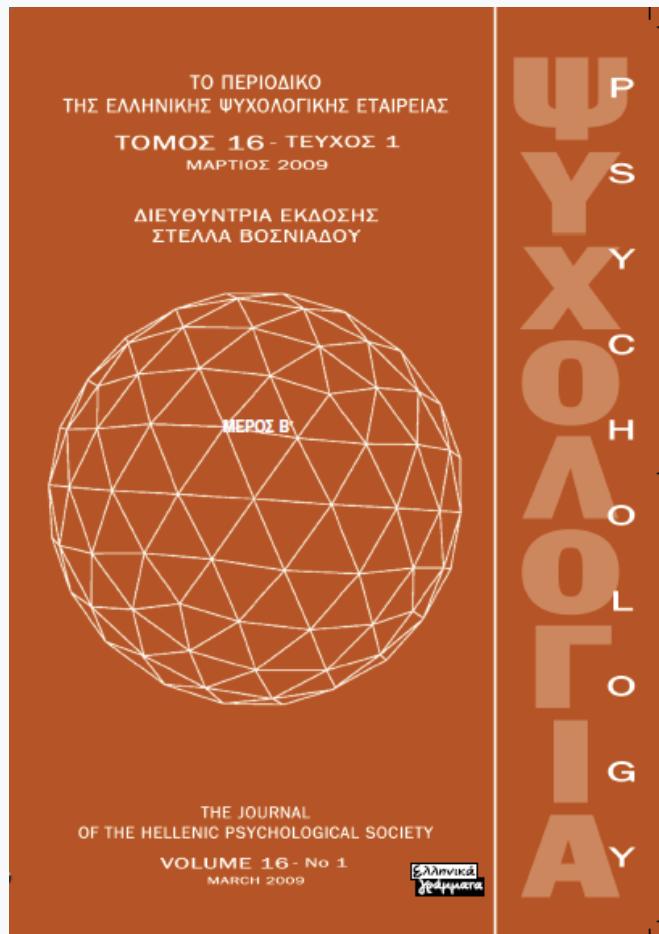


Psychology: the Journal of the Hellenic Psychological Society

Vol 16, No 1 (2009)



Attitudinal and normative influence on behavioral intentions: the moderating role of meta-attitudinal judgments within the Theory of Reasoned Action

Flora Kokkinaki

doi: [10.12681/psy_hps.23800](https://doi.org/10.12681/psy_hps.23800)

Copyright © 2020, Flora Kokkinaki



This work is licensed under a [Creative Commons Attribution-ShareAlike 4.0](https://creativecommons.org/licenses/by-sa/4.0/).

To cite this article:

Kokkinaki, F. (2020). Attitudinal and normative influence on behavioral intentions: the moderating role of meta-attitudinal judgments within the Theory of Reasoned Action. *Psychology: The Journal of the Hellenic Psychological Society*, 16(1), 28–43. https://doi.org/10.12681/psy_hps.23800

Attitudinal and normative influence on behavioral intentions: the moderating role of meta-attitudinal judgments within the Theory of Reasoned Action

FLORA KOKKINAKI¹

ABSTRACT

The present research investigates the moderating role of meta-attitudinal properties in the Theory of Reasoned Action. Participants reported their attitudes towards voting for a particular political party, as well as their certainty, experienced ambivalence and subjective knowledge. They also reported their subjective norms, voting intentions and, at a later stage, their voting behavior. The results corroborate the predictive value of the theory. They also support the hypothesized moderating role of attitude certainty and subjective knowledge and indicate that individuals who feel certain about their attitudes and think are well-informed are more likely to base their behavioral decisions on these attitudes and less likely to rely on the expectations of important others. These findings are discussed in relation to attitude-behavior consistency and to social influence.

Key words: Attitudes, Attitude strength, Meta-attitudinal properties, Social influence, Theory of Reasoned Action.

1. Introduction

Attitudes can influence and direct people's decisions and actions. However, the magnitude of attitudinal influence on behavior is moderated by several factors, including: (a) *attitudinal properties* e.g., attitude accessibility, attitude extremity, attitude ambivalence; (b) *properties of the associated cognitive structures* e.g., the amount of knowledge on which an attitude is based; (c) *meta-attitudinal properties* (subjective judgments of the individual about his/her attitude) e.g.,

attitude importance, attitude certainty, experienced ambivalence, subjective knowledge about the attitude object (Bassili, 1996; Jonas, Broemer, & Diehl, 2000a; Kraus, 1995; Petty & Krosnick, 1995). Most of these variables have been conceptually integrated as multiple facets of the more general construct of attitude strength (Raden, 1985). Strong attitudes not only influence behavior towards the attitude object, they also influence the processing of relevant information, are persistent over time and are resistant to change (Krosnick & Petty, 1995).

1. Address: Department of Marketing & Communication, Athens University of Economics & Business, 76 Patision str., Athens 10434, Greece. Tel.: +30 210 8203717, fax: +30 210 8225677, e-mail: fkokkinaki@aueb.gr

Although strong attitudes can exert a powerful influence on behavior, people's decisions and actions are also determined by other factors. Most importantly, they are determined by their "perception that important others desire the performance or nonperformance of a specific behavior" (Ajzen & Fishbein 1980, p. 57). This idea is central in the Theory of Reasoned Action (Ajzen & Fishbein, 1980), which postulates that behavioral intentions, the immediate determinant of behavior, are based on individuals' attitudes towards the behavior (the evaluation of a particular act) and their subjective norms (the perceived social pressure to perform or not to perform this act).

Despite the successful application of the Theory of Reasoned Action in a wide range of behaviors and contexts (see Farley, Lehmann, & Ryan 1981; Sheppard, Hartwick, & Warshaw 1988), several modifications and extensions have been suggested. The most popular of these is the Theory of Planned Behavior (Ajzen 1985, 1991) which integrates the construct of perceived behavioral control as an additional determinant of intentions and behavior. Perceived behavioral control refers to the perceived ease or difficulty of performing a particular act. Although most applications of the Theory of Planned Behavior show that perceived behavioral control increases the predictive value of the original model (Ajzen, 1991; Armitage & Conner, 2001; see also Hagger, Chatzisarantis, & Biddle, 2002; Hausenblas, Carron, & Mack, 1997; Kasprzyk, Montano, & Fishbein, 1998; Netemeyer & Burton, 1990; Netemeyer, Burton, & Johnston, 1991; Sheeran & Taylor, 1999), other studies provide the opposite evidence and indicate that the control variable is redundant (Schulze & Whittmann, 2003; see also Fishbein & Stasson, 1990; Trafimow, 1996). Besides perceived behavioral control, other researchers argue for the integration of variables such as past behavior and habit (e.g., Bagozzi, 1981; Bagozzi, & Kimmel, 1995; Triandis, 1977), personal and moral norms (Gorsuch & Ortberg, 1983; Pomazal & Jaccard, 1976), self-efficacy (Armitage & Conner, 1999; De

Vries, Dijkstra, & Kuhlman, 1988), self-schemata (Sheeran & Orbell, 2000) and anticipated regret (Abraham & Sheeran, 2003, 2004).

Further attempts to refine the Theory of Reasoned Action have focused on the identification of factors that moderate the pattern of relationships between its components (e.g., Conner & McMillan, 1999; Conner, Sheeran, & Norman, 2000; Sheeran & Abraham, 2003; Sheeran, Trafimow, & Finlay, 2002). For instance, Christian and Abrams (2003) found that the effect of intention on behavior is moderated by the subjective norm, in a way such that intention affects behavior more when the subjective norm is weak. Other studies have, more specifically, looked for moderating effects in the relative impact of attitudes and subjective norms on intentions. The Theory of Reasoned Action asserts that the predictive weight of these two components "may change from one behavior to another and from one person to another" (Ajzen & Fishbein, 1980, p. 58). This issue is particularly interesting when they are not in agreement, in other words, when people hold a favorable attitude towards a behavior and at the same time believe that their important others think they should not perform the behavior and vice versa. According to Ajzen and Fishbein (1980), in such cases "the person's intention will depend on the relative importance of the two components for the person" (p. 58).

Ajzen and Fishbein (1980) offer some suggestions as to what might determine the relative importance of attitudes and subjective norms. For instance, they argue that it depends on the competitive or cooperative nature of a behavior (attitudinal considerations are more important than social considerations for competitive behaviors while the reverse is true for cooperative behaviors) and on individual differences (e.g., demographic characteristics, personality traits). However, exactly what factors moderate attitudinal, relative to social influence, on behavior is not yet clear. To this end, more recent research has identified a number of

variables that increase or decrease the relative impact of attitudes and subjective norms. Such variables include the type of the behavior in question (e.g., attitudinally versus normatively controlled behaviors, Trafimow & Fishbein, 1994), the social context (e.g. attitudinally congruent vs. incongruent ingroup norms, Terry & Hogg, 2001) and various personality traits (e.g., state versus action orientation, Bagozzi, Baumgartner, & Yi, 1992; attention to social comparison information, Bearden & Rose, 1990; neuroticism, extraversion and conscientiousness, Rhodes, Courneya, & Hayduk, 2002).

Following this line of research, the present study investigates the role of three meta-attitudinal properties as moderators of the relative predictive weight of attitudes and subjective norms. Specifically, the study focuses on attitude certainty, experienced ambivalence and subjective knowledge.

Although attitude certainty can be clearly conceptualized as a meta-attitudinal property (the degree to which the individual feels certain about the correctness of his/her attitude, e.g., Rucker & Petty, 2004), attitude ambivalence can be conceptualized both as a property of the attitude itself (the degree to which the attitude is based on both positive and negative cognitions and emotions) and as a meta-attitudinal property (the degree to which the individual is aware of any conflicts in his/her evaluation of the attitude object). This dual nature of ambivalence is evident in the different operationalizations of the construct, that is, between formula-based measures that assess the valence of beliefs and emotions, and direct self-reports of ambivalence (see Jonas, Broemer, & Diehl, 2000a). The correlation between these measures is only moderate, which also points to the direction of distinguishing between two underlying constructs (Priester & Petty, 1996). Knowledge about the attitude object can be viewed as a property of the cognitive structures associated with the attitude (the amount of knowledge on which the attitude is based, working knowledge). However, it can

also refer to the subjective assessment of how knowledgeable a person thinks he/she is about the attitude object. In the present context, both ambivalence and knowledge are viewed as meta-attitudinal properties and are operationalized as subjective judgments.

In addition, although attitude certainty, experienced ambivalence and subjective knowledge are conceptually related to one another (see Gross, Holtz, & Miller, 1995), they are treated here as distinct constructs. Several studies examining the factorial structure of attitude strength show that, although strength variables are often interrelated, they constitute independent constructs and should be treated as such (Bassili, 1996; Bizer & Krosnick, 2001; Krosnick et al., 1993; Pomerantz, Chaiken, & Tordesillas, 1995; Prislin, 1996; Visser, Krosnick, & Simmons, 2003).

Research has established that the more certain and confident people feel about their attitudes, the more likely they are to act in accordance with them. For instance, Fazio and Zanna (1978a) found that the consistency between respondents' attitudes towards participating in psychological experiments and the number of experiments in which they volunteered to participate was positively related to attitude certainty. Fazio and Zanna (1978b, experiment 2) also found that respondents who were led to believe that they held their attitudes towards various intellectual puzzles confidently (by means of bogus physiological feedback on their own rating of attitude confidence) displayed greater attitude-behavior consistency compared to respondents who were led to believe that they held their attitudes with little confidence (see also Holland, Verplanken, & van Knippenberg, 2002; Warland & Sample, 1973).

Research has also examined the moderating role of attitude ambivalence. In general, holding both positive and negative cognitions and emotions towards an object weakens the attitude-behavior relationship (see Thompson, Zanna, & Griffin, 1995). For instance, Moore (1973) found

that ambivalent attitudes towards capital punishment, compared to univalent attitudes, were less predictive of whether respondents would vote to have capital punishment reinstated (see also Armitage, 2003; Conner et al., 2002; Jonas, Broemer, & Diehl, 2000b; Moore, 1980).

Furthermore, attitude-behavior consistency is moderated by how knowledgeable a person is about the object in question (Davidson, 1995). The empirical findings indicate that both the actual amount of information on which an attitude is based and the individual's subjective assessment of his/her knowledgeability moderates the attitude-behavior relation. For instance, Kallgren and Wood (1986) found that positive attitudes towards the preservation of the environment led to more consistent subsequent behaviors (e.g., participating in a recycling project, signing a pro-environmental petition) when they were based on substantial amounts of relevant knowledge. Moreover, Berger, Ratchford and Haines (1994) showed that subjective knowledge about a consumer product moderated the relation between product attitudes and purchase intentions.

Although several studies have established the moderating effects of these variables on the attitude-behavior relation, only a few studies have examined their role within more complex attitude models, such as the theories of Reasoned Action and Planned Behavior. For instance, in a study assessing attitudes towards exercising and exercise behavior, attitude ambivalence was found to moderate the intention-behavior relation, with lower levels of ambivalence being associated with a stronger impact of intentions on behavior (Sparks, Harris, & Lockwood, 2004; see also Conner, Sherlock, & Orbell, 1998; Conner et al., 2002). Conner and his associates also found that high ambivalence weakens the attitude-behavior and the perceived behavioral control-behavior relationship (Conner, Povey, Sparks, James, & Shepherd, 2003). More recently, Cooke and Sheeran (2004) meta-analyzed evidence on the moderating effects of seven attitude strength

variables, including attitude ambivalence and attitude certainty, within the theories of Reasoned Action and Planned Behavior. Although not all of the studies included in this meta-analysis actually apply the full models, the authors conclude that certainty and ambivalence moderate the attitude-behavior, the attitude-intention and the intention-behavior relations. In addition, they conclude that certainty moderates the subjective norm-intention relation. Subjective knowledge was not included in this meta-analytic study and, although its effects on the attitude-behavior relation have been established, the role of the variable within the theories of Reasoned Action and Planned Behavior has not been examined.

The main idea put forward in the present paper is that individuals' assessment of their attitudes determines how influential these attitudes will be, in relation to the social influence targeted to their behavioral decisions. In other words, it is argued here that when people feel certain and non-ambivalent about their attitudes and believe that they are well-informed about the attitude object they are more likely to act in an attitude-consistent manner and less likely to conform to social pressure.

The Theory of Reasoned Action does not specify the exact mechanisms through which subjective norms shape individuals' intentions. In the study of social influence, a distinction is drawn between normative and informational influence as the two basic processes underlying conformity. Deutsch and Gerard (1955) argue that although these two processes are conceptually distinct they often co-occur. In other words, a person might conform to the expectations of others both in order to please them and in order to form accurate judgments and to act correctly. Normative and informational influence can be clearly targeted to a person's attitude (evaluative judgments). For instance, people can change their attitudes because they want to avoid social rejection and/or because they accept other people's views as (trustworthy) evidence about reality. Similarly, normative and informational

influence can be directed to a person's intentions and behavior (behavioral judgments). In other words, people might shape their intentions and modify their behavior according to other people's expectations either in order to gain social approval or in order to enhance the accuracy of their behavioral decisions (or both).

Research on conformity also indicates that the effectiveness of social influence is related to certain qualities of the individual's own judgments. In particular, informational influence is "increased by uncertainty about the correctness of one's judgment and the ambiguity of the stimulus situation" (Turner, 1991, p. 35; see also Flament, 1959; Wiener, 1958). In other words, people can be more susceptible to informational influence when they don't feel certain about their own evaluation of a particular act and when the consequences of this act are ambiguous. Similarly, it is also possible that normative influence can be affected by such properties of personal judgments, although this is less clear and well-documented. For instance, people might be more determined to resist normative influence and to act according to their own judgments when they feel certain, convinced about the correctness of their views. Gross, Holtz, and Miller (1995) make a direct reference to the behavioral aspects of social influence and the effects of certainty, ambivalence and knowledge. These authors consider (the lack of) ambivalence a synonym of attitude certainty and argue that the awareness of internal conflict leads to uncertainty in the sense of approaching/avoiding the attitude object. They also consider knowledge about the attitude object and additional antecedent of certainty.

In the present study, the Theory of Reasoned Action is applied in the prediction of voting behavior and, more specifically, in the prediction of participants' voting for a particular political party (in a national parliamentary election). Research in Political Psychology has recently turned its attention to strength-related properties of political attitudes and their cognitive and behavioral consequences (e.g., Berent & Krosnick, 1995).

Attitude certainty, attitude ambivalence and subjective knowledge have been shown to have important consequences in the realm of political behavior, e.g., on the evaluation of political candidates and policies and on decision-making processes (Haddock, 2003; Lusk & Judd, 1988). For instance, McGraw, Hasecke, and Conger (2003) demonstrated that respondents who were ambivalent and uncertain about their attitudes tended to engage in memory-based, rather than on-line, processing during political candidate evaluation. The consequences of these meta-attitudinal properties are therefore interesting both from a social psychological and from a political psychological perspective.

The main idea tested in the present study is that subjective, meta-attitudinal judgments affect the extent of both attitudinal influence and social influence on intentions. Specifically, the study examines the following hypotheses:

H1a: The higher the certainty with which an attitude towards a behavior is held, the stronger its relation with behavioral intention.

H1b: The higher the certainty with which an attitude towards a behavior is held, the weaker the relation between the corresponding subjective norm and behavioral intention.

H2a: The higher the experienced ambivalence associated with an attitude towards a behavior, the weaker the relation between this attitude and behavioral intention.

H2b: The higher the experienced ambivalence associated with an attitude towards a behavior, the stronger the relation between the corresponding subjective norm and behavioral intention.

H3a: The higher the subjective knowledge associated with an attitude towards a behavior, the stronger the relation between this attitude and behavioral intention.

H3b: The higher the subjective knowledge associated with an attitude towards a behavior, the weaker the relation between the corresponding subjective norm and behavioral intention.

In addition to its main objective, the study also aims to contribute to the body of evidence comparing the predictive value of the Theory of Planned Behavior over the Theory of Reasoned Action. The inconsistency in previous findings concerning the predictive value of perceived behavioral control indicates that its contribution to the prediction of intentions and behavior depends on the nature of the behavior under study (e.g., Armitage & Conner, 2001; Schulze & Whittmann, 2003). Specifically, it depends on whether the performance of the behavior requires certain resources, abilities, skills etc. Voting behavior is generally considered to be free of control problems (see Ajzen, 1991; Netemeyer, Burton, & Johnston, 1991²). This is particularly true for the behavior of voting for a specific candidate or political party (compared to the behavior of participating in a specific election, which might require some minimum opportunity). It is therefore expected that, in the present context, perceived behavioral control does not improve the prediction of (voting) intentions and actual voting behavior.

2. Method

Participants and procedure

Data were collected in two waves. Approximately two weeks before the actual election day, 219 undergraduate students at the Athens University of Economics and Business completed a questionnaire assessing a number of variables including their intention "to vote for Nea Demokratia³ in the forthcoming parliamentary

election" in Greece. The questionnaire was administered after class and participation was voluntary. The objective of the research was not disclosed to the participants. Participants were informed that their responses would be anonymous and would be treated with confidentiality. In order to exclude those students who were willing to participate but who were not eligible to vote (e.g., because they were too young and had not yet registered or because they were not Greek citizens), a screening question was used. On the week following the actual election day, respondents were contacted again and were asked to complete a second questionnaire containing measures of their actual voting behavior. Again, respondents were informed that their responses would be anonymous. In order to match responses from the two waves of data collection without compromising anonymity, participants were instructed to complete a personal code on both questionnaires (an alphanumerical string that was based on personal information). Respondents who failed to complete the second questionnaire or who otherwise failed to provide complete data were excluded from the sample. The final dataset upon which all analyses were based comprised the responses of 149 participants (110 female and 39 male, mean age=20.06 years).

Measures

Actual behavior was assessed in the second wave of data collection with one item asking participants to indicate which party they had voted for. Voting for Nea Demokratia was coded

2. It should be noted that Netemeyer et al. (1991) did find a significant effect of perceived behavioural control on voting intentions (but not on actual voting behaviour). However, in their research they focused on whether the respondents would vote in the particular election rather than on whom they would vote for. It is possible that considerations of control are more important in shaping people's intentions to participate in an election than in shaping their intentions to vote for a specific candidate or political party.

3. Nea Demokratia is the leading conservative political party in Greece. It was selected for the purposes of the present research because, according to pre-election opinion-polls, it was the most popular party with the highest voting intent, and in order to ensure variability in participants' attitudes, voting intentions and behavior.

as 1, while voting for other parties, blank votes, invalid votes and not voting at all were coded as 0. The remaining components of the theories of Reasoned Action and Planned Behavior were measured in the first wave of data collection. *Behavioral intention* was assessed with the following item: "In the forthcoming election, I intend to vote for Nea Demokratia." [very likely (7)/very unlikely (1)]. *Attitude towards the behavior* (A_{beh}) was operationalized as the mean of four 7-point scales ($\alpha=0.94$). The wording of the first of these scales was: "My attitude towards voting for Nea Demokratia in the forthcoming election is..." [very positive (7)/very negative (1)]. The wording of the remaining three scales was: "My voting for Nea Demokratia in the forthcoming election is..." [very good (7)/very bad (1), very desirable (7)/very undesirable (1), very beneficial (7)/very harmful (1)]. *Subjective norm* (SN) was operationalized as the mean of two 7-point scales ($\alpha=0.95$): "Most people who are important to me want me to vote for Nea Demokratia in the forthcoming election." [very likely (7)/very unlikely (1)] and "Most people who are important to me want me to vote for Nea Demokratia in the forthcoming election" [want (7)/do not want (1)]. *Perceived behavioral control* was measured with the following item "There are important practical or other impediments in my voting for Nea Demokratia in the forthcoming election" [completely agree (7)/completely disagree (1)]. Responses were recoded so that higher scores indicate higher perceived behavioral control. The questionnaire also included a measure of past behavior. However, because 113 (76 %) of the participants were voting for the first time this measure was dropped from the subsequent analyses. Participants were also asked how certain they feel about their attitude towards voting for Nea Demokratia in the forthcoming election [absolutely certain (7)/completely uncertain (1)] and their responses provided a measure of *attitude certainty*. *Attitude ambivalence* was also assessed by means of a self-report item: "In general, I believe that my voting for Nea Demokratia in the forthcoming

election will have both positive and negative consequences at the same time" [completely agree (7)/completely disagree (1)]. It should be noted that higher scores indicate more ambivalent and hence weaker attitudes. *Subjective knowledge* was assessed by asking respondents to indicate how well informed they thought they were about the political proposals of Nea Demokratia [very well informed (7)/not at all informed(1)].

3. Results

In total, 45 participants (30.20 %) voted for Nea Demokratia. Only a small minority of participants (7 participants, 4.70 %) did not vote at all. The remaining of the participants either voted for a different party or opted for a blank or invalid vote. Table 1 presents descriptive statistics and bivariate correlation coefficients for actual behavior, behavioral intention, attitude towards the behavior, subjective norm, perceived behavioral control, attitude certainty, experienced ambivalence and subjective knowledge (SKN).

In order to compare the predictive validity of the theories of Reasoned Action and Planned Behavior, behavior was regressed on perceived behavioral control, after controlling for the effect of intentions. However, the control variable was not a significant predictor of behavior and its inclusion in the equation did not increase significantly the amount of explained variance. In a subsequent analysis, intention was regressed on perceived behavioral control after the effect of attitudes and subjective norms had been partialled out. Again, the control variable failed to reach significance levels. These results indicate that, at least in the case of fully volitional behaviors, the components of the Theory of Reasoned Action suffice for optimal prediction. It should be noted that the components of the theory explained 60% of the variance in actual behavior and 79% of the variance in intentions. It should also be noted that, consistent with previous findings (e.g., Armitage & Conner, 2001; Trafimow, 1996; Trafimow, Brown,

Table 1
Descriptive statistics and bivariate correlation coefficients

Variables	Behavior	1	2	3	4	6	7	8	Mean	SD
1 BI	0.75***	—							3.05	2.37
2 A _{beh}	0.71***	0.88***	—						3.35	1.83
3 SN	0.65***	0.77***	0.81***	—					3.35	2.14
4 PBC	0.03	-0.11	-0.07	-0.02	—				5.69	1.89
6 CER	0.33***	0.32***	0.37***	0.35***	0.09	—			4.46	2.33
7 AMB	0.15	0.24**	0.34***	0.26**	0.03	0.10	—		4.04	1.90
8 SKN	0.36***	0.26**	0.23**	0.22**	0.00	0.40***	-0.13	—	4.21	1.67

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Key. BI=Behavioral Intention; A_{beh}=Attitude towards the Behavior; SN=Subjective Norm; PBC=Perceived Behavioral Control; CER=Attitude Certainty; AMB=Experienced Ambivalence; SKN=Subjective Knowledge.

Table 2
Regression of BI on AB, SN, CER and A_{beh} × CER, SN × CER

	Variables	R	R ²	F	beta	t
step 1		0.88	0.79	181.73***		
	A _{beh}				0.75	11.27***
	SN				0.16	2.53**
	CER				-0.02	-0.51
step 2		0.89	0.79	111.86***		
	A _{beh}				0.51	3.44***
	SN				0.44	2.98**
	CER				-0.02	-0.39
	A _{beh} × CER				0.43	1.90*
	SN × CER				-0.45	-2.08*

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Key. BI=Behavioral Intention; A_{beh}=Attitude towards the Behavior; SN=Subjective Norm; PBC=Perceived Behavioral Control; CER=Attitude Certainty.

& Grace, 2002), attitudes towards the behavior, compared to subjective norms, were a stronger predictor of intentions ($\beta=0.74$, $t=11.37$, $p < 0.001$ and $\beta=0.16$, $t=2.50$, $p < 0.01$, respectively, $F(1, 146)=27.81$, $p < 0.01$).

The hypothesized moderating role of attitude certainty, experienced ambivalence and subjective knowledge was investigated through a series of moderated regression analyses (Aiken & West, 1991; Baron & Kenny, 1986), in which the

Table 3
Regression of BI on A_{beh} , SN, AMB and $A_{beh} \times AMB$, SN \times AMB

	Variables	R	R²	F	beta	t
step 1		89	0.79	183.94***		
	A_{beh}				0.77	11.39***
	SN				0.16	2.48**
	CER				-0.06	-1.57
step 2		0.89	0.80	113.26***		
	A_{beh}				0.92	5.60***
	SN				-0.16	-0.86
	CER				-0.15	-1.84
	$A_{beh} \times CER$				-0.16	-0.74
	SN \times CER				0.38	1.80

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Key. BI=Behavioral Intention; A_{beh} =Attitude towards the Behavior; SN=Subjective Norm; PBC=Perceived Behavioral Control; AMB=Experienced Ambivalence.

Table 4
Regression of BI on A_{beh} , SN, SKN and $A_{beh} \times SKN$, SN \times SKN

	Variables	R	R²	F	beta	t
step 1		0.89	0.79	185.04***		
	A_{beh}				0.74	11.26***
	SN				0.15	2.39**
	CER				0.06	1.53
step 2		0.89	0.80	116.11***		
	A_{beh}				0.45	2.45***
	SN				0.57	3.33***
	CER				0.10	1.21
	$A_{beh} \times CER$				0.51	1.94*
	SN \times CER				-0.65	-2.61**

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Key. BI=Behavioral Intention; A_{beh} =Attitude towards the Behavior; SN=Subjective Norm; PBC=Perceived Behavioral Control; AMB=Experienced Ambivalence.

moderator \times intention products were entered into the equations, after partialling out the effect of both the predictor (attitude or subjective norm) and the moderator (meta-attitudinal judgments) on intentions (see for instance, Povey et al., 2000). The results of these analyses are presented in Tables 2, 3 and 4. As can be seen in these tables, none of the moderator variables made a significant contribution to the prediction of intentions. Consistent with H1a and H1b, both the certainty \times attitude and the certainty \times subjective norm interaction terms were significant predictors of intentions (Table 2). The sign of the respective beta weights indicate that the more certain respondents were about their attitudes, the stronger was the relation between these attitudes and their intentions and the weaker was the relation between their subjective norms and their intentions.

Contrary to H2a and H2b, experienced ambivalence did not interact significantly with the components of the Theory of Reasoned Action (see Table 3). It should be noted, however, that the sign of the respective beta weights follows the predicted pattern and that the ambivalence \times subjective norm variable approached conventional significance levels ($p=0.073$).

Furthermore, as can be seen in Table 4, the subjective knowledge \times attitude and the subjective knowledge \times subjective norm interaction terms were both significant predictors of intentions. These results support H3a and H3b and indicate that the more knowledgeable respondents thought they were the stronger was the relation between their attitudes and their intentions and the weaker was the relation between their subjective norms and their intentions.

In an additional set of moderated regression analyses, it was also explored whether certainty, ambivalence and subjective knowledge moderated the impact of intentions on behavior. Experienced ambivalence and subjective knowledge were not found to exert any significant moderating effects. However, the attitude certainty \times intention term was a significant predictor ($\beta=0.48$, $t=2.63$, $p<0.01$) of behavior.

4. Discussion

The main objective of the study was to examine the moderating role of meta-attitudinal judgments, and specifically of attitude certainty, experienced ambivalence and subjective knowledge, on the relative impact of attitudes and subjective norms on intentions. The results support the hypothesized moderating role of the first two variables. Specifically, attitude certainty was found to moderate both the predictive weight of attitudes (H1a) and the predictive weight of subjective norms (H1b). The moderating effect was such that those respondents who were certain about their attitudes were more likely to hold intentions consistent with these attitudes and less likely to hold intentions consistent with other people's expectations. Similarly, subjective knowledge was found to moderate the predictive weight of attitudes (H3a) and the predictive weight of subjective norms (H3b). Respondents who felt more knowledgeable about the attitude object were more likely to base their intentions on their attitudes and less likely to conform to social pressures. In the case of experienced ambivalence, although the results followed the predicted pattern and high ambivalence, compared to low ambivalence, was associated with a reduced influence of attitudes and an increased influence of subjective norms on intentions, they did not reach significance levels (H2a, H2b).

This latter result might be explained by the fact that a majority of the participants (76 %) were voting for the first time. Although research has generally supported the negative moderating effect of ambivalence on attitude-behavior correspondence (see Thomson, Zanna, & Griffin, 1995), there is also evidence indicating that, under circumstances, ambivalence can have the opposite effect. For instance, Jonas, Diehl and Broemer (1997) observed more consistency between the attitudes towards the behavior (of buying a shampoo) and the corresponding behavioral intentions when the information on which these attitudes were based was ambivalent

(both positive and negative) than when it was univalent. By drawing upon the heuristic-systematic model (Chaiken, Liberman, & Eagly, 1989), these authors argue that ambivalence decreases individuals' confidence in their attitudes towards the behavior and that this decreased confidence evokes systematic processing of relevant information. Systematic processing, in turn, increases the consistency between the attitudes and the corresponding behavioral intentions. Jonas et al. do not imply that ambivalence always leads to a closer correspondence between attitudes and intentions, an idea that would contradict the well-established effects of the variable. They actually suggest that this effect is observed in situations in which individuals are confronted with new or unfamiliar attitude objects, rather than in the context of preexisting attitudes. In the present study, it is possible that such an effect took place in the case of those participants who were voting for the first time. Compared with their more experienced counterparts, those first-time voters who held ambivalent attitudes probably engaged in more systematic processing of information while expressing their attitudes and intentions. This systematic processing, in turn, might have increased attitude-behavior consistency, obscuring thus the assumed moderating effects of the variable.

Overall, the results of the study provide some support to the idea that attitude strength and, more specifically, meta-attitudinal properties can affect people's reliance on their attitudes and their respective resistance to social pressure. Research has established that when an attitude is strong people are more likely to act in accordance with it. Research has also provided some evidence on the link between attitude strength and social influence (see Gross, Holtz, & Miller, 1995; Turner, 1991). The present study further indicates that when people judge their attitudes to be strong not only they are more likely to act in accordance with them, they are also less susceptible to the influence of others. Since behavioral decisions are based on the evaluation

of the potential consequences of a particular act, low or moderate estimates of the accuracy of one's own judgment might increase compliance with others' views and expectations. In other words, when people are aware of the weakness of their own attitudes, they might turn to their important others in order to decide how to act correctly. It is also possible that, in such cases, they are less inclined to defend their views and to risk their social approval.

Moreover, the results of the study indicate that the components of the Theory of Reasoned Action suffice for the prediction of voting for a specific political party. This behavior does not generally pose problems of control (see Ajzen, 1991) and therefore perceived behavioral control has little impact on the formation of intentions and on the performance of the behavior.

In summary, the present findings further corroborate the predictive value of the Theory of Reasoned Action. They also provide some indication that meta-attitudinal properties moderate the relative influence of attitudes and subjective norms on behavior intentions. However, the research is limited in several aspects. Limitations include the use of self-reports in the measurement of most variables and most importantly of actual behavior. An additional limitation concerns the use of single-item measures for certain variables, including meta-attitudinal indicators. Moreover, the use of a single behavior restricts the generalizability of findings. The most important weakness, however, concerns the correlational nature of the data which does not permit any causal inferences. Experimental research is necessary before any conclusions, concerning both the relationships between the variables and the explanations offered here, can be drawn. One interesting question would be to examine whether the effect of subjective norms on behavioral intentions is both informational and normative in nature and whether the moderating effects of meta-attitudinal judgments can operate through both of these processes. More generally, further research on

the role of attitude strength within more complex attitude-to-behavior models can contribute to our understanding of the individual and social processes that drive behavior.

References

Abraham, C., & Sheeran, P. (2003). Acting on intentions: The role of anticipated regret. *British Journal of Social Psychology*, 42, 495-511.

Abraham, C., & Sheeran, P. (2004). Deciding to exercise: The role of anticipated regret. *British Journal of Health Psychology*, 9, 269-278.

Ajzen, I. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl, & J. Beckmann (Eds), *Action-control: From cognition to behavior* (pp. 11-39). New York: Springer-Verlag.

Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179-211.

Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.

Aiken, L. S., & West, S. G. (1991). Multiple regression: Testing and interpreting interactions. Thousand Oaks, CA: Sage.

Armitage, C. J. (2003). Beyond attitudinal ambivalence: Effects of belief homogeneity on attitude-intention-behavior relations. *European Journal of Social Psychology*, 33, 551-563.

Armitage, C. J., & Conner, M. (1999). Distinguishing perceptions of control from self-efficacy: Predicting consumption of a low-fat diet using the theory of planned behavior. *Journal of Applied Social Psychology*, 29, 72-90.

Armitage, C. J., & Conner, M. (2001). Efficacy of the Theory of Planned Behavior: A meta-analytic review. *British Journal of Social Psychology*, 40, 471-499.

Bagozzi, R. P. (1981). Attitudes, intentions and behavior: A test of some key hypotheses. *Journal of Personality and Social Psychology*, 41, 607-627.

Bagozzi, R. P., Baumgartner, H., & Yi, Y. (1992). State versus action orientation and the theory of reasoned action: An application to coupon usage. *Journal of Consumer Research*, 18, 505-518.

Bagozzi, R. P., & Kimmel, S. K. (1995). A comparison of leading theories for the prediction of goal-directed behaviors. *British Journal of Social Psychology*, 34, 437-461.

Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51, 1173-1182.

Bassili, J. N. (1996). Meta-judgmental vs. operative indexes of psychological attributes: The case of measures of attitude strength. *Journal of Personality and Social Psychology*, 71, 637-653.

Bearden, W. O., & Rose, R. L. (1990). Attention to social comparison information: An individual difference factor affect in consumer conformity. *Journal of Consumer Research*, 16, 461-471.

Berent, M. K., & Krosnick, J. K. (1995). The relation between political attitude importance and knowledge structure. In Lodge, M., & McGraw, K. M. (Eds), *Political Judgment: Structure and Process*. (pp. 91-109). Ann Arbor, MI US: The University of Michigan Press.

Berger, I. E., Ratchford, B. T., & Haines, G. H. (1994). Subjective product knowledge as a moderator of the relationship between attitudes and purchase intentions for a durable product. *Journal of Economic Psychology*, 15, 301-314.

Bizer, G. Y., & Krosnick, J. A. (2001). Exploring the structure of strength-related attitude features: The relation between attitude importance and attitude accessibility. *Journal of Personality and Social Psychology*, 81, 566-586.

Chaiken, S., Liberman, A., & Eagly, A. H. (1989). Heuristic and systematic information processing within and beyond the persuasion context. In J. S. Uleman, & J. A. Bargh (Eds), *Unintended thought* (pp. 212-252). New York: Guilford Press.

Christian, J., & Abrams, D. (2003). The effects of social identification, norms and attitudes on use of outreach services by homeless people.

Journal of Community, & Applied Social Psychology, 13 (Special issue: Homelessness: Integrating international perspectives), 138-157.

Conner, M., & McMillan, B. (1999). Interaction effects in the theory of planned behavior: Studying cannabis use. *British Journal of Social Psychology, 38*, 195-222.

Conner, M., Povey, R., Sparks, P., James, R., & Shepherd, R. (2003). Moderating role of attitudinal ambivalence within the theory of planned behavior. *British Journal of Social Psychology, 42*, 75-94.

Conner, M., Sheeran, P., & Norman, P. (2000). Temporal stability as a moderator of relationships in the Theory of Planned Behavior. *British Journal of Social Psychology, 39*, 469-493.

Conner, M., Sherlock, K., & Orbell, S. (1998). Psychosocial determinants of ecstasy use in young people in the UK. *British Journal of Health Psychology, 3*, 295-317.

Conner, M., Sparks, P., Povey, R., James, R., Shepherd, R., & Armitage, C. J. (2002). Moderator effects of attitudinal ambivalence on attitude-behavior relationships. *European Journal of Social Psychology, 32*, 705-718.

Cooke, R., & Sheeran, P. (2004). Moderation of cognition-intention and cognition-behavior relations: A meta-analysis of properties of variables from the theory of planned behavior. *British Journal of Social Psychology, 43*(2), 159-186.

Davidson, A. R. (1995). From attitudes to actions to attitude change: The effects of amount and accuracy of information. In R. E. Petty, & J. A. Krosnick (Eds), *Attitude strength: Antecedents and consequences* (pp. 315-336). Hillsdale, NJ: Erlbaum.

De Vries, H., Dijkstra, M., & Kuhlman, P. (1988). Self-efficacy: The third factor besides attitude and subjective norm as a predictor of behavioral intentions. *Health Education Research, 3*, 273-282.

Deutsch, M., & Gerard, H. B. (1955). A study of normative and information social influences upon individual judgement. *Journal of Abnormal and Social Psychology, 51*, 629-636.

Farley, J. U., Lehmann, D. R., & Ryan, M. J. (1981). Generalizing from imperfect replication. *Journal of Business, 54*, 597-610.

Fazio, R. H., & Zanna, M. P. (1978a). Attitudinal qualities relating to the strength of the attitude-behavior relation. *Journal of Experimental Social Psychology, 14*, 398-408.

Fazio, R. H., & Zanna, M. P. (1978b). On the predictive validity of attitudes: The roles of direct experience and confidence. *Journal of Personality, 46*, 228-243.

Fishbein, M., & Stasson, M. F. (1990). The role of desires, self-predictions, and perceived control in the prediction of training session attendance. *Journal of Applied Psychology, 20*(3), 173-198.

Flament, C. (1959). Ambiguité du stimulus, incertitude de la réponse, et processus d'influence sociale. *Année Psychologique, 59*, 73-92.

Gorsuch, R. L., & Ortberg, J. (1983). Moral obligations and attitudes: Their relation to behavioral intentions. *Journal of Personality and Social Psychology, 44*(5), 1025-1028.

Gross, S. R., Holtz, R., & Miller, N. (1995). Attitude certainty. In R. E. Petty, & J. A. Krosnick (Eds), *Attitude strength: Antecedents and consequences* (pp. 215-245). Hillsdale, NJ: Erlbaum.

Haddock, G. (2003). Making a party leader less of a party member: The impact of ambivalence on assimilation and contrast effects in political party attitudes. *Political Psychology, 24*, 769-780.

Hagger, M. S., Chatzisarantis, N. L. D., & Biddle, S. J. H. (2002). A meta-analytic review of the theories of reasoned action and planned behavior in physical activity: Predictive validity and the contribution of additional variables. *Journal of Sport and Exercise Psychology, 24*, 3-32.

Hausenblas, H. A., Carron, A. V., & Mack, D. E. (1997). Application of the theories of reasoned action and planned behavior to exercise behavior: A meta-analysis. *Journal of Sport and Exercise Psychology, 19*, 36-51.

Holland, R. W., Verplanken, B., & van Knippenberg, A. (2002). On the nature of attitude-behavior relations:

The strong guide, the weak follow. *European Journal of Social Psychology*, 32, 869-876.

Jonas, K., Broemer, P., & Diehl, M. (2000a). Attitudinal ambivalence. In W. Stroebe, & M. Hewstone (Eds), *European Review of Social Psychology* (Vol. 11, pp. 35-74). Chichester: Wiley.

Jonas, K., Broemer, P., & Diehl, M. (2000b). Experienced ambivalence as a moderator of the consistency between attitudes and behaviors. *Zeitschrift fur Sozialpsychologie*, 31, 153-165.

Jonas, K., Diehl, M., & Broemer, P. (1997). Effects of attitudinal ambivalence on information processing and attitude-intention consistency. *Journal of Experimental Social Psychology*, 33, 190-210.

Kallgren, C. A., & Wood, W. (1986). Access to attitude-relevant information in memory as a determinant of attitude-behavior consistency. *Journal of Experimental Social Psychology*, 22, 328-338.

Kasprzyk, D., Montano, D. E., & Fishbein, M. (1998). Application of an integrated behavioral model to predict condom use: A prospective study among high HIV risk groups. *Journal of Applied Social Psychology*, 28, 1557-1583.

Kraus, S. J. (1995). Attitudes and the prediction of behavior: A meta-analysis of the empirical literature. *Personality and Social Psychology Bulletin*, 21, 58-75.

Krosnick, J. A., Boninger, D. S., Chuang, Y. C., Berent, M. K., & Carnot, G. (1993). Attitude strength: One construct or many related constructs? *Journal of Personality and Social Psychology*, 65, 1132-1151.

Krosnick, J. A., & Petty, R. E. (1995). Attitude strength: An overview. In R. E. Petty, & J. A. Krosnick (Eds), *Attitude strength: Antecedents and consequences* (pp. 1-24). Hillsdale, NJ: Erlbaum.

Lusk, C. M., & Judd, C. M. (1988). Political expertise and the structural mediators of candidate evaluations. *Journal of Experimental Social Psychology*, 24, 105-126.

McGraw, K. M., Hasecke, E., & Conger, K. (2003). Ambivalence, uncertainty, and processes of candidate evaluation. *Political Psychology*, 24, 421-448.

Moore, M. (1973). Ambivalence in attitude measurement. *Educational and Psychological Measurement*, 33, 481-483.

Moore, M. (1980) Validation of the attitude toward any practice scale through the use of ambivalence as a moderator variable. *Educational and Psychological Measurement*, 40, 205-208.

Netemeyer, R. G., & Burton, S. (1990). Examining the relationships between voting behavior, intention, perceived behavioral control, and expectation. *Journal of Applied Social Psychology*, 20, 661-680.

Netemeyer, R. G., Burton, S., & Johnston, M. (1991). A comparison of two models for the prediction of volitional and goal-directed behaviors: A confirmatory analysis approach. *Social Psychology Quarterly*, 54(2), 87-100.

Petty, R. E., & Krosnick, J. A. (1995). *Attitude Strength: Antecedents and Consequences*. Hillsdale, NJ: Erlbaum.

Pomazal, R. J., & Jaccard, J. J. (1976). Informational approach to altruistic behavior. *Journal of Personality and Social Psychology*, 33(3), 317-326.

Pomerantz, E. M., Chaiken, S., & Tordesillas, R. S. (1995). Attitude strength and resistance processes. *Journal of Personality and Social Psychology*, 69, 408-419.

Povey, R., Conner, M., Sparks, P., James, R., & Shepherd, R. (2000). The theory of planned behaviour and healthy eating: Examining additive and moderating effects of social influence variables. *Psychology & Health*, 14, 991-1006.

Priester, J. R., & Petty, R. E. (1996). The gradual threshold model of ambivalence: Relating the positive and negative bases of attitudes to subjective ambivalence. *Journal of Personality and Social Psychology*, 71(3), 431-449.

Prislin, R. (1996). Attitude stability and attitude strength: One is enough to make it stable. *European Journal of Social Psychology*, 26, 447-477.

Raden, D. (1985). Strength-related attitude

dimensions. *Social Psychology Quarterly*, 48, 312-330.

Rhodes, R. E., Courneya, K. S., & Hayduk, L. A. (2002). Does personality moderate the theory of planned behavior in the exercise domain? *Journal of Sport, & Exercise Psychology*, 24, 120-132.

Rucker, D. D., & Petty, R. E. (2004). When resistance is futile: Consequences of failed counterarguing for attitude certainty. *Journal of Personality and Social Psychology*, 86, 219-235.

Schulze, R., & Whittmann, W. W. (2003). A meta-analysis of the theory of reasoned action and the theory of planned behavior: The principle of compatibility and multidimensionality of beliefs as moderators. In R. Schulze, & H. Holling, & D. Bohning (Eds), *Meta-analysis: New developments and applications in medical and social sciences* (pp. 219-250). Ashland, OH: Hogrefe, & Huber Publishers.

Sheeran, P., & Abraham, C. (2003). Mediator of moderators: Temporal stability of intention and the intention-behavior relation. *Personality and Social Psychology Bulletin*, 29, 205-215.

Sheeran, P., & Orbell, S. (2000). Self-schemas and the theory of planned behavior. *European Journal of Social Psychology*, 30(4), 533-550.

Sheeran, P., & Taylor, S. (1999). Predicting intentions to use condoms: A meta-analysis and comparison of the theories of reasoned action and planned behavior. *Journal of Applied Social Psychology*, 29, 1624-1675.

Sheeran, P., Trafimow, D., & Finlay, K. A. (2002). Evidence that the type of person affects the strength of the perceived behavioral control-intention relationship. *British Journal of Social Psychology*, 41, 253-270.

Sheppard, B. H., Hartwick, J., & Warshaw, P. R. (1988). The theory of reasoned action: Meta-analysis of past research with recommendations for modifications and future research. *Journal of Consumer Research*, 15, 325-345.

Sparks, P., Harris, P. R., & Lockwood, N. (2004). Predictors and predictive effects of ambivalence. *British Journal of Social Psychology*, 43(3), 371-383.

Terry, D. J. & Hogg, M. A. (2001). Attitudes, behavior and social context: The role of norms and group membership in social influence processes. InForgas, J. P., & Williams, K. D. (Eds), *Social Influence: Direct and Indirect Processes* (pp. 253-270). New York: Psychology Press.

Thompson, M. M., Zanna, M. P., & Griffin, D. W. (1995). Let's not be indifferent about (attitudinal) ambivalence. In J. A. Krosnick, & R. E. Petty (Eds), *Attitude strength: Antecedents and consequences* (pp. 361-386). Hillsdale, NJ: Erlbaum.

Trafimow, D. (1996). The importance of attitudes in the prediction of college students' intentions to drink. *Journal of Applied Social Psychology*, 26, 2167-2188.

Trafimow, D., Brown, J., & Grace, K. (2002). The relative influence of attitudes and subjective norms from childhood to adolescence: Between-participant and within-participant analyses. *American Journal of Psychology*, 115, 395-414.

Trafimow, D., & Fishbein, M. (1994). The moderating effect of behavior type on the subjective norm-behavior relationship. *Journal of Social Psychology*, 134, 755-763.

Triandis, H. C. (1977). *Interpersonal Behavior*. Monterey, CA: Brooks/Cole.

Turner, J. C. (1991). *Social Influence*. Buckingham: Open University Press.

Visser, P. S., Krosnick, J. A., & Simmons, J. P. (2003). Distinguishing the cognitive and behavioral consequences of attitude and certainty: A new approach to testing the common-factor hypothesis. *Journal of Experimental Social Psychology*, 39, 118-141.

Warland, R. H., & Sample, J. (1973). Response certainty as a moderator variable in attitude measurement. *Rural Sociology*, 38, 174-186.

Wiener, M. (1958). Certainty of judgment as a variable in conformity behavior. *Journal of Social Psychology*, 48, 257-263.

Η επίδραση των στάσεων και της κανονιστικής επιρροής στις συμπεριφορικές προθέσεις: ο ρυθμιστικός ρόλος των υποκειμενικών κρίσεων για τα χαρακτηριστικά της στάσης στο πλαίσιο της Θεωρίας της Λογικής Πράξης

ΦΛΩΡΑ ΚΟΚΚΙΝΑΚΗ¹

ΠΕΡΙΛΗΨΗ

Η παρούσα έρευνα εξετάζει το ρυθμιστικό ρόλο των υποκειμενικών κρίσεων για τα χαρακτηριστικά μιας στάσης στο πλαίσιο της Θεωρίας της Λογικής Πράξης.

Οι συμμετέχοντες εξέφρασαν τη στάση τους απέναντι στο να ψηφίσουν ένα συγκεκριμένο πολιτικό κόμμα σε επικείμενες βουλευτικές εκλογές, καθώς και τη βεβαιότητα, τη βιωμένη αμφιθυμία και την υποκειμενική τους γνώση. Εξέφρασαν επίσης την υποκειμενική τους νόρμα, τη συμπεριφορική τους πρόθεση και, σε ένα μετέπειτα στάδιο, την πραγματική τους συμπεριφορά. Τα αποτελέσματα τεκμηριώνουν την προβλεπτική αξία της θεωρίας. Υποστηρίζουν επίσης τον αναμενόμενο ρυθμιστικό ρόλο της βεβαιότητας και της υποκειμενικής γνώσης και δείχνουν ότι τα άτομα που αισθάνονται σίγουρα για την ορθότητα της στάσης τους και θεωρούν ότι είναι καλά ενημερωμένα είναι περισσότερο πιθανό να στηρίξουν τις συμπεριφορικές τους αποφάσεις στη στάση τους και λιγότερο πιθανό να βασιστούν στις προσδοκίες σημαντικών άλλων προσώπων. Τα ευρήματα αυτά αναλύονται σε σχέση με τη συνέπεια στάσεων-συμπεριφοράς και την κοινωνική επιρροή.

Λέξεις-κλειδιά: Στάσεις, Σθένος των στάσεων, Υποκειμενικές κρίσεις για τα χαρακτηριστικά της στάσης, Κοινωνική επιρροή, Θεωρία της Λογικής Πράξης

1. Διεύθυνση: Τμήμα Μάρκετινγκ και Επικοινωνίας, Οικονομικό Πανεπιστήμιο Αθηνών, Πατησίων 76, 10434 Αθήνα. Τηλ.: 210 8203717, fax: 210 8225677, e-mail: fkokkinaki@auer.gr