Extending the Theory of Planned Behavior in the context of recycling: The role of moral norms and of demographic predictors

Iosif Botetzagias [a,b,*], Andora-Fani Dima [b], Chrisovaladis Malesios [c]

[a] Department of Environment, University of the Aegean, University Hill, Mytilene 81100, Greece
[b] School of Economics, Business Administration & Legal Studies, International Hellenic University, Thessaloniki-Thermi 57001, Greece
[c] Department of Agricultural Development, Democritus University of Thrace, 193 Pantazidou Street, Orestiada 68200, Greece

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ABSTRACT

This paper examines how an individual's moral norms and demographic characteristics interact with the standard 'Theory of Planned Behavior' predictors (Attitude; Subjective Norms; and Perceived Behavioral Control (PBC)) in explaining the intention to recycle (RI). Our data originate from an empirical research of Greek citizens conducted in Autumn 2013 ($N = 293$). Through structural equation modeling, we find that PBC is consistently the most important predictor of RI. Moral norms have a larger effect on RI than Attitude while their influence is primarily direct. On the contrary, demographic characteristics were found to be statistically non-significant predictors of RI, similarly to Subjective Norms.

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1. Introduction

Recycling benefits the environment in two ways, by minimizing waste and by conserving natural resources, thus it is one of those pro-environmental behaviors which 'consciously seeks to minimize the negative impact of one's actions on the natural and built world' (Kollmuss and Agyeman, 2002, p. 240). The 'waste problem' demands a solution on a local, national and international level. Technological advances are one part of the equation. The other part is human behavior and decision-making related to recycling. The decision to recycle is a complex one since many factors have to be taken into account. Available research has identified the convenience of the available recycling infrastructure, related recycling programs, awareness of the consequences of recycling, environmental knowledge and concern, type and area of residence, perceived social pressure, legislation, attitudes toward recycling, promotional campaigns amongst the many factors which may influence recycling decisions (e.g. Davies et al., 2002; Barr et al., 2003; Tonglet et al., 2004).

In this paper we are interested in examining recycling intention in the light of one of the most influential psychological theories, the Theory of Planned Behavior (TPB) (Ajzen, 1991). While a number

of studies have explored recycling through the TPB framework (Boldero, 1995; Chan, 1998; Cheung et al., 1999; Davies et al., 2002; Tonglet et al., 2004; Knussen et al., 2004; Mannetti et al., 2004; Davis et al., 2006; Knussen and Yule, 2008; Chen and Tung, 2010; Nigbur et al., 2010; Bezzina and Dimech, 2011; Ramayah et al., 2012; Chan and Bishop, 2013), we expand the interpretative schema by introducing two additional clusters of predictors, moral concerns and demographic variables: while the former has been being increasingly used in tandem with the standard TPB predictors (e.g. Tonglet et al., 2004; Klockner, 2013; Chen and Tung, 2010; Chan and Bishop, 2013) the latter, to the best of our knowledge, has never been in conjunction with TPB-moral concerns for explaining recycling behavior. Thus, this paper aims to address two questions. First, and similar to Chan and Bishop (2013), how do moral considerations operate within the established framework of Theory of Planned Behavior for recycling? Second, how do demographic variables influence the various psychological/moral constructs and do they have a distinct impact on recycling behavior?

2. Literature review

2.1. The role of moral norms

The Theory of Planned Behavior (TPB) is one of the most influential and commonly used psychological theories for explaining pro-environmental behaviors. For TPB, most human behaviors are goal-directed behaviors (Ajzen, 1985, p. 11) thus a person would

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* Corresponding author at: Department of Environment, University of the Aegean, University Hill, Mytilene 81100, Greece. Tel.: +30 22510 36294.
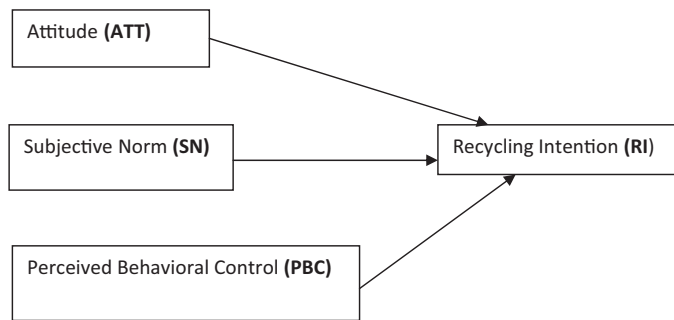 E-mail address: iosif@aegean.gr (I. Botetzagias).

Fig. 1. Model A (standard TPB predictors).

Fig. 2. Model B (attitude predictor replaced by Moral Norms).

behave pro-environmentally because s/he has the "Intention" to do so. This "Intention" is influenced by the person's "Attitude", "Subjective Norms" and "Perceived Behavioral Control, PBC" (see Fig. 1 for a graphical depiction of the theory using 'recycling' as the performed behavior). The "Attitude" toward the behavior refers to the evaluation of the particular behavior's likely outcomes; the "Subjective Norms" relates to whether the social milieu approves or not the particular behavior as well as to which extent the individual is influenced by his/hers societal surroundings; and, finally, the "PBC" taps on the individual's perceived ability to perform the behavior.

While discussing the 'sufficiency' of the TPB, Ajzen (1991, p. 199) noted that the theory is in principle open to the inclusion of additional explanatory variables, as long as they can be shown to have a significant and distinct contribution. Thus, the majority of the studies employing TPB in the context of recycling behavior have tried to incorporate additional predictors. Moral norms, situational factors and past behavior are the ones most commonly used and generally perceived as enhancing the predictive ability of the standard TPB constructs (e.g. Boldero, 1995; Tonglet et al., 2004; Davis et al., 2006; Chan and Bishop, 2013). Self-identity (Mannetti et al., 2004; Nigbur et al., 2010), perception of mass media (Chan, 1998), environmental knowledge (Cheung et al., 1999; Ramayah et al., 2012), and perceived habit (or lack of it) of recycling (Knussen et al., 2004; Knussen and Yule, 2008) have also been used with mixed results.

Amongst the various possible additional predictors, moral norms hold a special place, not least because Ajzen (1991) himself argued that 'personal or moral norms', that is the '*personal feelings of moral obligation or responsibility to perform* [. . .] a certain behavior' (Ajzen, 1991) may have a significant contribution to the explained variance of behavior. Actually, in the early formulation of TPB (Fishbein, 1967), personal norm along with social norm constituted the normative component of the theory. Yet, the personal element was later removed from the model because it was perceived as an alternative measure for behavioral intention due to those two variables' high correlation (Harland et al., 1999). Nevertheless, the relevance and role of 'personal' or 'moral' norms has been a recurring point of debate in the TPB literature. While the two terms have been used interchangeably in the literature (e.g. compare Bamberg and Moser, 2007, p. 15) with Biel and Thoegersen (2007, p. 102), the more appropriate term is 'personal moral norms'. Following Schwartz (1977), we consider personal norms to be internalized norms, 'the reflection of a personal value system in a given situation' (Klockner, 2013, p. 1030). Spurred by situational cues, a person's value system may 'generate feelings of moral obligation to perform or refrain from specific actions' (Biel and Thoegersen, 2007, p. 102). In effect, then, most of the critique on the traditional TPB framework rests on the idea that performing some behaviors would not depend merely on the rational, cost–benefit calculations inherent in TPB but also on motives of a selfless, altruistic or pro-social nature, on the presence/activation of a 'personal moral norm'. Thus, and concerning recycling in particular, a number of studies
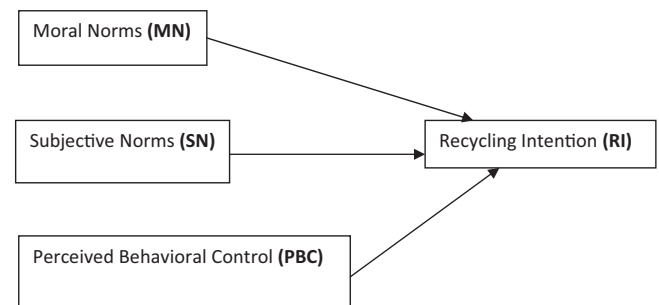
have incorporated moral concerns to the TPB framework, with varied results (e.g. Tonglet et al., 2004; Davis et al., 2006; Chen and Tung, 2010; Chan and Bishop, 2013).

Despite the growing support in favor of including "moral norms"[1] (MN) as an additional predictor, as well as the accumulating evidence that MN explains a significant portion of the variance in pro-environmental behaviors (cf. Bamberg and Moser, 2007), there is some debate as to how moral norms should be fitted in TPB framework. In effect, there are two possibilities (cf. Turaga et al., 2010, p. 217): either moral norms have a predominantly direct effect on behavior, which implies that they are largely unrelated to the TPB constructs (e.g. Harland et al., 1999); or, that their effect is mainly indirect and mediated through the various TPB constructs (e.g. Ajzen, 1991), which implies that moral norms are highly correlated with some TPB concepts. Latest reviews of available research point toward the second explanation: thus, as (Klockner, 2013, p. 1035) concludes, based on his meta-analysis of available research, "Part of the impact of personal [moral] norms on intentions is mediated by attitudes, meaning that what people consider favorable also takes into account if the respective behavior is in line with personal values".

As far as recycling is concerned, the mediated impact of moral norms on behavior has not been empirically test. Available studies examined only direct effects and focused on the existence or not of discriminant validity between 'moral norms' and 'attitude', with divergent results (Chen and Tung, 2010; Chan and Bishop, 2013). Accordingly, the first objective of this paper is to empirically test (a) whether the inclusion of a 'moral norms' predictor increases the explained variance of recycling intention compared to the standard TPB predictors, and (b) whether the effect of 'moral norms' on intention is largely indirect and mediated through the 'attitude' construct of the TPB. This will be done by comparing three structural equation models: Model A (the standard TPB model, see Fig. 1); Model B (where the Attitudes predictor is replaced with Moral Norms, see Fig. 2) and Model C (where Moral Norms are supposed to influence Recycling Intention both directly and indirectly – through the Attitude predictor, see Fig. 3).

2.2. The role of socio-demographics

The interaction between socio-demographic variables (such as age, gender, educational and social background) and the TPB constructs has rarely received attention in the literature, both in general (e.g. Christian et al., 2007) and for pro-environmental behaviors in particular, such as recycling. One reason for this may be that while numerous studies have used socio-demographic indicators in an attempt to establish the recycler's profile, they haven't reached a consensus (e.g. Davies et al., 2002) while there exists no

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[1] Henceforth, when referring to 'moral norms' we will mean the already described 'personal moral norm' concept, unless otherwise clearly stated.