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# Predicting Pro-Environment Behaviors of Canadian Campers: Actual Behavior Measurement

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## **Predicting Pro-Environment Behaviors of Canadian Campers: Actual Behavior Measurement**

### **INTRODUCTION**

Although nature-based tourism has been promoted as a tool to connect people to nature, managing the environmental impacts of nature-based activities has been a major concern (Mieczkowski, 1995; Buckley, 2004; Monz, Pickering, & Hadwen, 2013; Hammitt, Cole, & Monz, 2015). According to Mason (2015), managing nature-based tourism and outdoor recreation is challenging due to the limitations of required knowledge and engineering. Thus, it is important to understand people's behavior to be able to manage impacts associated with nature-based tourism activities. This study introduces a comprehensive theory, which includes actual behavior measurements, in order to predict pro-environmental behaviors of front-country campers in Canada. Some of the most well-acknowledged social psychological theories, were incorporated into the theory of this study.

### **LITERATURE REVIEW**

The present study utilized significant behavior and leisure theories to attempt to develop a theory that explains front country campers' pro-environmental behaviors. Several thousand empirical studies have confirmed that the theory of planned behavior (TPB) is one of the most successful behavior prediction theories in social psychology (Ajzen, 2011). The TPB structured the framework of this research. Although the TPB's parsimony is acknowledged, extending the theory is encouraged to improve its predictability power in different contexts. Therefore, we extended the TPB by including predictors suggested by the literature. Motivation to participate in environmental behavior has been found to have a significant influence on people's pro-environmental behavior (Ryan & Deci, 2000). As one of the most successful motivation theories, self-determination theory (SDT, Deci & Ryan, 1985) has been positively tested in different fields, including pro-environmental behavior research (Pelletier, Dion, Osbaldiston & Sheldon, 2003; Pelletier & Sharp, 2008; Renaud-Dubé et al., 2010). This study employed SDT to investigate individuals' motivations to participate in pro-environmental camping practices. The impact of constraints on people's pro-environmental behavior has been examined in several studies using hierarchical leisure constraints theory (Crawford et al., 1991). We employed a similar approach to investigate people constrains in this study. Negotiation through these constraints (Jackson et al., 1993) was also included in the structural model of this study to examine their impact on people's pro-environmental camping behavior.

### **A COMPREHENSIVE MODEL**

The above-mentioned theories and variables were integrated to a structural model to generate a theory that has considerable power to predict people's pro-environmental behavioral intention during outdoor recreation, particularly front-country camping. Knowledge of pro-environmental actions and past behavior were also included in the model. This study proposes that intention is the direct immediate predictor of behavior. Intention, in turn, is influenced by people's attitudes, subjective norms (SN), and perceived behavioral control (PBC). Constraints to pro-environmental behavior directly and negatively influence people's attitudes, SN, and PBC as well as their intentions. Motivation, knowledge, and negotiation directly and positively influence attitudes, SN, and PBC. Motivation and knowledge negatively influence constraints. Motivation and knowledge positively and directly influence negotiation. Finally, past behavior influences constraints, negotiation, attitude, SN, PBC, motivation, and knowledge (see Figure 1).

### **METHODOLOGY**

The target population of this study was front-country campers who stayed in designated provincial parks' campgrounds in Alberta province, Canada. Kananaskis Country, Long Lake, Cross Lake, Cypress Hills, and Gregory Lake Provincial Parks in Alberta were selected so that a representative sample of campers who seek diverse geography and recreation activities could be obtained. Targeted campsites were selected based on the campgrounds' registration lists. Data were collected using a self-administrated paper-based questionnaire during August and September 2014. People who agreed to participate in the second survey were contacted 45 days after they completed the first survey. Participants of the second survey responded to behavior measurement items that were generated based on the intention questions in the first questionnaire. The first questionnaire was completed by 1,047 front country campers using the selected

Alberta parks. Of these participants 394 people provided either their phone number or email; 264 individuals responded to the second survey. Responses from the first and the second questionnaires for these 264 participants were included in this study.

## FINDINGS

Over 55% of the participants were female and the average age of the sample was 44 years old ( $SD = 11.7$ ). Regarding participants' education, 13% of the sample held a graduate level degree, 22% held bachelor's degree, 42% had a college diploma, and the rest had a high school diploma. Structural equation modeling (SEM) was used to test the hypothesized relationships among variables in the proposed models. Model fit indices were tested (Root Mean Square Error of Approximation: RMSEA, Comparative Fit Index: CFI, and incremental fit index: IFI). Overall, the findings showed a good model data-fit. Utilizing maximum likelihood estimation, the results of the SEM demonstrated the significance of the proposed model. All of the TPB original paths in the present study were significant. Intention had a significant direct positive influence on behavior ( $\beta = .47, p < .001$ ). Attitude ( $\beta = .25, p < .001$ ), SN ( $\beta = .34, p < .001$ ), and PBC ( $\beta = .31, p < .001$ ) positively and directly influenced intention. As was hypothesized, constraints directly and negatively influenced attitude ( $\beta = -.13, p < .05$ ), SN ( $\beta = -.17, p < .001$ ), and PBC ( $\beta = -.26, p < .001$ ). The direct association between constraints and intentions, however, was not significant. Negotiation positively influenced attitude ( $\beta = .28, p < .001$ ), SN ( $\beta = .28, p < .001$ ), and PBC ( $\beta = .21, p < .001$ ). Motivation to participate in pro-environmental camping practices directly positively influenced negotiation ( $\beta = .16, p < .001$ ) and intention ( $\beta = .12, p < .001$ ); but did not directly influence any other TPB predictors. Knowledge negatively influenced constraints ( $\beta = -.28, p < .001$ ) and positively and directly influenced negotiation ( $\beta = .36, p < .001$ ). Results did not show any significant direct association between knowledge and TPB items. Past behavior, as an antecedent variable in the model, directly and positively influenced knowledge ( $\beta = .38, p < .001$ ), motivation ( $\beta = .29, p < .001$ ), negotiation ( $\beta = .23, p < .001$ ), and attitude ( $\beta = .20, p < .001$ ), and negatively influenced constraints ( $\beta = -.25, p < .001$ ). In total, the structural model could predict 62 percent of the variation in behavioral intention ( $R^2 = .62$ ) and 22 percent of variance in behavior. Also, a considerable amount of variance in the predictors of intention was captured in the model (i.e., 23% in attitude, 14% in SN, 18% in PBC, 20% in constraints, and 30% in negotiation).

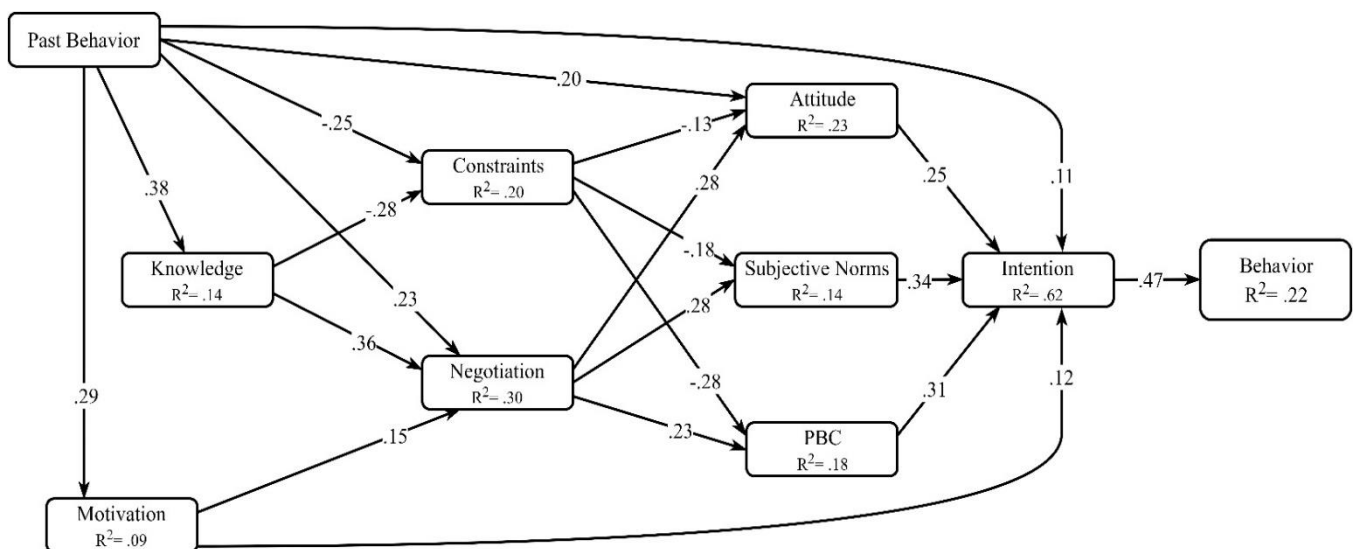


Figure 1. Structural equation modeling results

### IMPLICATIONS AND CONCLUSION

The theory presented in this study was generated based on pro-environmental behavior, outdoor recreation, and tourism literature. Predicting intention, as the most immediate predictor of behavior, is important for understanding behaviors. However, the goal of predicting intention is to predict behavior. Therefore, the investigation of behavior was the most important contribution of this paper. Literature of environmental psychology shows a huge gap between intention and behavior. The theory we proposed and tested in this study was capable of predicting 62% of the variation in intention and 22% of the variance of behavior.

The results of this study confirmed the expected association between attitude, SN, and PBC and intention to engage in pro-environmental camping activities. Our results also indicated that removing constraints to pro-environmental camping behavior and negotiation increases people's perception of control over the action. Antecedent to the above-mentioned factors, knowledge of pro-environmental camping practices showed a remarkable influence on intention; knowledge acted indirectly through SN, PBC, constraints, and negotiation. The strongest association was between knowledge and negotiation. Motivation was also proposed to be associated with attitudes, subjective norms, PBC, constraints, and negotiation. However, results revealed that motivation was only associated with negotiation and constraints. Most distally, past behavior was proposed to be associated with all the other layers of factors that influenced behavioral intentions (attitude, SN, PBC, negotiation, constraints, knowledge, and motivation). All of these associations were supported by the data obtained for this study. Further theoretical and practical implications will be discussed during the presentation.

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