Social entrepreneurship in the Netherlands: Factors that influence the user innovator to become a social entrepreneur

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ABSTRACT
There is evidence that user innovators do not only fulfill a commercial or industrial need, but are also increasingly fulfilling a social need with their innovation. However, there is limited research available that explores this phenomenon. This study analyzes the factors that might influence a user innovator to become a social entrepreneur by setting the research under the umbrella of the theory of planned behavior. The results are based on retrospective secondary survey data from the year 2009, collected by the Global Entrepreneurship Monitor and Panteia/EIM research program. The data includes inquiries about the prevalence of social entrepreneurship and user innovation. The identified factors knowledge, experience and skills, and also social influence positively and significantly influence user innovators to become social entrepreneurs. The results give empirical insights to a potential relationship between two distinct concepts and new directions for future research.

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Social entrepreneurship, user innovator, user entrepreneurship, theory of planned behavior, social value creation, Global Entrepreneurship Monitor, Panteia/EIM

1. INTRODUCTION

A globally increasing trend is reported of the adult population engaging in entrepreneurial activities (Terjesen, Lepoutre, Justo & Bosma, 2012). In the economy of the European Union alone, a rate of 7.8% is registered, while additional 6.7% are considered established business owners (Singer, Amorós & Moska, 2014). Entrepreneurship is closely related to innovation and describes the discovery, evaluation and exploitation of an idea or opportunity by an individual who turns it into a successful new business venture (Sull, 2004; Shane & Venkataraman, 2000). Scholars have identified that entrepreneurship can vary depending on where the unmet need originates from. Entrepreneurship can either come from users whose needs are not met by current market offerings or from a need in a societal context (Conway & Steward, 2009; Wickham, 2006; Austin, Stevenson & Wei-Skillern, 2006; Urban & von Hippel, 1988). Respectively, these types of entrepreneurship are called user entrepreneurship (emerging from user innovators) or social entrepreneurship.

User innovators are users who themselves experience an unmet need with the offerings in the market. Thus, they make use of own skills, experience and knowledge to improve or modify current products or services (van der Boor, Oliveira & Veloso, 2014; Conway & Steward, 2009; Lüthje, Herstatt & von Hippel, 2005; Herstatt & von Hippel, 1992). When other individuals express an interest of purchase, user innovators might become aware of the commercial potential of the innovation. The commercialization of the innovation might occur which means making a new product or service available to the broader market (Aarikka-Stenroos & Lehtimäki, 2014; Shah & Tripsas, 2007). User innovators are also known as accidental entrepreneurs, because they do not innovate to become entrepreneurs, but try to fulfill their own needs and thereby those of others around them (Shah & Tripsas, 2007). To illustrate, Sara Blakely was unsatisfied with how her rear looked in pants, so she decided to cut out the feet of her pantyhose and wear them underneath to give it a better shape (Evan, 2011). Sara Blakely realized the potential of her innovation, patented the "footless body-shaping pantyhose" and founded Spanx Inc. two years later and became a multi-million dollar company (Evans, 2011).

Social entrepreneurship is broadly seen as a means of creating value by finding an innovative *sustainable* solution to a social problem (Sastre-Castillo, Peris-Ortiz & Danvila-Del Valle, 2015; Manyaka, 2015; Ishak, Omar & Moen, 2015; Lisetchi & Brancu, 2013). The social problems that are targeted by a social entrepreneurs, cover a wide range of issues; therefore social entrepreneurship can occur wherever a social need is identified. However, Hartog, Hessels & van Stel (2010) showed that social entrepreneurship "increases slightly with national wealth" and is more likely in "efficiency- and innovation-driven economies" (p. 41). Furthermore, it is more likely for individuals who fulfilled their own basic needs, to engage in social entrepreneurial activities (Hartog et al., 2010). Accordingly, basic needs are "food, clothing and shelter" (Brown, Hanson, Liverman & Merideth, 1987, p.716).

Looking at the research on user innovation, the studies concentrate, among others, on user innovators in an industrial or commercial setting (e.g. Oliveria & von Hippel, 2011; Baldwin, Hiernerth, & von Hippel, 2006; Lüthje et al., 2005), on the effect of determinants of user innovation (such as, knowledge sharing, the community as knowledge creators), or the diffusion of innovations (e.g. De Jong, von Hippel, Gault, Kussisto & Raasch, 2015; Mahr & Lievens, 2012; Jeppesen & Laursen, 2009). In contrast, Conway and Steward (2009) are among the few who relate user innovators also to a social setting. They explain briefly that user innovators can also come up with "innovative services" or products in a societal context by creating social value solutions for themselves or others (p.377). Often these innovators are identified as "sufferers from illnesses" or are indirectly affected by it, for instance, as family members (Conway & Steward, 2009, p.377). To the author's knowledge, there is limited research available that makes further attempt to investigate the concept of user innovators in a social value creating context. When the user creates a social value solution, he shares the entrepreneurial process outcome of a social entrepreneur. However, the "social" user innovator is not viewed as a social entrepreneur. For instance, due to the different steps in the entrepreneurial process they undergo (Aslund & Bäckström, 2015; Baldwin et al., 2006), or the fact that the user innovator innovates for his own use first, while social entrepreneurs try to help others (von Hippel, 1986; von Hippel 1976; Sastre-Castillo, 2015). In those cases, in which the user innovator recognizes an opportunity in the social context, the line between user innovator and social entrepreneur still becomes blurry. It also aggravates a clear distinction to which type of entrepreneurship the innovation would belong to.

In this respect, the goal of this research is to investigate further whether and to what extent an overlap between the concepts of user innovator and social entrepreneur exists. To do so, this study will look at user innovators and social entrepreneurs under the lens of the theory of planned behavior (TPB). The TPB tries to explain volitional behavior by identifying certain constructs and sub-constructs that might influence the intention to perform a behavior (Ajzen, 1991). By using the TPB, this study follows on the one hand, the recommendation of Mair and Marti (2006) who recommend to base research in entrepreneurship on its behavior or process. And on the other hand, the objective of the data used in this study which is to get a better understanding of entrepreneurship and its drivers (Lepoutre, Justo & Terjesen, Bosma, 2013; GEMconsortium, n.d.). This study makes use of survey data from the Global Entrepreneurship Monitor (GEM) and Panteia/EIM research program from the year 2009. This particular data is used, because it is one of few studies that not only incorporate questions investigating the "nature of entrepreneurship with a social purpose" (Hartog et al., 2010, p.40), but also questions regarding user innovation (De Jong, 2010). It, therefore, provides the unique possibility to research *two distinct concepts within one research setting* and makes attempt in filling a gap in existing research.

Since this study is based on retrospective secondary data and it does not cover the components of TPB according to theory adequately, the TPB will only be used as an inspiration to construct the research model. It means that according to TPB three elements are identified which are measurable within the scope of the provided data. Therefore, this paper tries to answer the following research question:

What factors influence a user innovator to become a social entrepreneur?

The answer to this research question was acquired by studying a sample of 764 user innovators from the Netherlands who were current owner/managers. This study analyzed the influence of the theoretically derived independent variables "opportunity", "knowledge, experience & skill" and "social influence" on the disposition to start a social venture. As hypothesized, the findings revealed that the variables "knowledge, experience & skills" and "social influence" have a positive significant relationship to the dependent variable social entrepreneur. Unexpectedly, the variable "opportunity" had a significant negative effect, which will be explored further in the discussion section of this paper.

To check for validity, the sample was tested across two subsequent control groups.

The structure of the paper is as follows. In the next section, a literature review is conducted on the body of research on user innovators and social entrepreneurship, under the components identified from the TPB, to generate a basis to answer the research question. Section 3 explains the methodology of this paper, followed by the presentation of the results. This study concludes with a discussion section with an indication of theoretical and practical relevance, followed by limitations and suggestions for future research.

2. THEORETICAL BACKGROUND

The theory of planned behavior (TPB) is a popular theory in the area of social psychology and is an improved version of the reasoned action theory of Ajzen and Fishbein (1975) (Taylor & Todd, 1994). The theory is "designed to predict and explain human behavior in a specific context and has proven to be well supported by empirical evidence" (Taylor & Todd, 1994; Ajzen, 1991, p.181). More precisely, it analyzes an individual's behavior in a given situation (e.g job performance) and how the behavior is influenced by other factors (e.g. status/salary) within that situation (Ajzen, 2011; Ajzen, 1991). The theory considers the influence of the weighted sum of *attitude towards the behavior* (desirability of outcome), *subjective norm* (social pressure regarding the outcome), and *perceived behavioral control* (facilitating conditions and self-confidence) on the *intention* to perform; intention in turn influences the *behavior* itself (Ajzen, 2002; Ajzen, 1991, Mathieson, 1991; Bandura, 1982). The data shows that three elements of two constructs of the TPB can be analyzed within the scope of this research. These are "opportunity", and "knowledge, experience and skills" which belong to *perceived behavioral control* and "social influence" that belongs to *subjective norm*.

As a remark, the identified elements will be explained in the context of user innovators and social entrepreneurs. In the methodology section of this paper, it will be explained how the factors will be measured and operationalized; additionally, it will be elaborated to what extent the provided data covers the theory behind the factors.

2.1 Opportunity

According to the TPB, opportunity is considered a facilitating condition under the construct *perceived behavioral control* (Mathieson, 1991). The presence of facilitating conditions are important for assessing if the behavior can be achieved (Mathiesen, 1991).

In every type of entrepreneurship, the recognition of an opportunity by an individual is seen as the starting point of the process (Mayanka, 2015). Opportunities arise because markets are constantly moving in and out of equilibrium. In those instances, alert individuals will be able to realize the opportunity and, depending on the information, might become an entrepreneur or not (Mair, Robinson & Hockerts, 2006). The opportunity a social entrepreneur recognizes is special, because it originates from a social context and directly affects the society. Those opportunities not necessarily generate economic value, which makes them unattractive for entrepreneurs that seek financial returns (Mair et al., 2006; Austin et al., 2006). Social entrepreneurs are often regarded as initiative takers who are enticed to look for "new experiences" and "adventures" (Irengün & Ankboga, 2015, p.1194) Thereby they identify "social disparities" and come up with ideas to overcome those (Irengün & Ankboga, 2015, p.1194). They are the ones who make the social problem visible to others and raise awareness to the social disequilibrium in the markets (Aslund & Bäckström, 2015).

Often, the identified opportunities outreach the available resources which makes it difficult for the social entrepreneur to solve the problem (Austin et al., 2006). In regard to user innovators, the user recognizes opportunities that stem from an unfulfilled need when using a product, service or process (Conway & Steward, 2009). For the user innovator, the recognized need is first and foremost a need he experiences himself, regardless of its context. It can come either from an economic, social or an environmental context. Conclusively, it could be observed that user innovators who become user entrepreneurs and social entrepreneurs, both are aware of a particular opportunity to improve a certain disequilibrium. Unlike the social entrepreneur, the user innovator is not bound to a specific context in which the innovation is created. It could be therefore assumed, that if a user innovator experiences a need in a social context, the user would act upon that opportunity. When it is within his capabilities, he would eventually become a social entrepreneur. Thus, the following hypothesis will be tested:

H1. *The more the user innovator recognizes an (social) opportunity to act upon, the greater is the likelihood that the user innovator becomes a social entrepreneur.*

2.2 Knowledge, experience and skills

Knowledge, experience and skills are also part of the facilitating conditions under the TPB and are decisive in the question whether or not the behavior can be achieved (Mathieson, 1991).

Social entrepreneurs base their knowledge on the one hand on tacit knowledge, and on the other hand on local knowledge (Zahra, Gedajloviv, Neubaum & Shulman, 2009). Tacit knowledge is knowledge stemming from past. Local knowledge is knowledge gathered in local communities that resided on site for generations (Halewood, 1999; Reber, 1989). Additionally, knowledge is also generated through the social networks (Aslund & Bäckström, 2015). In comparison, the knowledge of user innovators stems from the unique user-perspective based on experiencing a product, service or process firsthand (Shah & Tripsas, 2007). They do not only understand their needs and how a product is able to meet it adequately, but they also know "how [the product] is used" (Shah & Tripsas, 2007, p.132). User innovators rarely work independently, instead they are part of a greater community where they actively share innovation related information with "like-minded innovators" (Jeppesen & Laursen, 2009; Shah & Tripsas, 2007; Baldwin et al., 2006, p.1306). Hence, similar to social entrepreneurs, user innovator also access external knowledge to increase their knowledge (Bin, 2013; Jeppesen & Laursen, 2009). What is more, user innovators also make use of unique skills and abilities stemming from their professional or private lives to improve their innovation (Lüthje et al., 2005). For instance, medical professionals follow in their profession specific rules or patterns to get to a final diagnosis. Those rules could be applied, when trying to find the problem with the current product and find a solution more efficiently (Lüthje et al, 2005). Conclusively, a user engages in innovation activities, when he has experienced by using the product and the knowledge of how to use it. Also by talking to others about it and using skills from other parts of their lives, increases the knowledge (Lüthje et al., 2005). User innovators often lack the necessary knowledge to become actual entrepreneurs compared to social entrepreneurs (Heaflinger, Jäger and von Krogh, 2010). Often, the knowledge and experience of user innovator and the support of the user community, albeit valuable for the creation and diffusion of the innovation, is limited in regard to commercializing the innovation successfully, because it goes beyond the available experience of the community (Baldwin et al., 2006). According to Shah and Tripsas (2007), however, the commercialization of user innovation is regarded as an emergent

process to which the user innovator adapts accordingly and learns what needs to be done gradually (Shah & Tripsas, 2007). Therefore, knowledge, experience and skills are considered an important factor that enables the user innovator to become an entrepreneur, but also for social entrepreneurs to successfully pursue their social mission and raise awareness. In order for user innovators to become social entrepreneurs, their knowledge, experience and skills have to adapt to the aspect of commercializing the innovation and showing the social value of their innovation. Thus the following hypothesis is developed:

H2. *The greater the knowledge, experience and skills of user innovators to start a business, the more likely it has a positive effect on becoming a social entrepreneur.*

2.3 Social influence

According to the TPB, social influence towards the behavior belongs to the construct *subjective norm*. It is shaped, on the one hand, by the normative belief about other individuals, which means the belief how the behavior is viewed by people important to the individual (Mathieson, 1991). On the other hand, it is influenced by the motivation "to comply with the wishes of" others and how others engage in the same activity (Ajzen, 2000; Mathieson, 1991, p.176).

The social entrepreneur navigates, leads his helpers and executes the strategy (Mair et al., 2006). Thereby he relies heavily on social network ties to pursue the social mission. The networks consist of very influential people, such as funds, board members, managers and staff, but also other social entrepreneurs (Austin et al., 2006). The social entrepreneur opens communication channels towards the network, and by that signals trust to them. It is a way how the social entrepreneur can initiate discussions and use the information gained to get ideas to find a solution (Irengün & Ankboga, 2015; Aslund & Bäckström, 2015). It can be therefore assumed that the influence of others in the network, can greatly contribute to find a solution to the social problem. Similarly, user innovators work very closely together with the community, also as user entrepreneurs (Hiernerth, 2006). Baldwin et al. (2006) claim that user and the community often lack the knowledge about the commercialization of the innovation. Despite that, it is not ruled out that within the user community no other user exist that is an entrepreneur himself that could offer advice in that direction. Moreover, Bin (2013), adds that the community is not the only social influence of user innovators. They also have their own family, their relatives or friends who greatly influence the innovation decisions. The social ties of the user innovator are also a major motivation in the innovating process. The more the innovation is perceived as valuable for others, the more motivated the user is to innovate (Bin, 2013). Therefore, the influence of others could be a motivation to undertake further steps towards becoming an entrepreneur. Thus, the following hypothesis is tested in this study:

H3. *The more positive the social influence on the user innovator, the more likely it influences him to become a social entrepreneur.*

In conclusion, Figure1 represents the causal model that will be tested in this research and is based on the abovementioned hypothesis and their expected relationships. Additionally, the model will be tested for potential interaction affects among the independent variables.
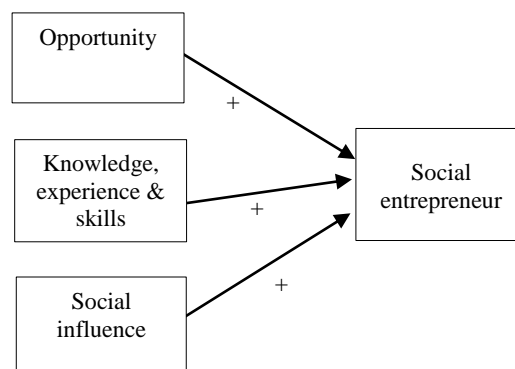

Figure 1. Causal Model of the effect of opportunity, knowledge, experience & skills, and social influence on social entrepreneurship.

3. METHODOLOGY
3.1 Data
In 2009, more than 150,000 people from 49 countries were interviewed for the adult population survey, therefrom 3,003 were from the Netherlands and sampled by "random dial[ing] from [a] list" through a "fixed-line" telephone interview (Lepoutre et al., 2013, p.699). According to Babbie (2013) this way of interviewing has several advantages, among others, saving time and money (no need to drive to make face-to-face interview), and respondents have a degree of anonymity by not directly seeing the interviewer which will increase the degree of honesty in answering the questions. Among the disadvantages, are finding an excuse to stop the interview or to cut it short, not picking up the phone or to consider the call a disturbance.

3.1.1 Survey construction
The survey of 2009 for the Netherlands concentrated on two aspects, since Panteia/EIM had a separate research goal. The GEM asked questions on the prevalence rate of social entrepreneurial activity (SEA) in the population and tried to expose insight to the drivers of SEA (Lepoutre et al, 2013). Panteia/EIM, however, wanted to research the topic of user innovator in relation to the "entrepreneurial engagement ladder" and therefore added close ended question to the questions of GEM (De Jong, 2010, p.88). The question which were added, were taken from a consumer survey done in the UK by Flowers, De Jong, Sinozic and von Hippel (2010) (De Jong, 2010).

3.2 Measures
3.2.1 Dependent variable
In order to operationalize the dependent variable *social entrepreneur*, this study has to find entrepreneurs with a social venture. Therefore, this paper follows the operationalization of Lepoutre et al. (2013). According to Lepoutre et al. (2013), the social mission, which is the value produced related to society, is a key differentiator for social entrepreneurs (Moore, 2000). Hence, they looked for the "self-identification" of entrepreneurs with a social mission by looking at how they classify their company in regard to economic, social and environmental value (Lepoutre et al., 2013, p. 697). Looking for these indicator in the survey, the question "Are you, alone or with others, currently the owner of a company you help manage, self-employed, or selling any goods or services to others" is used to identify entrepreneurs. The respondents were also asked to indicate the perceived environmental, social and economic value the organization generates by appointing 100 points accordingly to the categories to generate the goal-based classification (Lepoutre et al. 2013). Although the primary goal of social entrepreneurs is creating social value, economic value is also desirable to ensure resource

availability. Because others are sometimes unable to pay, the goal of social entrepreneurs is not only to create social value, but also to some degree economic value to create a self-sustaining entity (Mair & Marti, 2006; Austin et al., 2006). Looking at the sample, only 10% of the sample indicated a social goal of 50% and above. Therefore, those respondents who indicated to have at least 20% of social goal in their business, are taken into account and identified as social entrepreneurs. The variable corresponding to this is labelled SOCENT.

As a remark, the survey also had a question that specifically asked for an "activity, organization or initiative that has a particularly social, environmental or community objective". Due to the little amount of responses to this question (N=5), this study did not take this question into account and choose the abovementioned method as an alternative.

3.2.2 Independent variables

3.2.2.1 Opportunity

The independent variable *opportunity* intends to measure if realizable opportunities are identified in the close future. In order to become a social entrepreneur, the user innovator would have to recognize an opportunity in a social context. Within the confines of this data, is it not possible to extensively measure opportunity, since it is only explored by asking one question. That is, "In the next six months there will be good opportunities for starting a business in the area where you live" and labelled with OPPORT. It is measured on a scale of "yes", "no", "don't know" or "refused". By selecting this question for the variable opportunity, the social aspect is not included. This problem is solved, when considering that the dependent variable SOCENT identifies a social entrepreneur who would have recognized an opportunity in a social context in order to become a social entrepreneur.

3.2.2.2 Knowledge, experience and skills

The independent variable *knowledge, experience & skills* to start a business tries to measure if knowledge, experience and skills are present in order to become an entrepreneur. The survey provides exactly one question that directly measures knowledge, experience and skills to start a business, which is: "You have the knowledge, skill and experience required to start a new business" and expressed with SUSKILL. It is also measured on a scale of "yes", "no", "don't know" or "refused". Since, this study is bound to the provided data, that indeed measures knowledge, experience and skills as one variable, the author is able to operationalize knowledge, experience & skills in this manner. Outside of this research setting, it would be recommended to test for validity before creating this variable to see if it measures what it supposed to measure (Field, 2009).

3.2.2.3 Social influence

The independent variable *social influence* intends to measure how the community might influence the user innovator. If someone has, for instance, started a business or is a social entrepreneur himself, it could strongly influence the decision of a user innovator to start a business as well. Looking at this variable under the TPB, it explains that social influence is a strong determinant that influences the intention to perform (Mathieson, 1991). If other individuals dear to the person express a negative attitude towards the behavior, it can greatly discourage the person. In contrast, if others think that it is something good and encourages the behavior, it can be seen as a major motivation to actually perform (Ajzen, 1991). The survey gives us one question that relates to social influence which is: "You know someone personally who started a business in the past 2 years" and labelled KNOWENT. Also, this is measured on a scale of

"yes", "no", "don't know" or "refused". If the user innovator knows someone who made the step to become an entrepreneur, it might be a motivation to do so himself or at least trigger the idea to become an entrepreneur.

3.2.2.4 Control variables

In the survey, several questions were asked that can be considered as control variables. This study makes use of *age, gender, employment status* and *education* as control variables. According to Sastre-Castillo (2015), there is no indication that age is a determinant for social orientation, however Terjesen et al. (2012) found that younger people tend to be more involved in social activities. Furthermore, women are regarded to be more likely involved in social enterprises than men are, however more men are considered to be user innovators (Pongtanalert & Ogawa, 2015; Terjesen et al., 2012). According to Terjesen et al. (2012), the education level is an indicator for the level of social entrepreneurship, but also user innovators tend to be highly educated (Pongtanalert & Ogawa, 2015). By applying these variables, it will be analyzed whether or not the relationship between OPPORT, KNOWENT and SUSKILL with social entrepreneurs is influenced.

3.3 Analysis

In order to analyze the data, this study makes use of IBM SPSS statistics version 22. SPSS is a software used for statistically analyzing data and used in many research fields, such as psychology, sociology, and behavioral sciences (Landau & Everitt, 2004). The survey data is available as a SPSS file, which solves the problem of transferring the data. In order to use the data provided by the survey more appropriately, several steps have been made before the data analysis.

3.3.1 Recoding of variables

The survey consisted of an extensive amount of missing values, which required a re-coding of the values. The method used in this study is re-coding the independent variables according to counts (Landau & Everitt, 2004). For the independent variables OPPORT, SUSKILL, and KNOWENT, the possible answers given are "yes", "no", "don't know", "refused". The answer "yes" is re-coded into "1", while the other answers are re-coded into "0". For the dependent variable SOCENT, those entrepreneurs were identified that indicated a social value generation of 20%. All counts above 20% maintained their percentage values, while all below were re-coded into "0". The dependent variable created is a continuous variable, while the independent variables are categorical.

3.3.2 Creation of sample

By making use of secondary data, a high amount of information is given, however the data usually does not meet the research goal (Babbie, 2013). In order to meet this study's objective, relevant data needed to be selected.

The unit of analysis of this research are user innovators with entrepreneurial intentions. Therefore, the user innovators among the Dutch sample need to be identified. To do so, out of the sample size of N= 3003, those will be selected that are considered to be user innovators. De Jong (2010) identified user innovators as those who have: (1) "during the past three years changed software programs by changing the computer code", (2) "developed a software from scratch, modified any product used in daily life to make it better for you", and (3) "created a product from scratch for own use" (p. 89). By selecting these cases in the data set, which replied (1) "yes" or (2) "yes, sometimes", the potential user innovators are selected. The new sample consists of N= 3001 representatives of the adult population with an age range of 18 to 95 that are considered user innovators. After identifying the user innovators among the sample (N=3301),

there still exist the possibility to be (1) someone who is trying to start a business (BSTART), (2) someone who starts a venture for an employer (BJOBST), (3) an owner or manager of a business (OWNMGE), (4) fund provider for a business (BUSANG), (5) someone who is planning to start a business within three years (FUTSUP), and (6) someone who sold, shut down, discontinued or quit a business (DISCENT). Therefore, the sample was reduced by identifying the individuals who expressed to have entrepreneurial intentions. These are BSTART=1, OWNMGE=1, BJOBST=1 and FUTSUP=1, the ones who are DISCENT and BUSANG were not deleted, since the possibility exists that the user innovator with entrepreneurial intention provides funds or quit a business once. Simultaneously, the sample was filtered for overlap. The decision was made to include these four types of entrepreneurs, in order to have a more appropriate sample size for this study. Finally, the sample size used consists of N= 381 respondents.

3.3.3 Creation of control sample
In order to create the control sample that is of approximately an equal size to the identified sample of entrepreneurs (381), three steps needed to be done. First, the control sample needed to be selected by identifying those individuals who responded with "0" to all possible abovementioned questions (1-6) which resulted in a sample size of 2480. In a subsequent step, the sample was cleared of the missing values, since not all respondents were asked to indicate KNOWENT, OPPORT or SUSKILL. This revealed a sample size of 1285. Since a control group has to be approximately equal in size, and this study wants to check for robustness twice, three control groups needed to be created. Therefore, in a third step, the option random sampling was chosen by an approximate of 90%. It resulted in a random sample of 1149 individuals. Random sampling is a method in which each individual has an even chance of being selected, independent from the restrictions of the selection process (Babbie, 2013). The random sample of 1149 was then divided into three groups of 383 each and added to the sample of N=381. As a result, three groups with a sample size of N=764 was generated. The first is used as the actual sample, while the other two are used for validity by checking for robustness.

3.3.4 Data Analysis I
In order to test the hypothesis, a regression analysis is done that tests if the independent variables KNOWENT, OPPORT and SUSKILL predict the dependent variable SOCENT. Additionally, the independent variables are tested for possible interaction effects that might make the independent variable a moderating variable. A moderating variable, or also test variable, affects the strength of the relationship between the dependent and an independent variable (Babbie, 2013). The test for interaction effects are indicated in Table 2 as model II and III and IV.

In the following section, the results are presented, including descriptive statistics of the research model and the results of the regression analysis.

4. RESULTS
The results of the descriptive statistics can be found in Table 1. The sample size considered in this analysis is N= 764. First, the variables were tested for normal distribution with the help of the Shapiro-Wilk test. The results revealed significance in all variables which means that they are not normally distributed (see appendix 9.2). To confirm, Landau and Everitt (2004), indicate that the quantile-quantile plot (Q-Q plot) is an alternative and more formal way to assess the normality of a variable. Within the Q-Q plot there is a reference line that shows the quartiles of a normally distributed variable. If the tested variable follows the line closely, it can be assumed that normality exists. The Q-Q plot of KNOWENT shows that the first point lies above and the other two points below the reference line. SUSKILL's Q-Q plots equals an exponential line and greatly deviates from the reference line. OPPORT, however, touches the reference line, while the tails deviate slightly from the line. Lastly, SOCENT follows the reference line vaguely but then deviate exponentially to the right. As a result, only OPPORT indicates a weak normal distribution (see appendix 9.3). As a consequence the assumptions of normal distribution have been violated, however the analysis was continued.

Furthermore, the analysis revealed that the mean, which describes the central tendency for a variable, ranges from 0.31 to 0.57 for the independent variables on a range of 0 to 1; the dependent variable's mean is 8.61. The standard deviation indicates the spread of the data which ranges from 0.425 to 0.496. The next step is the correlation analysis. Since the variables used are not normally distributed, it has to be done by Spearman's correlation coefficient r which ranges from a value between -1 and 1. Looking at Table 1, it can be depicted that the correlation among the variables is between -.035 and 0.314. This indicates a low correlation and therefore means that there should not exist multi-collinearity within this group of variables. Multi-collinearity refers to the possibility of a correlation not only between the independent variables and the dependent variable, but also among the independent variables (Field, 2009). To confirm that no multi-collinearity exists, a collinearity diagnostic was conducted by looking at the variance inflation factor (VIF). Although literature does not indicate a threshold for VIF, it is recommended not to exceed a value of 5, a value of 10 or above is considered problematic (Craney & Surles, 2002). Checking for multi-collinearity, it is revealed that the value does not exceed a VIF of 1.158 in this group.

Table 1. Descriptive Statistics

	Mean	Std. Deviation	1.	2.	3.	4.	5.	6.	7.	8.
1. SOCENT	8.61	.425	1							
2. KNOWENT	.36	.480	.149**	1						
3. OPPORT	.31	.462	-.035	.282**	1					
4. SUSKILL	.57	.496	.314**	.262**	.089*	1				
5. GENDER	1.49	.500	-.100**	-.164**	-.061	-.242**	1			
6. AGE	50.36	14.832	-.097**	-.278**	-.176**	-.177*	.012	1		
7. OCCU	3.09	1.942	.022	-.156**	-.063	-.124**	.196**	.437**	1	
8. EDUC	3.24	1.519	-.097**	-.251**	-.144**	-.191**	.078*	.235**	.231**	1

**. Correlation is significant at the 0.01 level (2-tailed). *. Correlation is significant at the 0.05 level (2-tailed). N= 764

Table 2. Result of regression analysis I

Regression Analysis I	Model I			Model II			Model III			Model IV		
Independent Variable	B	SE	p-value	B	SE	p-value	B	SE	p-value	B	SE	p-value
KNOWENT	5.28[*]	1.49	.043	3.79	2.45	.123	4.66[*]	1.86	.012			
SUSKILL	9.32[***]	1.38	.000	10.10[***]	1.67	.000				10.36[***]	1.62	.000
OPPORT	-3.76[*]	1.45	.010				-3.77	2.03	.063	-1.9	2.25	.399
KNOWENTx SUSKILL				-2.42	2.93	.410						
KNOWENTx OPPORT							-.095	2.98	.975			
OPPORTx SUSKILL										-1.96	2.86	.494
Control Variable												
AGE	-.045	.05	.369	-.001	.050	.544	-0.75[*]	.051	.144	-.063	.049	.201
GENDER	.708	1.35	.600	-.031	1.36	.534	-1.07[*]	1.36	.432	.402	1.35	.765
OCCU	.297	.38	.440	.002	.386	.481	.223	.396	.573	.319	.385	.409
EDU	-.472	.45	.293	-.003	.450	.399	-.81	.459	.078	-.588	.446	.188
R Square	.087			.080			.032			.083		
Adjusted R²	.079			.071			.023			.074		

N = 764; **= p<.001   *= p<.01

4.1 Regression Analysis

Table 2 presents the results of the regression analysis. Under the heading model I, the results are shown for the analysis including the independent variables and the control variables. Additionally, in three subsequent steps, the model was tested for interaction effects, the results are presented under the heading, model II to IV.

For hypothesis H1, the results show that opportunity has a negative but significant effect on social entrepreneurship (B=-3.76; p=.010). Therefore, hypothesis H1 is rejected. This means that even if opportunities are given, it does not predict that the user innovator will become a social entrepreneur. Next, hypothesis H2 is confirmed by the results. Knowledge, experience and skills show a strong significant and positive effect on social entrepreneurs (B= 9.32; p= .000). This indicates that the greater the knowledge, experience and skills of a user innovator, the more likely it is that he becomes a social entrepreneur. Furthermore, the results of social influence (H3), expressed by knowing someone who started a business, have a significant positive effect on social entrepreneurship (B=5.28; p=.043). It reveals that knowing someone who started a business can positively influence a user innovator to become a social entrepreneur. To see the effect of the control variables age, gender, occupation and education, a separate test was done by comparing the result of the regression analysis including control variables, with the results of a regression analysis excluding control variables. The results show that the control variables do not influence the independent variables (see appendix 9.4). The independent variables are also significant without the influence of the control variables, although the significance levels deviate slightly. The adjusted R² is really low with .079. It indicates that only 7.9% of the variance can be explained by this research model. According to Frost (2013), it is typical for research in the fields of human behavior to find low R², because it is more difficult to predict human than physical processes.

Interaction effect is reflected in Table 2 by the model II to IV and the variables KNOWENT x SUSKILL, KNOWENT x OPPORT and OPPORT x SUSKILL. The analysis shows no significance in those variables which means no interaction effect exists among the independent variables. After regression analysis I, a second analysis was made to check for robustness of the results (see appendix 9.5). The results show that SUSKILL is still positively significant (B= 9.33; p=.000) and OPPORT remains negative but significant (B=-3.55; p= .019). KNOWENT in contrast becomes insignificant at a p-value of .065 (B=2.84). Although it is a weak insignificant level, a third robustness check was done (see 9.6 appendix). The third robustness check confirms regression analysis I and due to the low level of insignificance, it can be concluded that the robustness checks nevertheless hold and the results are valid. The robustness checks also revealed no interaction effect among the independent variables.

5. DISCUSSION

This research was set out to investigate the factors that influence a user innovator to become a social entrepreneur. It was done by setting the research under the umbrella of the theory of planned behavior (TPB). The TPB looks at the behavior of an individual in a certain framework and analyzes how certain elements influence the intention to perform the behavior (Ajzen, 1991; Mathiesen, 1991). To recall, the research question of this paper was: "*What factors influence a user innovator to become a social entrepreneur?*" The answer to this research question was gained by identifying three hypothesis concerning the factors "social influence", "knowledge, experience & skills" and "opportunity" that could be extracted from the provided data.

The first hypothesis (H1) "*The more the user innovator recognizes an (social) opportunity to act upon, the greater is the likelihood that the user innovator becomes a social entrepreneur*", was rejected and even pointed out a negative direction. It can be explained from several angles. According to Mair et al (2006), markets move in and out of the equilibrium and thus offer generally many opportunities for entrepreneurs. When the markets move out of equilibrium to such a degree that the economy experiences a downturn, those who already have experienced a social need possibly will experience worse circumstances. Others who lived comfortably, might now start to feel a social need as well. This gives even more room for the social entrepreneur to target social problems and become active (Austin et al., 2006). Nevertheless, the results still point out a negative direction. Looking at the theoretical background of social entrepreneurship, it is said that they rely heavily on their social network to access resources (Austin et al., 2006). Therefore, the negative direction could be explained by a lack of resources available to the social entrepreneur in a recession (Austin et al., 2006). It does not mean that the social entrepreneur does not know how to overcome the problem in the market. The issues lie more in the fact that the problems far outreach the financial capabilities of the social entrepreneur which forces him to neglect an identified opportunity (Austin et al., 2006). It explains also why the second hypothesis (H2) is confirmed. Knowledge, experiences and skills do predict that user innovators become social entrepreneurs. User innovators know from using the product or service how the dissatisfaction is caused and have skills to solve those (Shah & Tripsas, 2007; Lüthje et al., 2005) Social entrepreneurs know from past experience (tacit knowledge) and by identifying and further observing a current social need, what skills and resources need to be used in order to solve the problem (Zahra et al., 2009). It shows that knowledge, experience and skills are vital for becoming an entrepreneur. Lastly, the third hypothesis (H3) "*The more positive the social influence on the user innovator, the more likely it influences him to become a social entrepreneur*", is confirmed. This is expected, because theory points out that individuals who intent to perform a behavior are greatly influenced by the perception of the behavior by people around them (Ajzen, 1991). Even though the element social influence, is operationalized in a very limited degree by looking at "knowing someone who started a business", it still shows that this narrow social influence, can already be a huge motivation.

To summarize, within the setting of this research, the answer to this research question is, that indeed the factors "knowledge, experience & skills" and social influence by looking at "knowing someone who started a business" can positively influences a user innovator to become a social entrepreneur.

5.1 Theoretical and practical implications

By looking at user innovators who become social entrepreneurs, this study revealed that the identified factors positively influence the behavior. But it does not mean that the presence of those factors make a user innovator a social entrepreneur. The results show that they contribute to the likelihood of becoming a social entrepreneur, but not make one a social entrepreneur. It has to be pointed out, that under the TPB the factors itself do not predict the behavior. To recall, the TPB consists of three main constructs and according to Ajzen (1991) and Mathieson, (1991) the weighted sum of the constructs is essential to predict behavior. This study only identified three sub-elements of two main constructs that resulted in a positive significant relationship to become a social entrepreneur.

Furthermore, this paper contributes to the findings of Conway and Steward (2009) who are among the few who consider user

innovators in a social setting. This study reflects the population of the Netherlands and thereby real-life situations in which user innovators express entrepreneurial intentions with a social purpose. By confirming that certain factors are positively related to social entrepreneurship within a sample of user innovators - in this case knowledge, experience & skills and also the social influence - it gives way to new insights of what is important for a user innovator to become a social entrepreneur.

As a practical implication, social entrepreneurs could make use of the revelation that user innovators produce social value. User innovators are considered to fit in the "low-cost innovation niche" which means they keep costs low by relying on local knowledge and expertise to develop the innovation (Lüthje et al., 2005, p.963). Often social entrepreneurs are restricted in creating value due to missing resources and are therefore not able to realize opportunities. There are many user innovators who create modify or change products/processes/services. However, only a fraction indicate entrepreneurial intention. Even in this paper 2480 out of 3001 user innovators indicated no interest in becoming an entrepreneur. Social entrepreneurs could encourage the ones without interest in commercializing their innovation to support their own mission instead and use the knowledge and innovation of the user innovator as a new kind of resource to accomplish their goal.

5.2 Limitations
This research also shows several limitations. Firstly, the data used in this study is secondary data and revealed several limitations. For one, according to Babbie (2013), using secondary data gives a broad range of information, but because the data was originally collected to fit a different research goal, the available information often does not fit the research in the best way. For instance, the variable social influence could only be operationalized by looking at "knowing someone who started a business", although social influence far outreaches that aspect. Second, taking a look at the data in general, it can be seen that the information given is very superficial. According to Babbie (2013), superficiality is one of the major weakness of survey research and comes from the typical large sample size. Survey research has to follow a certain degree of standardization to ensure that the questions are appropriate for the large number of respondents. It often occurs however, that the questions often "miss what is most appropriate to many respondents" which leads to superficial answers (Babbie, 2013, p. 263). Terjesen et al. (2009) reveal that the GEM surveys indeed follows strict quality control procedures and the same methodology, which ensures data quality and the possibility to harmonize the data across all cooperating countries. As a downside, the information available reflects the weakness of survey research. Although the original study was set out to investigate the prevalence of social entrepreneurship and user innovator in relation to the entrepreneurial engagement ladder (Lepoutre et al., 2013; De Jong, 2010), the information lacks in depth insights.

Furthermore, the data available in the SPSS data file, was strictly limited. Out of over 150 items recorded in the survey questionnaire, only a very limited amount of items could be actually used in the analysis, because the items consisted mostly of missing values. It is why this paper could only use the TPB and operationalize the identified variables in such a constrained and limited manner. Due to the missing values, the author was forced to recode the variables and their values into different variables in order to make them more appropriate for the data analysis. By recoding the variables to fit the research more appropriately, another research that uses this data might receive different results.

Lastly, this study is limited in its validity and reliability. Apart from the dependent variable, that followed the operationalization of Lepoutre et al (2013), the construction of the variables are not tested for validity or reliability. Additionally, the sample only includes Dutch respondents, and might lead to different results when tested with another national sample. It is very likely that the results change, because Terjesen et al (2010) report that in 2009, when the survey was conducted, the recession led to a decrease in entrepreneurial activity in all countries, with an exception of the Netherlands. The Netherlands showed an increase in entrepreneurial activity in the year 2009.

5.3 Future Research
Out of the implications and limitation, this study reveals several recommendations for future research. First and foremost, an emphasis needs to be put on the fact that the data enabled only a limited insight in finding a relationship between user innovator and social entrepreneurs, although it incorporates both in one research setting. To achieve a more in depth understanding, that reflects the theoretical background of both concepts adequately, a study has to be developed that goes beyond superficiality and gains data about the individual's precise attitude and behavior (Babbie, 2013). Thereby, the questions would be formulated in such a way that the least amount of missing values are generated. Secondly, in order to reveal, if the TPB does indeed predict social entrepreneurship, and provides also empirical evidence in the field of entrepreneurship, a research including all constructs could be undertaken. This study only indicates that a theoretical possibility exists that the TPB also holds in an entrepreneurial setting. What is more, future research could test the presence of social user innovation in a cross-country comparison to see what differences exist internationally. It should also be considered that initial research was done in times of recession which according to literature is a disadvantage for social entrepreneurship (Austin et al., 2006). To reveal what is a determinant for a user innovator to become a social entrepreneur, the first approach in empirical research should occur in a setting that is not majorly affected by external changes. When research is more progressed, studies should look at the determinants under distress, such as a recession or crisis.

6. CONCLUSION
The Global Entrepreneurship Monitor and Panteia/EIM research program make it possible to increase the body of research on user innovators and social entrepreneurship by combining both concepts within one research setting. This research identified another possible source that creates social value, next to for profit, not-for-profit, NGOs, corporation and social entrepreneurs themselves, by empirically assessing the possibility of user innovators becoming social entrepreneurs and finding factors that influence the relationship (Zahra et al., 2009).

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9. APPENDIX

9.1 Test of Normality

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
CUR_SOC_CONT	,451	764	,000	,543	764	,000
KNOWENT	,415	764	,000	,606	764	,000
OPPORT	,439	764	,000	,581	764	,000
SUSKILL	,375	764	,000	,630	764	,000

a. Lilliefors Significance Correction

9.2 Normal Q-Q Plots of Variables

Normal Q-Q Plot of SUSKILL

Expected Normal

Observed Value

Normal Q-Q Plot of OPPORT

Expected Normal

Observed Value
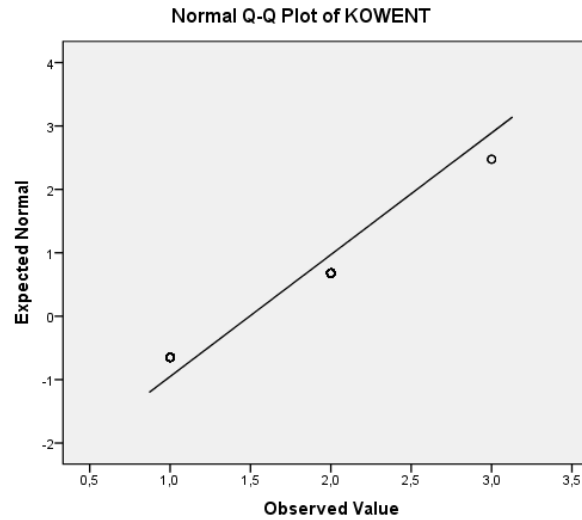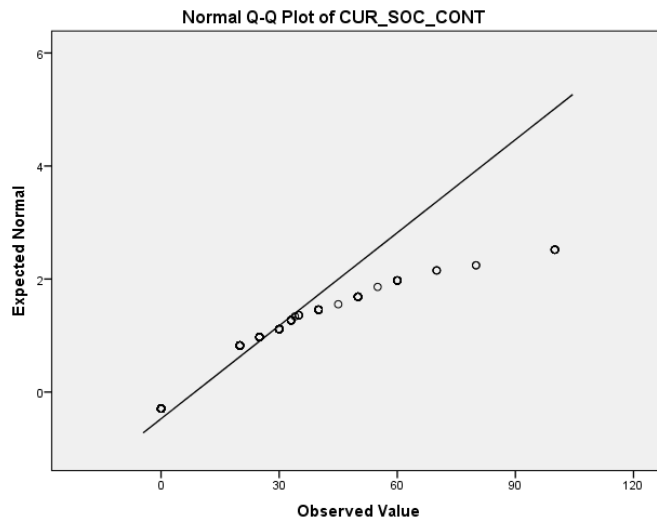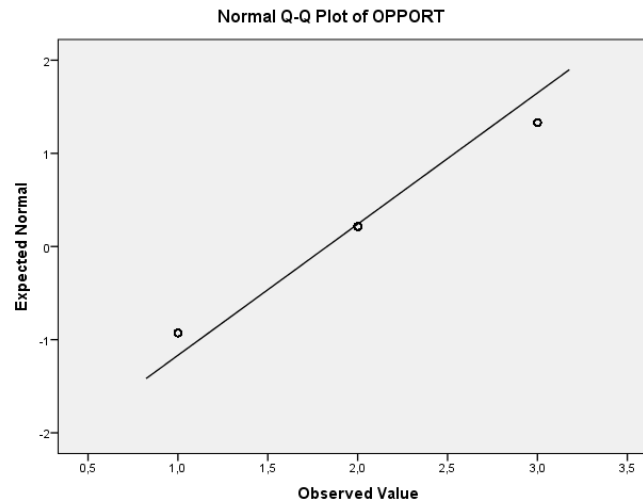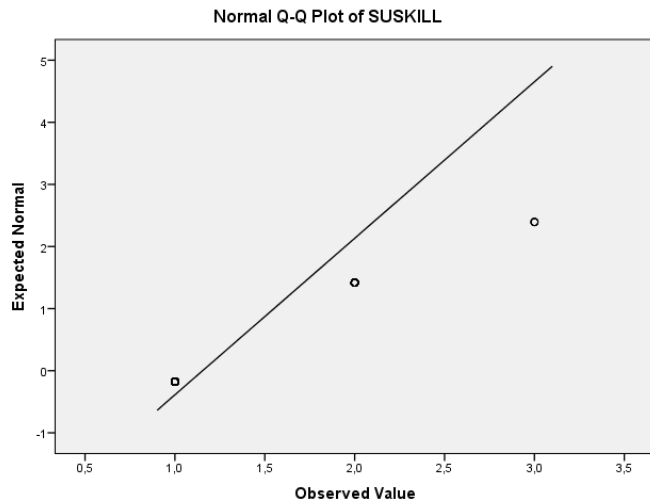
9.3 Regression Analysis without Control Variables

Table 3. Regression Analysis without Control Variables

	Regression Analysis I	Robustness I	Robustness II
KNOWENT	.017 (3.39**)	.028 (3.21*)	.007 (3.83**)
SUSKILL	.000 (9.41***)	.000 (9.115***)	.000 (9.27***)
OPPORT	.013 (-3.5*)	.018 (-3.49*)	.049 (-2.89*)
R Square	.085	.077	.082
Adjusted R²	.081	.074	.078

N = 764; **= p<.001   *= p<.01

9.4 Regression Analysis II

Table 4. Robustness Check I

Regression Analysis II	Model I			Model II			Model III			Model IV		
Independent Variable	B	SE	p-value	B	SE	p-value	B	SE	p-value	B	SE	p-value
KNOWENT	2.84	154	.065	6.58*	2.81	.065	4.77*	1.86	.011			
SUSKILL	9.33***	1.45	.000	10.624***	1.67	.000				10.85***	1.61	.000
OPPORT	-3.55*	1.5	.019				-3.08	2.10	.142	-.37	2.61	.886
KNOWENT x SUSKILL				-6.002	3.22	.063						
KNOWENT x OPPORT							.635	3.07	.836			
OPPORT x SUSKILL										-3.87	3.14	.219
Control Variable												
AGE	-.043	.048	.366	-.026	.048	.581	-.07*	.049	.148	-.058	.047	.217
GENDER	1.82	1.37	.184	2.14	1.366	.117	.063	1.375	.963	1.635	1.36	.231
OCCU	.025	.36	.945	-.018	.364	.961	-.116	.374	.757	.079	.366	.829
EDU	-.242	.45	.590	-.164	.449	.714	-.502	.460	.275	-.40	.44	.366
R Square	.082			.079			.030			.079		
Adjusted R²	.073			.070			.021			.071		

N = 764; ** = p<.001   * = p<.01

9.5 Regression Analysis III

Table 5. Robustness Check II

Regression Analysis III	Model I			Model II			Model III			Model IV		
Independent Variable	B	SE	p-value	B	SE	p-value	B	SE	p-value	B	SE	p-value
KNOWENT	3.24*	1.49	.029	4.13	2.48	.097	3.72*	1.82	.041			
SUSKILL	9.37***	1.398	.000	9.76***	1.64	.000				10.40***	1.584	.000
OPPORT	-3.13*	1.495	.037				-3.658*	2.05	.075	-.996	2.520	.693
KNOWENT x SUSKILL				-2.02	2.97	.497						
KNOWENT x OPPORT							2.68	3.046	.379			
OPPORT x SUSKILL										-2.465	3.063	.421
Control Variable												
AGE	-.069*	.048	.145	-.058	.047	.220	-.097*	.049	.048	-.086	.047	.069
GENDER	2.12	1.34	.117	2.3	1.34	.087	.156	1.347	.908	1.986	1.34	.14
OCCU	-.020	.377	.957	-.043	.378	.91	-.147	.388	.704	-.056	.377	.881
EDU	-.28	.458	.593	-.207	.458	.652	-.657	.468	.161	-.446	.453	.325
R Square	.089			.084			.036			.084		
Adjusted R²	.081			.076			.027			.076		

N = 764;   **= p<.001   *= p<.01