

# THE ROLE OF CULTURAL IDENTITY ON ENERGY SAVING BEHAVIOR

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## Abstract

*Due to environmental problems such as global warming and decrease in energy sources, protection of environment and natural balance has become one of the agenda items of the public opinion. Energy saving is one of the most important strategies of environmental protection. As energy saving is one of the cheapest and effective ways of reducing carbon dioxide emissions, there are conscious efforts to increase energy savings and to use it efficiently. A considerable amount of energy use is actualized by households. Therefore, it is important for individuals to reevaluate their life styles and their consumption behavior in a manner to increase energy saving. It is required to evaluate individual level variables to make people save energy or use it in an efficient way. One of these variables is “identity.”*

*In this research, the effects of “global” and “local” identities on two different types of energy saving behavior: saving and efficiency, are examined. In addition, the mediating roles of personal and social norms in the relations between global-local identities and energy saving behavior are investigated.*

**Keywords:** Global Identity, Local Identity, Norms, Energy Saving Behavior

## Introduction

As energy saving is one of the most important strategies to protect the environment and one of the cheapest ways to reduce carbon dioxide emission (Han et al. 2013), there are conscious efforts to realize in energy savings (Biesiot and Noorman 1999). Many studies have examined intervention strategies for encouraging household energy saving behavior, such as information provision, public campaigns, goal setting, feedback, comparative feedback, and reward (Winnett et al. 1978; Becker 1978; Midden et al. 1983; Brandon and Lewis 1999; Abrahamse and Steg 2009; Abrahamse et al., 2007; Petersen et al., 2007; Allcott, 2011). If the aim of interventions is to reduce households’ energy consumption patterns, it is necessary to consider individual level variables (Abrahamse et al. 2005).

In some studies, energy use has been linked to individual variables, such as attitudes (Becker et al. 1981). While it may seem intuitive that environmental conservation behavior will follow from pro-environmental attitudes, and intentions, this has not seemed to be the case in many empirical studies (e.g. Constanzo et al. 1986; Kantola et al. 1984) and commonly assumed attitude–behavior models such as Theory of Planned Behavior (Ajzen 1991), Motivation Opportunity Ability (Ölander and Thøgersen 1995), or Norm Activation Model (Schwartz 1977) are not sufficient to predict pro-environmental behavior. This discrepancy between attitude and behavior is referred to as the attitude behavior split/gap (Kollmuss and Agyeman 2002; Bell 2009). Therefore, we need to employ a more advanced model if we are to predict people’s behavior from attitudes or intentions.

Regarding environmental or saving behavior, several factors have been shown to moderate and mediate the gap between a resolution and its realization such as economic factors (Steg, 2008), habits (Loibl, Kraybill, and DeMay 2011), perceived behavioral control (Richetin et al., 2011), but the role of identity has not been quite investigated. To facilitate the ‘interest-to-action’ conversion in energy saving behavior, we propose that identity (i.e. cultural) will influence actual behavior. Therefore, the aim of this research is to investigate the role of identity, specifically global-local identity in filling the gap between environmental knowledge, attitudes and environmental behavior.

“Global identity” can be defined as psychological and emotional investment in the global community (Der Karabetian and Ruiz 1997) and “local identity” broadly means identifying with people in one’s local community (Arnett 2002). One of these identities is often stronger than the other and may become prominent under certain circumstances.

There are two types of energy saving behavior: Curtailment (saving) behavior and efficiency (investment) behavior. The two types of energy-saving actions are psychologically different (Gardner and Stern, 2002). Curtailment behaviors are no cost, habitual behaviors (e.g. turning TVs off when not in use). These are actions people undertake without really thinking about them. Efficiency behavior, either low cost (e.g. buying efficient lights) or high cost (e.g. buying efficient appliances) are one off behaviors which require more thinking and more efforts. Individuals with a salient global identity have concerns about the whole World. Those who have a salient local identity are limited to their immediate surroundings.

Previous research has shown that a local attitude such as ethnocentrism is positively related to collectivism (Sharma et al. 1995; Yoo and Donthu 2005) and collectivist people tend to score higher on subjective norms (Park 2000). On the other hand, a global attitude such as cosmopolitanism is positively correlated with self-direction (Ralston et al. 1996; Cleveland et al. 2011). Autonomous/self-directed people have the ability to withstand social pressures for conformity and to act independently of the norms of an immediate group in favor of their own personal norms (Theodorson and Theodorson 1970). Individuals who act on social norms are motivated by complying with others or by social pressure whereas those who act on personal norms are motivated by their own values, and judgements. Building on these evidences, we anticipate that:

**H1a:** Personal norms will mediate the relation between global identity and energy saving behavior.

**H1b:** Social norms will mediate the relation between local identity and energy saving behavior.

## Study

### Participants and Procedure

A survey was conducted among randomly chosen Turkish households in the metropolitan city İstanbul. A total of 527 participants responded to the survey. The sample included 266 males and 261 females with an average age of 39. 372 of them were married, 132 were single. The median household size was 4 people. 45% had a high school or a higher degree.

### Measures

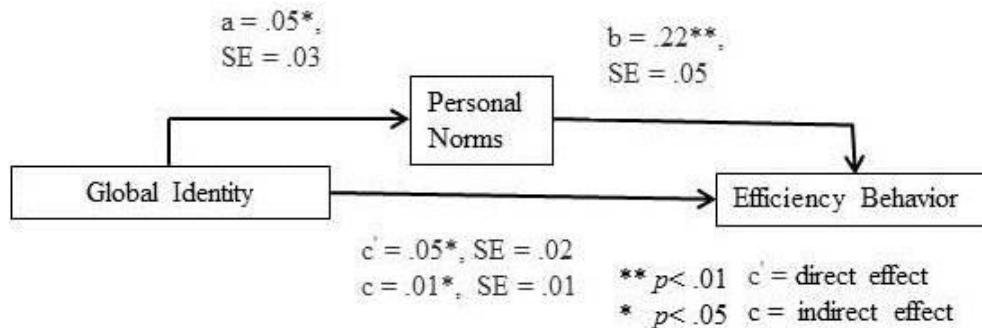
All questions were translated into Turkish by two experts. Then, the meanings of the questions were compared with the meanings of questions in English in a panel discussion including 7 academicians. Participants first responded to 4 energy saving behavior related questions (5 point scale; never-always;  $\alpha = .70$ ). Global and local identities were measured by a scale adapted from Zhang and Khare (2009) (7 point scale; totally disagree-totally agree;  $\alpha = .95$ ). After this, they responded to 4 questions on personal norms (e.g., I feel morally obliged to turn off an electronic device when not in use; 5 point scale; totally disagree-totally agree;  $\alpha = .76$ ), and 4 questions on social norms (e.g., I think that people close to me buy energy-efficient electronic devices; 5 point scale; totally disagree-totally agree;  $\alpha = .72$ ). In addition, participants completed a shortened form of social desirability scale adapted from Marlowe-Crowne Social Desirability Scale. The items used in this scale were chosen from two papers (Ferrando and Anguiano-Carrasco 2010; Ventimiglia and Mac Donald 2012) based on the highness of factor scores. The study concluded with a brief demographic survey.

### Results And Discussion

To examine whether norms may mediate the relations between cultural identity (global-local) and energy saving behavior, Hayes’ (2013) PROCESS Model 4 was employed using a bootstrap sample of 5000. Age, gender, marital status, education, income, household size and social desirability bias were added as covariates in all models. The first model tested the mediating role of personal norms in the relation between global identity and curtailment behavior.

The results have shown that the indirect effect of global identity on curtailment behavior through personal norms was not significant with a 95% confidence interval ( $b = -.007, [-.019, .002]$ ) including zero. This finding does not support H1a for curtailment behavior.

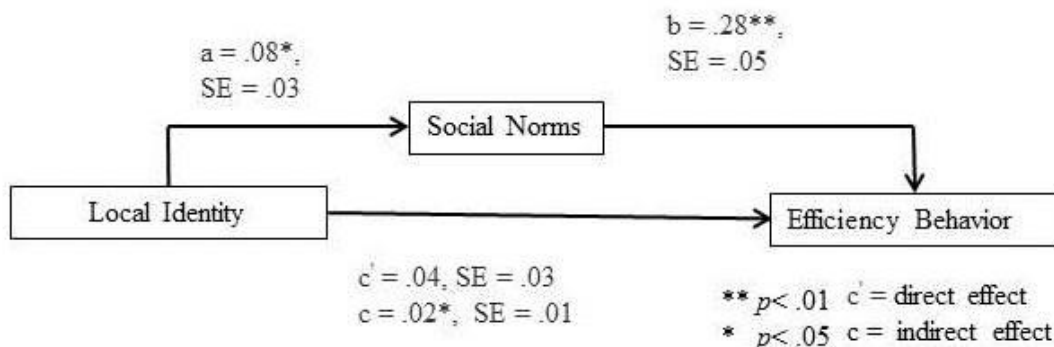
The second model tested whether personal norms would mediate the effect of global identity on efficiency behavior. The results suggested that the effect of global identity was mediated by personal norms ( $b = .01, [.000, .031]$  95% CI). Direct effect was also significant ( $b = .05, [.09, .10]$  95% CI), suggesting a partial mediation. This result supports H1a for efficiency behavior. The model and the results can be seen on Figure 1.



**Fig.1. Personal Norms mediate the Effect of Global Identity on Efficiency Behavior.**

The third model examined the mediating effect of social norms in relations between local identity and curtailment behavior. The results have revealed that the mediating effect was not significant ( $b = .002, [-.006, .009]$  95% CI). This finding does not support H1b for curtailment behavior.

The final model examined whether social norms would mediate the effect of local identity on efficiency behavior. The results have shown that the effect of local identity on efficiency behavior was through social norms ( $b = .02, [.006, .047]$  95% CI). The direct effect was not significant, suggesting a full mediation ( $b = .04, [-.01, .09]$  95% CI). This result supports H1b for efficiency behavior. The model and the results can be seen on Figure 2.



**Fig.2. Social Norms mediate the Effect of Local Identity on Efficiency Behavior.**

This study contributes to research by showing that cultural identity has an effect on some types of energy saving behavior. The effect mechanisms differ by identity and energy saving type. The results of this research show that global identity affects efficiency behavior both directly and through personal norms, but local identity affects efficiency behavior indirectly through social norms. These effects are not valid for curtailment behavior. As curtailment and efficiency behaviors are psychologically different (Gardner and Stern 2002), the processes affecting them might also be different. Future research should further examine the processes in identifying the effects of cultural identity on saving behavior.

For people with a more accessible local identity, activation of social norms should have a positive effect. For people with a more accessible global identity, activation of personal norms should have a positive effect. To increase efficiency behavior, in rural areas where people have predominantly local identities, social norms should be activated through ads or environmental campaigns. In metropolitan areas where people have predominantly global identities, personal norms should be activated. The results of this research will help to increase energy saving behavior that is to say pro-environmental behavior. This may in turn help to save natural resources and increase social and economic welfare.

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