, R. L. (1997). The effects of environmental concern on environmentally friendly consumer behavior: An exploratory study. *Journal of Business Research*, 40, 37–48.
- Mittelstaedt, J. D., Murphy, P. E., & Sherry, J. F. (2009). When is the environmental imperative the ethical imperative? Measuring the resonance of ethical bases of sustainable consumption. *Proc. Macromarketing Conf.*
- Mourali, M., & Nagpal, A. (2013). The powerful select, the powerless reject: Power's influence in decision strategies. *Journal of Business Research*, 66, 874–880.
- Napoli, J., Dickinson, S. J., Beverland, M. B., & Farrelly, F. (in press). Measuring consumer-based brand authenticity. *Journal of Business Research*, <http://dx.doi.org/10.1016/j.jbusres.2013.06.001> (in press).
- O'Sullivan, E., & Taylor, M. M. (2004). *Learning toward an ecological consciousness: Selective transformative practices*. New York: Palgrave MacMillan.
- Prothero, A., Dobscha, S., Freund, J., Kilbourne, W. E., Luchs, M. G., O'zanne, L. K., et al. (2011). Sustainable consumption: Opportunities for consumer research and public policy. *Journal of Public Policy & Marketing*, 30, 31–38.
- Rezakbakhsh, B., Bornemann, D., Hansen, U., & Schrader, U. (2006). Consumer power: A comparison of the old economy and the Internet economy. *Journal of Consumer Policy*, 29, 3–36.
- Roberts, J. A. (1996). Green consumers in the 1990s: Profile and implications for advertising. *Journal of Business Research*, 36, 217–231.
- Schultz, P. W. (2001). The structure of environmental concern: Concern for self, other people, and the biosphere. *Journal of Environmental Psychology*, 21, 327–339.
- Steg, L., Dreijerink, L., & Abrahamse, W. (2005). Factors influencing the acceptability of energy policies: A test of VBN theory. *Journal of Environmental Psychology*, 25, 415–425.
- Stern, P. C. (2000). Toward a coherent theory of environmentally significant behavior. *Journal of Social Issues*, 56, 407–424.
- Stern, P. C., & Dietz, T. (1994). The value basis of environmental concern. *Journal of Social Issues*, 50, 65–84.
- Thøgersen, J. (2005). How may consumer policy empower consumers for sustainable lifestyles? *Journal of Consumer Policy*, 28, 143–178.
- U.S. Environmental Protection Agency (2013). *Municipal solid waste generation, recycling, and disposal in the United States: Facts and figures for 2011*. (Retrieved from <http://www.epa.gov>)
- van Liere, K. D., & Dunlap, R. E. (1980). The social bases of environmental concern: A review of hypotheses, explanations, and empirical evidence. *Public Opinion Quarterly*, 44, 181–197.
- Zhao, X., Lynch, J. G., Jr., & Chen, Q. (2010). Reconsidering Baron and Kenny: Myths and truths about mediation analysis. *Journal of Consumer Research*, 37, 197–206.