The impact of individual differences on influence strategies

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ABSTRACT

Persuasion and its applications aim at positively changing human behavior and they work the best when they are tailored to individuals. Recent studies show that individuals could give different responses to the same persuasion strategies which lead to personalization of persuasion strategies for better effectiveness. This study investigates what persuasion strategies are more effective for whom. More specifically, the relationship between the Big Five Personality traits (extraversion, neuroticism, agreeableness, conscientiousness and openness) and six persuasion strategies (authority, reciprocation, scarcity, liking, commitment and consensus) is explored. This study was conducted with 381 university students. A structured questionnaire comprising the Big Five Inventory Personality Trait scale and the Susceptibility to Persuasion Strategies scale was used to collect data. The Bayesian estimation was employed to reveal causal relationships. The results show that there are significant relations between personality traits and influence strategies.

1. Introduction

Persuasion is a key element in behavior and attitude change and different strategies have been proposed in the literature; such as Fogg's persuasion strategies (Fogg, 2002) and Rhoads' principles (Rhoads, 2007). Cialdini (2001) distinguished six persuasion strategies which can be applied to change behavior of people. These strategies have been used to change human behavior in different contexts; such as in online commerce, fund-raising, advertisements, and health information systems (Cialdini, 1993, 2001; Cialdini & Goldstein, 2002; Kaptein, Markopoulos, de Ruyter, & Aarts, 2009).

The effectiveness of these persuasion strategies varies among individuals since each individual can give different responses to the same influence strategies. The study of Kaptein et al. (2009) shows that individuals' compliance increases when a persuasive cue is incorporated into a request. Later, Kaptein (2012) proposed a structured scale to measure the susceptibility of people to Cialdini's six strategies. It was validated against actual behavior change and it was shown to measure a distinct trait successfully based on self-reported data. Although the designed scale had no specific context, it has been particularly utilized in the analysis of persuasive system designs (Kaptein, De Ruyter, Markopoulos, & Aarts, 2012). Also Kaptein, Lacroix & Saini (2010) showed that the responses of people to persuasive messages differ with their persuadability level.

Foreknowledge of personality is important in implementing effective influence strategies. Hirsh, Kang, and Bodenhausen (2012) discussed that persuasive messages are more effective when the message is framed according to the personality traits of people. Halko and Kientz (2010) explored the relationship between Big Five Personality (BFP) traits and persuasive technologies in the context of health-mobile applications. Participants of the surveys were asked about their perceptions about storyboards incorporating authoritative, cooperative and competitive, extrinsic and intrinsic, positive and negative reinforcement persuasive strategies. Their results showed that personality traits have different impacts on the effectiveness of the persuasive technology strategies. They concluded that personality types could be used to adapt persuasive strategies to meet the needs of users. Kaptein, Markopoulos, de Ruyter, and Aarts (2015) stated that trait differences affect responses to persuasion principles.

The main contribution of this study is to identify which personality traits are significant in determining individuals' susceptibilities to influence strategies of Cialdini (1993). There are limited studies that have investigated the relation between persuasion strategies and personality (Halko & Kientz, 2010; Hirsh et al., 2012). However none of them were focused on Cialdini's principles and they were designed for a specific application domain. The following hypotheses were formulated based on the findings obtained from the current literature.

Authority strategy implies the inclination to comply more with a request made by a legitimate authority. Agreeable people are altruistic, sympathetic, and eager to help others (Costa & McCrae, 1992). These people have cooperative values and exhibit positive interpersonal relationship skills (Zhao & Seibert, 2006). A person who is high on agreeableness trait is also bound to fear from not complying with the laws,

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Table 1
Reliability scores.

Scale	Subscale	Cronbach's alpha	Number of items
Personality traits	Extraversion	0.819	8
	Agreeableness	0.615	9
	Conscientiousness	0.762	9
	Neuroticism	0.810	8
	Openness to experience	0.792	10
Susceptibility to persuasion principles	Reciprocation	0.869	5
	Scarcity	0.774	5
	Authority	0.821	5
	Consensus	0.776	4
	Liking	0.760	4
	Commitment	0.739	3

and procedure defined by the authority as incompliance will result in prosecution and being punished. Negligence of laws and procedure generally portrays low end of agreeableness (Karim, Zamzuri, & Nor, 2009). Conscientious people also show responsibility for themselves and other people. They are organized, disciplined, responsible and achievement-oriented. Individuals high on this trait confirm to rules and regulations (Karim et al., 2009). Halko and Kientz (2010) found a negative relation between openness and authoritative persuasion type. Openness is reflected in a higher degree of intellectuality, imagination, and independent-mindedness (John & Srivastava, 1999; McCrae & Costa, 1987). Thus,

Hypothesis 1a. Individuals who are high on the agreeableness, and conscientiousness traits are inclined to authority strategy.

Hypothesis 1b. Individuals who are low on the openness trait are inclined to authority persuasion strategy.

Reciprocation strategy suggests that people might feel obliged to return a favor. Even they had never asked for, they can reciprocate to favors (Cialdini, 2001; James & Bolstein, 1990). Gouldner (1960) defines reciprocity as the universal belief that people should help those who helped them in the past. Dohmen, Falk, Huffman, and Sunde (2008) investigated the determinants of trust and reciprocal inclinations relating survey measures of social preferences to the measures of BFP. They found that all Big Five Personality traits have a significant and positive impact in the regressions for the positive reciprocity. So,

Hypothesis 2. Individuals high on the agreeableness, conscientiousness, neuroticism, extraversion and openness traits are all inclined to reciprocation strategy.

Scarcity is related to valuing more of scarce things. For example, some people may feel obliged to buy last items in an e-shopping web site. Neuroticism trait is characterized by anxiety, fear, and frustration (Thompson, 2008). In a study conducted on phishing scam e-mails, the users were sent e-mails promising a product to the first users to click the link (Scarcity). It was observed that the neurotic users clicked more than others (Halevi, Lewis, & Memon, 2013). In addition, in e-commerce setting, a purchasing event created with a time-limited option or discounted offer can result in a form of stress associated with a desire for the product due to its scarcity (Sundström, Balkow, Florhed, Tjernström, & Wadenfors, 2013). This fear of losing the limited option may affect neurotic people's behavior. The scarcity related questions of STPS scale based on Cialdini's principles are mainly about giving value to rare products. Shopping motives are defined as individuals' motives such as pleasure in bargaining, self-gratification and sensory stimulation to induce consumers to shop and they were found as significantly related with big five traits in the literature (Guido, 2006). Researchers found that there is a significant relationship between extraversion trait and value shopping (Guido, 2006; Karl, Peluchette, &

Harland, 2007) which is about the enjoyment for seeking special discounts. Therefore,

Hypothesis 3. Individuals high on the neuroticism and extraversion traits are more inclined to scarcity strategy than others.

Commitment and *consistency* denote people's tendency to align with their earlier commitments. People inclined to this strategy tend to follow through their appointments whenever they commit. Individuals high in conscientiousness trait tend to be more goal oriented (Barrick, Mount, & Strauss, 1993), organized, hardworking and self-regulated (Jensen-Campbell et al., 2002). Self-regulated people tend to follow their promises. Consciousness and agreeable individuals were shown to be related to all aspects of punctuality (Back, Schmukle, & Egloff, 2006). They stick to mutual agreements. Thus,

Hypothesis 4. Individuals high on the conscientiousness and agreeableness personality traits are more inclined to commitment strategy than others.

Social proof (*consensus*) is a principle signifying the propensity to follow the lead of similar others and *liking* strategy encompasses the propensity to say 'yes' to people they like. In consensus strategy, people observe others while making their decisions. Individuals tend to comply with a persuasive message if they observe other people have also complied. This strategy is particularly effective in situations of high uncertainty (Cialdini, 2001). Agreeable people were reported as good team members (Peeters, Tuijl, Rutte, & Reymen, 2006) and cooperative and it is important for them to fit in. On the other hand, closed individuals feel more comfortable with familiar and traditional experiences (McCrae & Sutin, 2009). These individuals may need the opinions of someone they trust or like in unfamiliar settings. Liking strategy is about the tendency of being influenced by someone who is similar to us. Agreeableness and extraversion traits were linked most consistently to measures of likeability (Wortman & Wood, 2011). Thus,

Hypothesis 5. Individuals high on agreeableness and extraversion and low on openness traits are more inclined to consensus and liking strategies than others.

2. Method

2.1. Participants and procedure

All the participants were Turkish and undergraduate students of a well-known public university in Turkey. The permissions were obtained from the university's research center for applied ethics. An online survey link was sent to the school email addresses of 658 students, 381 of which participated in the study. 64 entries were eliminated due to incomplete surveys. Of the remaining participants, 186 were females and 131 were males. The average age was 22.18.

Table 2
Descriptive statistics of scores for personality traits and influence strategies.

Variable	N	Minimum	Maximum	Mean	Std. deviation
Extraversion (EXT)	317	1.250	5.000	3.420	0.720
Agreeableness (AGR)	317	1.670	5.000	3.571	0.508
Conscientiousness (CONC)	317	1.220	5.000	3.196	0.603
Neuroticism (NEU)	317	1.000	5.000	2.991	0.738
Openness (OPN)	317	1.500	5.000	3.702	0.588
Reciprocation (REC)	317	1.000	7.000	5.296	1.173
Scarcity (SCAR)	317	1.000	7.000	4.623	1.336
Authority (AUTH)	317	1.600	7.000	4.678	1.119
Consensus (CONS)	317	1.000	7.000	3.896	1.253
Liking (LIKE)	317	1.000	7.000	4.868	1.101
Commitment (COM)	317	2.000	7.000	5.465	1.110