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Cultural antecedents of green behavioral intent: An environmental theory of planned behavior☆

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ABSTRACT

While ecological awareness and behaviors are slowly improving, we need worldwide action to ameliorate and counteract humanity's aversive impact on nature. Our study develops, validates, and evaluates an environmental theory of planned behavior model aimed at predicting green (i.e., environmentally-friendly) behavioral intentions using a bi-national sample (n = 162). Then, a second, primarily bi-national sample (n = 144) is used to expand the theory and examine the effects of identity, operationalized as independent and interdependent self-construal, on green behavioral intentions. The results indicate that how we define our self has a substantial impact on our intents to protect the environment. Our findings add to previous work on the role of self-identity and provide a new theoretical perspective to guide green policy and changes aimed at increasing sustainability.

1. Introduction

There is little controversy about climate change and environmental damage among those with environmental expertise (IPCC, 2014; McMichael, Woodruff, & Hales, 2006; Pew Research Center, 2007, 2013). To counteract human contributions to environmental degradation (De Groot & Steg, 2007; Oskamp, 2000, 2010; IPCC, 2007; IPCC, 2014; Smith, 2013; Swim, Markowitz, & Bloodhart, 2012), a concerted commitment to change is necessary to combat the broad scope and complexity of environmental problems (IPCC, 2014). To facilitate that kind of change, studies need to further refine methods and variables that support environmentally sustainable choices and behaviors.

Across the world's landscape, there are few identified differences in pro-environment intent between humans living in different geographic areas. Much research has identified affluence, education, gender, and local-global conditions as key cultural factors in predicting environmental intent and behavior (Gifford & Sussman, 2014; Milfont, 2012; Zelezny, Chua, & Aldrich, 2000). The purpose of this study is to develop, validate and evaluate an environmental theory of planned behavior that can explain sustainable behavioral intent in multicultural settings and inform policy.

1.1. Environmental theory of planned behavior

Although not without detractors (e.g., Sniehottaa, Presseaua, & Araújo-Soares, 2014), one of the most utilized models explaining how behavioral intentions are formed is the theory of planned behavior (Heath & Gifford, 2002; Rivis & Sheeran, 2003; Sanchez-Medina, Romero-Quintero, & Sosa-Cabrera, 2014). According to the theory of planned behavior (TPB), intent or readiness to act is the most proximal determinant of behavior. In this model an individual's behavioral intention is influenced by behavioral, normative, and control beliefs (Fishbein & Ajzen, 1975; Ajzen, 1991; Ajzen & Fishbein, 2005). Behavioral beliefs refer to attitudes about the targeted topic regarding likelihood that specific behaviors would occur. Normative beliefs involve the extent to which it is perceived that others expect a certain behavior, coupled with one's personal motivation to comply. Perceived behavioral control refers to one's assessed ability to overcome obstacles and accomplish the behavior. Ajzen tested these three beliefs by using questionnaires addressing individuals' attitude towards the behavior at hand, the importance placed on subjective norms, and their perception of behavioral control. The relative influence of these factors depends on the particular issue under study and the sample (Sanchez-

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Medina et al., 2014) but the TPB model is robust and effective (Armitage & Conner, 2001; Chao, 2012).

Although TPB can explain a broad range of human behaviors, substantial research has focused on environmental choices and policy (Heath & Gifford, 2002; Mannetti, Pierro, & Livi, 2004; Nigbur, Lyons, & Uzzell, 2010; Oreg & Katz-Gerro, 2006). Prototypical research targets local community concerns like transportation use (De Groot & Steg, 2007; Heath & Gifford, 2002), workplace behaviors (Greaves, Zibarras, & Stride, 2013) or recycling (Chan, 1998; Nigbur et al., 2010) in locations around the world (Chao, 2012; Oreg & Katz-Gerro, 2006). Niaura (2013) used a young adult sample to study core TPB variables and conservation behavior. He found that the relationship between environmental intent and actual behavior was twice as strong as the relationship between behavior and attitudes, supporting the notion that intent is the proximal behavior predictor. He also found that perceived behavioral control strongly predicted intent, and to a lesser degree, behavior. Social pressure was less effective in predicting intent, and did not predict behavior (Niara, 2013). Using meta-analysis, Armitage and Conner (2001) TPB research predicted 39% of the variance in behavioral intention, 21% of the variance in self-reported behavior and 30% of the variance in observed behavior. Kaiser, Wolfing, and Fuhrer (1999) also evaluated environmental attitudes and their effect on environmental behaviors, explaining 40% of the variance behavioral intentions and 38% of the variance of ecological behavior. Perhaps the best predictions of the theory of planned behavior accounted for 76% of the variance in conservation intent and 95% in sustainability behaviors (Kaiser, Hübner, & Bogner, 2005).

Demonstrating the utility of TPB in explaining environmental intentions and behaviors, Armitage and Conner's (2001) meta-analysis concluded that subjective norms were sharply influenced by idiosyncrasies of evaluators (Nigbur et al., 2010) or moderated by group and self-identification (Schultz, Nolan, Cialdini, Foldstein, & Griskevicius, 2007). Apart from these issues, the TPB has been criticized for being too focused on the individual's behavior with insufficient attention to respondent identity.

1.1.1. The role of self

From TPB research, a growing number of studies suggest that it is important to incorporate self-identity to improve prediction (e.g., Conner & Armitage, 1998; Fielding, McDonald, & Louis, 2008; Mannetti et al., 2004; Park & Levine, 1999; Sparks & Guthrie, 1998). When one's representation of self is highly attuned to others, it is readily evident that more concern about subjective others is highly probable. On the other hand, self-efficacy is also recognized as being predictive of TPB perceived control, and beliefs about self-efficacy are crucial to behavior change in general. However, taking self-efficacy into account is not sufficient, so some scholars have proposed an explicit self-identity component to the TPB. For example, Conner and Armitage (1998) review self-identity as a possible extension of TPB and conclude it consistently adds a small amount of variance to the model, after belief variables are fully included. Stryker's identity theory (Stryker & Burke, 2000) provides a theoretical basis for self-representation (Conner & Armitage, 1998; Mannetti et al., 2004; Terry, Hogg, & White, 1999). Stryker (1968; Stryker & Burke, 2000) focuses on the links between social structures and identities in the meanings drawn from the multiple roles people play. Self-identity incorporates all the roles owned by an individual that affect action and behavior, which may precede and contribute to expectations and norms. The choices we make may also be determined by the degree to which a given intention or behavior is consistent with or important to one's sense of self (Stryker, 1968).

Further, identity can encompass a wider social context for the individual, linking intent and action to some personal characteristic (Charng, Piliavin, & Callero, 1988). Charng et al. (1988) studied intent to donate blood and found that repeated behaviors increased identity as a blood donor. At least in this context, intentions were based in part on important aspects of the self. Hyde and White (2013) found that self-identity was a significant predictor of intent to donate bone marrow, which improved the standard TPB model. Knowles, Hyde, and White (2012) also found another type of personal sense of moral obligation predicted charitable giving, evoking more idiosyncratic self-involvement. While morality may seem to diverge from environmental sustainability, Thogersen's (1996) analysis suggests, for many, environmental concerns are a function of beliefs about right and wrong and as such are an issue of morality.

Other research has explicitly focused on environmental intentions and behavior. In a survey assessing pro-environment behaviors, Whitmarsh and O'Neill (2010) also found that personal identity regarding carbon offset, substantially improved the TPB model. In their data, only attitudes (not norms or control) predicted behavior with the original model. Addressing another environmental concern Mannetti et al. (2004) investigated intent to recycle and found that identity was the strongest predictor of behavioral intentions, improving the standard TPB model. Mannetti et al. entered identity at the same level as attitude, control beliefs, and norms. Even though the identity measure had relatively low reliability, the model suggested the latent variable was quite powerful. Using a different approach, Sonenshein, DeCelles and Dutton's (2014) mixed methods design convincingly demonstrated that even for environmental supporters, personal evaluations of their self-assets and self-doubts weighed heavily in environmental interpretations and behavioral efficacy. In short, a range of studies with different environmental foci extend the TPB model by using a variety of ways to define self identity.

One aspect of identity that may be particularly relevant is self-construal. Initially described as how people feel and think about themselves, Markus and Kitayama (1991) suggested that self-construal is an individual difference in people's perception of the world and their role in it. As an aspect of self-concept, self-construal captures differential focus on a variable, flexible self who values connectedness with others versus an autonomous, invariant self who values independence (Singelis, 1994). Often applied to culture, self-construal has been used in hundreds of studies to characterize the way information is represented, interpreted and acted upon (Cross, Hardin, & Gercek-Swing, 2011). While individuals may or may not adhere to their cultural values, the basic idea is that people from collectivist countries highly value interdependence, because of their interest and reliance on others. Interdependence is also aligned with fitting harmoniously into the social environment. In contrast, people from individualist countries often prioritize independence and self-advancement relative to group achievement. Of course, there may be substantial individual differences in the extent to which people embrace these values and some individuals embrace both interdependent and independent values (Singelis, 1994; Sinha & Tripathi, 1994; Triandis & Suh, 2002).

Self-construal has been linked to socially responsible behavior, where people with a higher level of interdependence deliberated more on collective outcomes when making decisions (Arnocky, Stroink, & deCicco, 2007; McCarty & Shrum, 2001), while independence predicted egoistic environmental concern (Arnocky et al., 2007). As one's sense of self is continually evolving, one's schema of self provides a framework for determining attitudes and expectations, and especially behavior. Self-schema guide how we process information, particularly that related to the self (Markus, 1977). Markus found that one's self-schema also predicted behavior on schema-related dimensions, and made individuals resistant to