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ORIGINAL ARTICLE

Emotions toward water consumption: Conservation and wastage

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Abstract Water is a key element for the human survival but unsustainable patterns of water consumption are still evident. Many factors influence water conservation but the existing literature investigating psychological determinants of water conservation have so far focused on cognitive or motivational factors. However, there is growing evidence for the important role of emotions as predictors of environmental engagement in general and water conservation in particular. The present article contributes to this recognition of the role of emotions by reporting two studies on the development and validation of a measure to access negative emotions regarding water wastage, the Rating Scale of Emotions towards Water Wastage (RSEWW). Results confirmed that this 12-item scale form a unidimensional measure that reliably predict participants' behavioral intention to participate in activities for the water conservation. Theoretical and practical implications from the findings are discussed in relation to the extant literature.

PALABRAS CLAVE
Agua;
Emocione;
Desperdicio;
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Emociones hacia el consumo de agua: desperdicio y sostenibilidad

Resumen El agua es un elemento clave para la supervivencia humana, pero los patrones no sostenibles de consumo de agua siguen siendo evidentes. Muchos factores influyen en la conservación del agua, pero la literatura existente que investiga los determinantes psicológicos de la conservación del agua, hasta el momento, se han centrado en los factores cognitivos o motivacionales. Sin embargo, existe una creciente evidencia de la importancia del papel de

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las emociones como predictores de la participación en la conservación del medio ambiente en general y del agua en particular. El presente artículo contribuye a este reconocimiento del papel de las emociones en la exposición de 2 estudios sobre el desarrollo y validación de una medida para acceder a las emociones negativas con respecto a desperdicio de agua, la Escala de Evaluación de las Emociones hacia el Desperdicio de Agua (Rating Scale of Emotions towards Water Wastage [RSEWW]). Los resultados confirmaron que esta escala de 12 ítems forma una medida unidimensional que prevé de manera fiable la intención de conducta de los participantes para intervenir en las actividades para la conservación de agua. Implicaciones teóricas y prácticas de los hallazgos se discuten en relación con la literatura existente.

Water is a key element for the human survival. However, freshwater is becoming a scarce resource. Many freshwater sources are threatened by waste, dumping of industrial pollutants and fertilizer runoff. Currently, around 1.2 billion people in the world have limited access to drinking water, which means that one in six people do not have drinking water for your needs, because the demand for water exceeds the supply, and this situation does not show signs of change (Rogers, 2008). From this, the society has a key role to the sustainable development and promotion of pro-environmental behavior, demanding from the governments some urgently and needed changes (de Oliveira Tassara, Ardans-Bonifacino, & Oliveira, 2013; Mankad & Tapsuwn, 2011).

Water wastage, like many other environmental problems, is caused by maladaptive human behaviors and thus, the psychology has an important role in its mitigation (e.g., Corral-Verdugo, 2001; Corral-Verdugo, Tapia-Fonllem, Ortiz-Valdez, & Fraijo-Sing, 2013; Oskamp, 2000; Stern, 2000). Therefore, the psychology in this context needs to take an active role, first knowing the antecedents of the behaviors that promote environmental quality for current and future generation, and then tracing intervention programs to ensure this goal (Schultz, 2002).

For Vining and Ebreo (2002, p. 545), ''many studies of the relations between environmental attitudes and pro-environmental behavior have focused on the prediction of behavior from general attitudes about the environment, that is, from environmental concern''. The term ''environmental concern'' is typically used in empirical literature to refer to ''environmental attitudes'', as a synonymous (Dunlap & Jones, 2002; Fransson & Gärling, 1999), whereas others tend to differentiated them (Schultz, Shriver, Tabanico, & Khazian, 2004; Stern & Dietz, 1994).

However, the measures of environmental concern have generally been found to be only weakly related to the performance of pro-environmental behaviors (Vining & Ebrero, 2002). For example, the New Environmental Paradigm instrument (Dunlap & Van Liere, 1978; Dunlap, Van Liere, Mertig, & Jones, 2000). Specifically, Corral-Verdugo and Armendáriz (2000) found a correlation of 0.21 between the NEP and a measure of reuse behavior. Vining and Ebreo (2002) endorse the items on this measure; their overall score on the instrument has small correlations with their behavior. Often, this measure is interesting in cognitive variables as behavioral determinants, with particular focus in two main theoretical frameworks: values and attitudes (Bamberg & Möser, 2007; Grob, 1995; Groot & Steg, 2008; Heyl, Díaz, & Cifuentes, 2013; Milfont, Duckitt, & Cameron, 2006; Wray-Lake, Flanagan, & Osgood, 2010).

For this article, in particular, aiming to provide a convergent validity to the second study (Study 2), was adopted the concept proposed by Schultz et al. (2004, p. 31): Environment Attitudes (EA) are ''the collection of beliefs, affect, and behavioral intentions a person holds regarding environmentally related activities or issues'', and have been traditionally viewed as unidimensional (Poortinga, Steg, & Vlek, 2002). However, EA has also be seen as a multidimensional construct related to value-based orientations, having either two (Kortenkamp & Moore, 2000; Thompson & Barton, 1994) or three dimensions (Schultz et al., 2004; Stern & Dietz, 1994). In the present study, EAs will be considered in line with the two-dimensional value-based tradition. Specifically, Wiseman and Bogner's (2003) Model of Ecological Values was considered; they argued that ecological values are established by ''one's position on two orthogonal dimensions, a biocentric dimension that reflects conservation and protection of the environment (Preservation); and an anthropocentric dimension that reflects the utilization of natural resources (Utilization)'' (p. 787).

Thus, for this study make use the measure called Environmental Attitudes Inventory (EAI) are considered through their two second-order factors, namely environmental preservation and environmental utilization. This measure presents adequate psychometric parameters, and also to be largely free from social desirability (Milfont & Duckitt, 2010).

On the other hand, in the value orientation approach, Stern and Dietz (1994) proposed a theory of the value basis of environmental concern. Expanding the Schwartz's (1977) norm-activation model of altruism, they argued that environmental moral norms could be activated by social-altruistic values as well as by egoistic or by biospheric values, leading to a tripartite classification of value orientations toward environmental concern.