



MASTER THESIS

The Role of Sensory Processing Sensitivity in the Formation of Entrepreneurial Intention: A Theory of Planned Behavior Approach

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Abstract

Purpose: This research explores the relationship between personality traits and entrepreneurship, in particular, Sensory Processing Sensitivity (SPS) and Entrepreneurial Intention (EI). The Theory of Planned Behavior (TPB) is applied to test for mediation of the three intention antecedents: attractiveness, social norms, and perceived behavioral control.

Methodology: Based on literature, hypotheses are constructed to define the relationship between SPS, EI, and TPB. Operationalization of the definitions of interest enables the design of a survey, which is consequently performed on university students. Statistical analysis is performed on the collected data, to test the hypotheses.

Findings: Although no clear relationship between SPS, EI, and TPB are found, a subscale of SPS shows a negative relationship between EI and two antecedents of TPB, namely attitude towards entrepreneurship and perceived behavioral control. The subscale of SPS, which shows this relationship, is Ease of Excitement (EOE), which describes an individual's degree of feeling overwhelmed by environmental and emotional stimuli. Outcomes differ depending on measurement.

Research implications: The results indicate that more preliminary work on establishing a validated measurement for both, SPS and EI are required. In addition, the current study excludes the environment as a factor, which may prove significant in future studies.

Practical implications: Individuals with high SPS, who strive to pursue an entrepreneurial career can benefit from managing their EOE. Taking the time to reflect on new stimuli and finding counter evidence for their bias towards entrepreneurship may enable objectivity in their attitude towards entrepreneurship and take control of their situation.

Originality/value: The current study is original in two ways. Firstly, SPS is a relatively new personality trait, which has little published research in the context of entrepreneurship. Secondly, the research measures suggests multiple interpretations of SPS and EI, uncovering a root cause for mixed results with regards to the relationship between personality traits and entrepreneurship.

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1. Introduction

Entrepreneurial intention (EI) has been identified as an adequate predictor of entrepreneurial behavior (Kautonen, van Gelderen & Fink, 2015; Shirokova, Osiyevskyy & Bogatyreva, 2015). Predicting entrepreneurial behavior and understanding how entrepreneurs think and act is important because of the overall positive economic impact of entrepreneurship, such as job creation and economic growth (Audretsch & Kelibach, 2004; Minniti, 2008). Therefore the motivations and external factors for choosing a career as an entrepreneur are relevant to supporters of entrepreneurship such as policymakers, practitioners, and researchers alike.

Much progress has been made in understanding the motivations and external factors that influence the EI of individuals. One interesting study field that emerged deals with cognitive variables and personal characteristics that foster EI (Linan & Fayolle, 2015). To answer why someone chooses business ownership over employment, personality traits have been found to explain some of the difference in EI (Yar Hamidi, Wennberg & Berglund, 2008; Zhao, Seibert & Lumpkin, 2010; Shane & Nicolaou, 2015). The idea of an entrepreneurial personality driving individuals to develop the intention to become an entrepreneur has led to a stream of research unraveling the relationship between personality traits and entrepreneurship (Linan & Fayolle, 2015).

Following this stream of research, this study attempts to explore the link of a particular personality trait on EI that has not been sufficiently researched so far. Sensory Processing Sensitivity (SPS) is a genetic personality trait that is carried by 10%- 35% of the population (Aron, Aron & Jagiellowicz, 2012). Although some of the distinct characteristics have been recognized in earlier writings, SPS became well known through the work and conceptualization of Aron and Aron (1997). Since then, researchers from various fields have studied the implications of SPS. Individuals with high SPS tend to process information from their environment very deeply resulting in stronger emotional reactions (Aron & Aaron, 1997; Jagiellowicz 2012). On the one hand, this has a negative connotation, associated with higher stress perception and depression (Bakker & Moulding, 2012; Gerstenberg, 2012). On the other hand, individuals also report experiencing a complex, inner life and strong empathetic skills (Aron & Aaron, 1997; Jagiellowicz 2012). Furthermore, individuals with high SPS possess strong information processing capabilities relating to high intelligence. All those characteristics influence decision-making processes and subsequent behavior in various situations.

To study the relationship between the individual personality trait SPS and EI, this research builds upon existing theories. In particular, the Theory of Planned Behavior (TPB) is used to explore the effect of SPS on EI. TPB posits that intention precedes planned human behavior and can therefore be predicted by intention based on three individual factors: (1) perceived attractiveness of the behavior, (2)

social norms and (3) behavioral control (Aizen, 1991). The behavioral framework has been successfully applied in studying EI (Krueger, Reilly & Carsrud, 2000). This research posits that the personality trait of SPS has an effect on all three factors of TPB and therefore EI. Previous research has often separated the environment from the individual in entrepreneurship research (Boettke & Coyne, 2009; Henrekson & Sanandaji, 2011). However, the interpretation of the individual of his or her environment is just as, or perhaps more important than the actual environment of the individual.

Since individuals with the personality trait SPS process information from their environment with a stronger emotional reaction, an effect on the three factors of TPB seems likely. Individuals with SPS can interpret both positive and negative influences from the environment more emotionally. Therefore, exposure to an environment with successful entrepreneurs may prove more positively to an individual with high SPS compared to an individual without the SPS personality trait in forming EI. On the other hand, an environment with unsuccessful entrepreneurs may prove to be detrimental for individuals with high SPS in forming an EI compared to an individual without SPS. Understanding the effect of SPS on the three factors of TPB can lead to treatments for improving EI in individuals with the SPS personality trait. Therefore, the research question of this study is formulated as follows:

To what extent does Sensory Processing Sensitivity (SPS) influence the three factors of the Theory of Planned Behavior (TPB) regarding Entrepreneurial Intention (EI)?

The necessity and theoretical contribution for this exploratory study are grounded on the lack of research and insights into the relationship of SPS and entrepreneurship. To our knowledge, only one study has investigated the influence of SPS on entrepreneurial activity or intention so far (Harms, Hatak & Chang, 2019). In that sense, this study will contribute to the understanding of the role of personality traits in EI. In the bigger picture, it also allows a conclusion on entrepreneurial cognition building on the ideas and findings of an entrepreneurial personality.

Equally, this study does not fall short on allowing individuals with high SPS to understand oneself more deeply. Understanding the effects of SPS on entrepreneurship will help entrepreneurs with this trait to reflect on their behaviors and address challenging areas in their work environment more effectively. Its practical contribution is also of relevance to mentors, business incubators, and other stakeholders of entrepreneurship coaching services and teachings.

This thesis is structured as follows. Chapter 2 presents the theoretical foundation of this research and results in stating four hypotheses. Chapter 3 presents the method used for testing the hypotheses.

Chapter 4 contains the results of the analysis. Chapter 5 discusses the results in relation to the theory. Finally, chapter 6 concludes this thesis.

2. Theory

The theoretical foundation of this study will be presented in the next chapter. First, the relevance of entrepreneurial intention will be discussed. Next, the theory of planned behavior will be elaborated. In section three of this paragraph SPS is discussed, followed by the relationship between SPS and the TBP, which results in construction of four hypotheses.

2.1 Relevance of Entrepreneurial Intention Models

Intention models have contributed significantly to entrepreneurship literature because of their power to predict planned behaviors. Entrepreneurship requires strategic planning for the formation of an organization and is thus a planned behavior (Goethner, Obschonka, Silbereisen & Cantner, 2012). Through the context of intention models it is possible to uncover factors that are drivers of entrepreneurial actions but are less obvious or difficult to extract in the actual behavior afterwards (Krueger, Reilly & Carsrud, 2000). Another strength of intention models is the clear causal direction. If conclusions about the entrepreneurship phenomena are drawn after the behavior was executed, it is assumed that the experience did not change the individual. This assumption can be misleading, because experience can shape perceptions of ones abilities, traits and beliefs (Autio et al., 2001). As a result, EI as an early stage predictor of entrepreneurship is valued in theory- based research (Krueger, et al., 2000).

Two intention models are widely recognized– Ajzen`s (2001) Theory of planned behavior (TPB) and the Entrepreneurial Event Model (EEM) by Shapero and Sokol (1982). The latter argues that entrepreneurial intentions depend on perceptions of the (1) desirability towards becoming an entrepreneur, (2) feasibility to become an entrepreneur and (3) propensity to act on one`s decision. Schlaegel and Koenig (2014) found in their meta- analysis support for both models, but TPB by Ajzen (2001) was used more frequently in literature compared to EEM.

Despite the fact that both models shaped the understanding of EI to a large extent, we chose the application of TPB for two reasons. First, the dominant publications of TPB over EEM facilitate an extensive resource base for comparison and extension on previous and future works because key definitions and concepts are identical. The second argument builds on the factor perceived social norm that is included in TPB but not in EEM (Krueger et al., 2000). Due to their environmental sensitivity, Individuals with high SPS are prone to value attitudes, opinions and feelings of closed social members

(De Villiers, Lionetti & Pluess, 2018). The relevance of perceived social norm accounts for this relationship. As a result, the Theory of Planned Behavior (TPB) has a higher validity compared to Entrepreneurship Event Model (EEM).

2.1.1 Theory of Planned Behavior

Ajzen's theory of planned behavior laid out the theoretical background for intention formation in social science (Ajzen, 1991). He stated that an individual executes a behavior because he formed the intention in the first place. The rationale for his argument builds on findings that general dispositions and attitudes are not sufficient to predict someone's action in a specific situation (Ajzen, 1991). Further, the theory holds that general attitudes and personality traits can only explain a certain human behavior combined with other more immediate factors. He concluded that three factors are relevant to form an intention for specific behavior.

The first factor is the attitude towards the behavior. It determines to which degree the individual assesses the behavior as favorable or not. In this study setting, it reflects whether the individual holds a positive or negative valuation of becoming an entrepreneur. If someone evaluates entrepreneurship as positive, he or she will be more likely to form an intention of pursuing an entrepreneurial career. The second factor from Ajzen (1991) is the subjective norm perceived in the form of social pressure towards the behavior. If social contacts that are important to a person believe that one should take entrepreneurial action then the individual is more likely to form the intention and subsequently the behavior. The third factor was added to the initial theory of reasoned action Fishbein and Ajzen (1980). The factor is called perceived behavioral control and concluded the theory of planned behavior. It accounts for the fact that any behavior depends on one's opportunities and resources. It describes to what degree the person finds the behavior easy or difficult to perform. PBC also holds a direct link to behavior. If two people intend to the same degree to pursue an entrepreneurial career, the one with higher perceived behavioral control will be more likely to persevere in the process. Next to that, the direct link accounts for the fact that perceived behavioral control could reflect actual control in the entrepreneurial process.

The likelihood of performing the behavior increases with stronger intention. The three factors are not mutually exclusive and are recognized to influence one another as well. The TPB predictions cover a wide range of planned behaviors and have found empirical evidence over the years (Ajzen, 1991). Lortie and Castogiovanni (2015) conducted a systematic literature review on published articles on the TPB and entrepreneurship. All of the proposed relationships between attitudes, norms, control, intention, and behavior have found empirical support spread over more than 40 reviewed articles. The weakest support was found for social norm and EI with still 86% of articles reporting supporting

evidence for the relationship (Lortie & Castogiovanni, 2015). In this context, only two studies were pointed out that did not find support for social norm and EI (Krueger et al., 2000; Linan and Chen, 2009). Both studies indicated that the missing link might be simply explained by inaccurate measurement of social norm, as former studies were indeed able to show a positive relationship. Alternatively, both studies suggested that cultural variables might explain the unexpected outcome. The third explanation proposed was a moderating or mediating role of SN within the intention model. Linan and Chen (2009) suggested, for example, an indirect effect on EI through Perceived Attractiveness and Behavioral Control.

Another important adaptation from theory assumes that personal and situational factors affect the three factors and indirectly influences EI (Krueger, Reilly & Carsrud, 2000). The TPB successfully integrates this view by focusing on the attitude towards a planned behavior while at the same time recognizing the power of situational factors. As a framework, it manages to capture that "intentions and attitudes depend on the situation as well as the person [...]. Perhaps the most critical distinction is that situational and individual difference variables are exogenous factors that influence entrepreneurship indirectly, not directly" (Krueger & Carsrud, 1993, pp. 326-327).

2.2 Conceptualization of Sensory Processing Sensitivity

Sensory Processing Sensitivity (SPS) is a personality trait that constitutes high empathy and emotional sensations, deep cognitive processing skills and increased environmental reactivity with overstimulation tendencies (Aron, Aron & Jagiellowitz, 2012). Throughout different populations it is always found as a minority trait. It relates to differential susceptibility models and biological sensitivity to context theory because SPS states as well that sensitivity to environment explains behavior (Boyce & Ellis, 2005; Pluess & Belsky, 2010) A common assumption in all models is that varying sensitivity levels explain differences in individuals' reaction to environment (Slagt, Dubas, Ellis, van Aken, 2019). Sensitivity level in this context is not the same as vulnerability and differs from Diathesis Stress model that would only explain disadvantages of environmental sensitivity (Pluess, Lionetti & Assary, 2017). Besides this similarity to other environment sensitivity models, SPS is a unique construct because it is an innate personality trait that goes beyond the environment focus. Individuals with high SPS often report for instance a complex, inner life and high conscientiousness levels.

Aron and Aron (1997) developed the first questionnaire to measure SPS and tested resemblances to other personality traits. Some similarities exist because SPS can unfold in behaviors relating to different characteristics. Two common related behavioral traits are introversion and neuroticism. One expression of SPS is the tendency to act introverted in new situations deploying a 'pause to check' strategy. Overall, introverts are more represented in the high SPS population. At the

same time, this overrepresentation does not imply equivalence since 30% of individuals with high SPS scores are, in fact, extraverts (Aron et al., 2012). Furthermore, high SPS values can result in feeling easily over stimulated leading to anxiety, strong reactions to stress, and emotional instability. Such behaviors are also associated with neuroticism. The difference between SPS and neuroticism relies on the observation that an individual with high SPS will feel overwhelmed by negative and positive emotions. Neuroticism, however, is solely concerned with negative triggers. Aron & Aron (1997) concluded that the SPS scale captures a distinct concept from different personality traits even if similarities can be found. This was validated by later research (Smolewska et al., 2006; Lionetti et al., 2019).

The last important theoretical insight for this study context concerns the degree and subscales of SPS. The SPS construct states that an individual either carries this trait or not and allows in theory cut-off points (Aron & Aron, 1997). At a later point, a three-factor solution for the high SPS group emerged (Smolewska et al., 2006; Grimen & Diseth, 2016; Pluess et al. 2018). The first factor, labeled Ease of Excitement (EOE), relates to behavioral avoidance and describes the tendency to be overwhelmed by stimulation. Lack of concentration is a consequence (Smolewska et al., 2016). Aesthetic Sensitivity (AES) captures the degree of aesthetic awareness in the environment and depth of processing (Ahadi & Basharpour, 2010; Lionetti et al., 2019). The third subscale describes unpleasant sensory arousal, for example, by loud noises or bright lights and is labeled Low Sensory Threshold (LST). Research into the different implications of the three factors is scarce at this point because most studies are focused on the higher order construct of SPS.

Despite of that, findings indicates different relationships of each factor to behavioral patterns, the Big Five and mental health symptoms (Smolewska et al., 2006; Liss, Mailloux & Erchull, 2008; Lionetti et al., 2019). Thus, we do not rule out that different associations for the three subscales will be observed in this study. In particular, we recognize that Ease of Excitement (EOE) and Low Sensory Threshold (LST) capture qualities that are commonly perceived as less favorable compared to Aesthetic Sensitivity (AES). The negative association is supported by research that found links to common mental health symptoms and work stress measures only for the two subscales of ease of excitement and low sensory threshold (Liss, Mailloux, & Erchull, 2008; Evers, Rasche, & Schabracq, 2008; Grimen & Diseth, 2016). At the same time we refrain from hypothesizing that certain subscales of SPS are in favor of entrepreneurship while others are not because we acknowledge that previous entrepreneurship literature has surprisingly linked qualities that lie outside the expected positive evaluation to entrepreneurship (Wiklund, Yu, Tcuker, & Marino, 2017). Recent studies succeeded in breaking stigmas of less favorable conditions for example attention- deficit/ hyperactivity disorder (ADHD) by linking it to entrepreneurship (Verheul et al., 2016; Wiklund, Patzelt & Dimov, 2016). Wiklund et al. (2016) attributed

the ADHD aspects of impulsivity, proactivity and risk propensity as drivers of entrepreneurship. Similarly, we also attempt to broaden the view on SPS career choice and performance since it is commonly not associated with career success.

2.3 Sensory Processing Sensitivity and Entrepreneurial intention

The proposed link between SPS and EI is derived from previous findings on the influence of personality traits, the behavioral context-dependent factors of EI and one recent publication in the field of SPS and EI. The first attempt to establish a relationship between SPS and EI was accomplished by Harms et al. (2019). In combination with Opportunity Recognition Ability (ORA), SPS leads to high degrees of EI. The same conclusion was achieved when another personality construct, the Entrepreneurial Trait Profile (ETP) substituted SPS. The authors suggested that only the combinations of the ability together with the respective trait enhanced EI. This outcome adds to the discussion whether personality traits alone are sufficient predictors of EI.

It is not surprising that combinations of factors increase the probability of finding relationships. As a result, personality traits are often studied in combination with situational factors (Espíritu-Olmos & Sastre- Castillo, 2015). Increased EI formation is generally linked to prior entrepreneurial exposure, for example, by family entrepreneurship or role models (Carr & Sequeira, 2007; Zapkau, Schwens, Steinmetz, & Kabst, 2015). Likewise, exposure to entrepreneurship education generally increases the likelihood of EI (Wu & Wu, 2008; Barba- Sanchez, Atienza-Sahuquillo, 2018). Entrepreneurship education increases knowledge and creates awareness of an entrepreneurial career option. Cultural norms play a role in the strength of the entrepreneurship education EI link as well. Collectivism and low uncertainty avoidance were found to moderate the relationship positively (Bae, Qian, Miao & Fiet, 2014). Even if those factors will not be directly tested in this study, it is important to note that individual preferences, experiences, and environments shape the development of EI (Schmitt-Rodermund, 2004).

Despite some mixed findings on the strength of personality traits and the role of moderators in entrepreneurship, the influence of personality traits in EI is generally supported and recognized in literature (Rauch & Frese, 2007; Obschonka, Silbereisen & Schmitt-Rodermund, 2010; Munir, Jianfeng, & Ramzan, 2019). Entrepreneurs are found to be more emotionally stable, independent, and open to new experiences (Brandstaetter, 1997). Openness to experience is also a factor of the popular Big Five personality dimension framework and particularly interesting for this study because high SPS is positively linked to openness to experience (Smolewska, McCabe & Woody, 2006). Besides this trait also high conscientiousness, characterized as being goal-oriented, mindfully, and organized, was linked as a personality trait demonstrating higher EI rates.

Furthermore, extraversion and low neuroticism score (the sensitivity to psychological stress) was attributed to EI (Brandstatter, 2011). Around 13% of the variance in entrepreneurial intention could be explained by those four personality traits of the Big Five (Zhao et al., 2010). Empirical support was also found for the construct of an Entrepreneurial Trait Profile (ETP). Individuals within the ETP scored low in agreeableness and neuroticisms but high in all other three traits (Schmitt-Rodemund, 2004). In contrast, ETP was not a sufficient condition in the recent publication by Harms et al. (2019). A possible explanation for the missing direct link could be attributed to the different methodological approaches. The qualitative comparative analysis by Harms et al. (2019) required cut-off points to determine low and high categorizations of the respective variables. This approach differs from the statistical analysis in the ETP studies, due to the correlational approach (e.g. Zhao et al., 2010). We argue that in a linear approach a direct link of SPS with EI, without accounting for ORA, will be observed in the same way as ETP has been previously linked directly to EI.

H1: Sensory Processing Sensitivity is a predictor of entrepreneurial intention.

2.4 Mediating effect: Sensory Processing Sensitivity and the antecedents of the Theory of Planned Behavior

The three antecedents of the Theory of Planned Behavior (TPB) are: perceived attractiveness of entrepreneurial behavior, perceived social norms about entrepreneurial behavior, and perceived behavioral control for entrepreneurial behaviors. In the next section, we introduce a number of concepts that are relevant to understand each antecedent of TPB and its hypothesized relationship with SPS.

2.4.1 SPS and the Perceived Attractiveness of Entrepreneurial Behavior

The link between a positive attitude towards entrepreneurship and entrepreneurial intention has generally found empirical support (Carr & Sequira, 2007; Nowinski & Haddoud, 2019). A positive perceived attractiveness towards entrepreneurial behavior is discussed here through the lens of freedom, passion, and empathy. Here, the relationship between SPS and the three components of attractiveness is presented, leading to hypothesis 2.

Freedom

Freedom in entrepreneurship entails the possibility to choose and change ones environment, and act in accordance to personal preferences and goals (Brandstatter, 2011). In the context of freedom, we draw on career choice and person-environment fit theory (Hsu et al., 2019). The theory holds that the match between someone's attitudes, skills, values and personality, with the job requirements determines job

satisfaction and performance (Markman & Baron, 2003). High SPS is a significant determinant of personality and therefore the job requirements should match the high SPS trait (Evers, Rasche & Schabracq, 2008). Employment is often associated with pressure to perform according to set standards by supervisors or managers, while being an entrepreneur is associated with freedom (Brandstaetter, 2011). Studies relating to the effects of work stress for high SPS values are still scarce at the moment. Andresen, Goldmann, and Volodina (2018) focused on expatriates with high SPS and found a positive relationship between perceived stress and turnover intention. Evers, Rasche and Schabracq (2008) found significant higher work stress for the high SPS group and the subscales, except for the subscale of Aesthetic awareness (AES). This finding relates to low reported subjective well-being scores in high SPS individuals except for the subscale AES (Sobocko & Zelenski, 2015).

Since high SPS displays in general heightened awareness to both negative and positive stimuli, we assume that perceived work-related stress, pressure, and dissatisfaction would have high trigger effects to choose an alternative path such as entrepreneurship. Following the person- environment fit theory, becoming an entrepreneur might be more desirable for an individual with high SPS because the freedom associated with the management of their own organization matches their personality.

Passion

The previous argument was built from the view that employment might be over-challenging to individuals with high SPS (Evers, Rasche & Schabracq, 2008; Andresen, Goldmann & Volodina, 2018) and result in attractiveness towards entrepreneurship. The following two points are based on the assumption that individuals strive to create well-being and meaningful work experiences through entrepreneurship (Shir, Nikolaev & Wincent, 2019). This is a psychological process that can be achieved when pleasant emotions such as passion are experienced in the work activities.

Entrepreneurial passion is defined as a positive, intense feeling from engagement in activities that are meaningful to self- identity (Cardon, Wincent, Singh & Drnovsek, 2009; Cardon, Glauser & Murnieks, 2017). SPS accounts for strong reactions to emotions (Lionetti et al., 2018). An intense emotion such as passion will cause therefore an intensified reaction for individuals with high SPS. The role of passion is relevant because it is positively linked to EI (Biraglia & Kadile, 2017). It is a powerful driver in the entrepreneurial context, since it enables individuals to persist in organizing their own business. Without passion for a certain product or service, a lack of focus may set in, prior to establishing a new business (Cardon, Gregoire, Stevens, Patel, 2013; Collewaert, Anseel, Crommelinck, De Beuckelaer & Vermeire, 2016). Since individuals with high SPS react more emotionally to stimuli from their environment, the degree of passion felt of these individuals may be

higher compared to individual without this personality trait. Therefore, individuals with high SPS have the potential to be very passionate about starting a new business.

Empathy

Empathy captures the “ability to imagine what feelings another person has” (Hockerts, 2017, p. 108). It is linked to emotional reactivity and environmental sensitivity to subtleties in SPS (Hornberg, Schubert, Asan & Aron, 2016). In the entrepreneurship domain, empathy is a driver of social entrepreneurial intention (Bacq & Alt, 2018; Douglas & Prentice, 2019). Hockerts (2017) tested the relationship between empathy and EI. The ability to assess, react and feeling compassion and concern to another person`s emotional state was positively related to social EI and mediated the relationship between prior experience with social problems and EI (Hockerts, 2017).

Due to the high degree of empathy of individuals with high SPS, they are more likely to assess and react to the emotional state of other people (Aron, Aron, & Jagiellowicz, 2012). In turn, this might result in the inevitable urge for changing an unwanted situation and therefore developing EI. The link between SPS and empathy finds also support on the biological side. An fMRI brain scan study was able to confirm that high SPS scores show significantly stronger activation of brain regions associated with awareness, integration of sensory information, preparation for action and empathy (Acevedo et al., 2014).

In summary, we assume that the perceived attractiveness of entrepreneurial behavior is positively influenced by the heightened emotions associated with freedom, passion, and empathy. Since individuals with high SPS have higher emotional reactivity, a relationship between SPS and entrepreneurial intention (EI) can be mediated through the attitude towards entrepreneurship.

Hypothesis 2: Attitude towards entrepreneurship will mediate the relationship between high sensory processing sensitivity (SPS) and entrepreneurial intention (EI).

2.4.2 SPS and the Perceived Social Norms about Entrepreneurial Behaviors

The theoretical ground for assuming that SPS influences the perceived social norm and subsequently EI is based on findings from supportive environment studies. It was found that family members involvement in entrepreneurship is positively linked to entrepreneurial intention (Carr & Sequira, 2007). Prior family business exposure influenced all three factors of the TPB (Carr & Sequira, 2007)g. In the context of the subjective norm, a role model is likely to influence individuals with high SPS more intensely because of the higher emotional reaction. In the case for homebrewers, for example, it was

found that stimuli-rich environments such as being a member in a homebrewing community increased EI for founding a homebrewing business (Biraglia & Kadile 2017). Regarding individuals with high SPS, we assume that in this scenario, they would feel even more compelled to start a business.

Support for the assumption that a supportive environment will have a higher effect on EI for individuals with high SPS is based on insights from psychology. Studies were able to show that positive responses to psychological intervention could be explained by higher sensitivity to the environment (Eley et al., 2012; De Villiers, 2018). In addition, SPS predicted treatment response in depression prevention program in schoolchildren (Pluess & Boniwell, 2015). In this study, it was shown that children that scored low on SPS did not benefit by the given prevention program whereas children with high SPS scores showed significant reductions in depression symptoms after the same 12-month monitoring phase (Pluess & Boniwell, 2015). Given the found link of SPS and supportive programs, we postulate that the growing investment in entrepreneurship education and training in the past two decades might have influenced HSP more effectively.

Hypothesis 3: Subjective Norm will mediate the relationship between high SPS and entrepreneurial intention

2.4.3 SPS and the Perceived Control for Entrepreneurial Behaviors

Ajzen (1991) related perceived behavioral control to the concept of perceived self-efficacy defined by social learning theory as the "judgments of how well one can execute courses of action required to deal with prospective situations" (Bandura, 1982, p. 122). This judgment of one's capabilities applies and influences any course of action, including career paths. Within the entrepreneurial setting, it translates to a person's belief, whether carrying out the tasks of being an entrepreneur will be easy or difficult for him or her. Individuals would try to avoid taking on entrepreneurial tasks if they believe that it exceeds their coping capabilities and perform them if they are confident in their ability to execute the entrepreneurial tasks. In later work, Ajzen (2002) clarified that PBC can be seen as a higher-order construct of self-efficacy (internal control) and controllability (external control).

Self-efficacy is generally recognized as a crucial factor for EI (Schlaegel & Koenig, 2014). Not surprisingly the construct of entrepreneurial self-efficacy (ESE) has found empirical attention and support in research (Hockerts, 2017; Miao, Qian & Ma, 2017; Newman et al., 2019). ESE is important because it increases the desire to carry out the tasks of an entrepreneur and enhances EI.

Evers, Rasche, and Schabracq (2008) tested for negative correlations between SPS and self-efficacy in the workplace based on the argument that overstimulation would make it difficult for the person to influence and change situations effectively. However, this hypothesis was not supported by the data

(Evers, Rasche & Schabracq, 2008). Therefore we would like to propose an alternative view on SPS and self- efficacy in the sense that high SPS strengthens the ability to detect creative solutions (Bridges & Schendan, 2019). As a result, the strong stimuli would enable an individual to sense more opportunities and make connections that would otherwise not be considered or fall outside the common norm. This ability, in turn, leads one to treat it as a distinguishing strength and consequently higher self- efficacy.

One important application of this strength relating to entrepreneurship is the ability to acquire important resources. Those include assets of financial, human, and informational nature and are essential to transform an idea into a business venture (Baron, 2007). If an individual believes that acquiring those resources will be easy, then he or she will be more likely to form an EI. Consequently, individuals with high SPS scores might have an advantage in this process because they can detect opportunities for financing possibilities. In figure 1 the relationships under study are visually indicated.

Hypothesis 4: Perceived behavioral control will mediate the relationship between high SPS and entrepreneurial intent

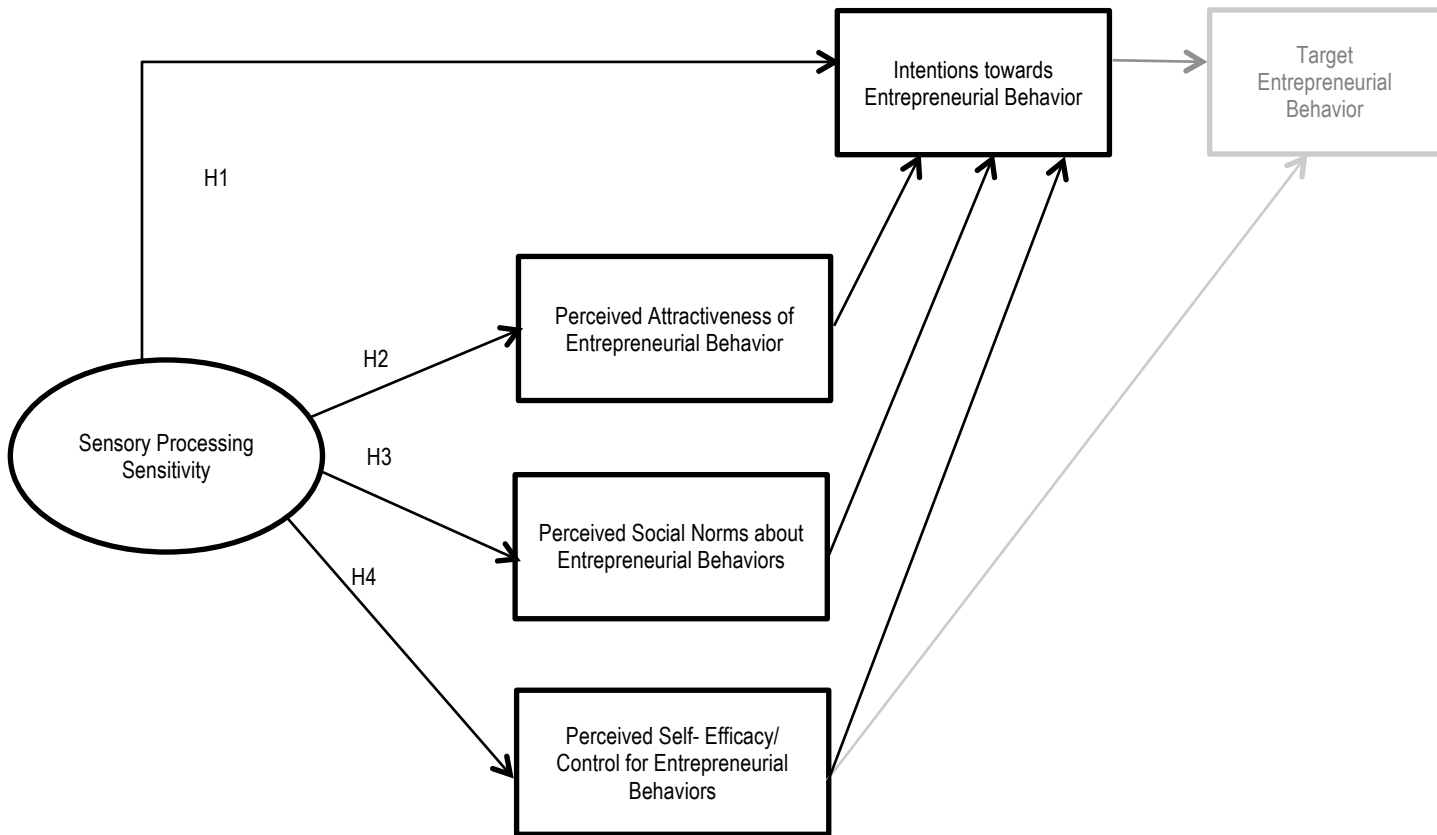


Figure 1. SPS and EI Framework adapted from Ajzen (1991) and Krueger and Carsrud (1993)

3. Method

In this chapter the method is discussed. First, the sample used is discussed. Next, operationalization of the definitions is presented. Finally, a preliminary analysis is performed on the data.

3.1 Sample

The random sample consists of students from one Dutch Technical University. Stratified random sampling is applied to ensure an accurate representation of subgroups within the student population. A stratified random sample is a type of probability sample in which the entire population (10, 435 students) is first divided into strata (Bryman, 2012). Strata are the predetermined subgroups in the sample and cover gender, study level (Bachelor, Master, Ph.D.) and study field (technical vs. non-technical). For each of the strata the proportional number of representation is determined. The final distribution can be

found in Table 1. Stratified random samples ensure that the sample has the same distribution as the selected population (Bryman, 2012).

Furthermore, the university is ranked as one of the most entrepreneurial universities in the Netherlands. Thus we expected to capture sufficient rates of entrepreneurial intention. An online survey was distributed to students via social media channels and email. Students were also approached directly and invited to fill in the survey online to increase the response rate. The sample size consisted of 103 students. Participants were assured that the answers were collected and processed anonymously. The survey design did not reveal the study construct. Table 1 presents an overview of the sample.

Table 1: Overview of sample

	Bachelor	Male	Female	Master	Male	Female	PhD	Male	Female	Total
Technical	38	27	11	26	18	8	4	3	1	68
Non-technical	19	10	9	14	7	7	2	1	1	35
Total	57	37	20	40	25	15	6	4	2	103

Male students accounted for 64% of the responses. This was expected in the stratified sample because of the technical background of the university. 11% of respondents are currently working as an entrepreneur, while 41% have reported having parents with entrepreneurial involvement. In total, 58% reported having had some entrepreneurship education.

3.2 Operationalization

In this paragraph the operationalization of the different variables are presented as well as their respective outcome from the reliability analysis. The values were summarized in Table 2. Control variables were included to account for variation. The survey was designed to minimize bias in the responses through different questions formats and scale variation. All constructs of interests were captured by scientifically developed and validated measurements (Smolenska et al., 2006; Linan & Chen, 2009; Pluess, 2013; Kautonen et al. 2015).

Sensory processing sensitivity

To determine which students are classified with the SPS trait, we use a continuous measure following the advice of Preacher et al. (2005). This is based on the argumentation that the cut off points might not reflect group membership in a self-reporting study setting (Preacher, MacCallum, Rucker &

Nicewander, 2005). To measure the degree of SPS, the 12- item version was used developed by Pluess (2013). SPS scores among respondents ranged between 2.17 and 6.5 maximum, with an average SPS value of 3.9. An overview of the survey and the corresponding variables summary can be found in the appendix B.

Next, we conducted a factor analysis on SPS. SPS resulted in a 3-factor solution (see Appendix B). Only 2 of the 12 items showed loadings for two factors that did not support the previous findings of the subscales (Smolewska et al., 2006). However, since the loadings were still acceptable for both factors and the theoretical background is sufficient, we ran a factor analysis on a 3-factor extraction solution for SPS suggested by Smolewska et al. (2006). Cronbach's alpha for the associated items and the variance explained are summarized in Table 2.

Theory of planned behavior

Entrepreneurial Intention (EI) is the main variable of interest. To increase validity, we decided to include two constructs for it. First, the three questions by Kautonen et al. (2015) measured EI on a 7-point Likert scale. The second measurement was added based on a 6- item scale developed Linan and Chen (2009). For both measures of EI Cronbach's alpha and explained variance yielded sufficient number (Table 2).

The other three variables are the determinants of intention: attitude, social norms, and behavioral control. All three factors were measured as suggested by Kautonen et al. (2015). For the first factor attitude, a semantic differential scale measure was applied. The participants were asked to choose between contrasting attributes for the sentence: "For me taking steps to start a business in the near future would be...". In total, six pairs of attributes, for example, unpleasant vs. attractive, were included. For all continuous measures, the mean of the sum scores was used for the statistical analysis. For Social Norms (SN), a product term was calculated between the three social norm items and the relative importance the participants assign to their opinion. For example the item 'My best friends think that I should take steps to start a business in the near future' was supplemented by the question of how much the participants care about the opinion of their best friends. A 5-point Likert scale was chosen. Perceived Behavioral Control (PBC) was measured by two questions representing self- efficacy and two items addressing control.

Reliability analysis was also carried out on all four variables associated with the TPB. Cronbach's alpha showed acceptable reliability (see Table 2). For the three antecedents, the factor analysis outcome

supported a one-factor solution. In summary, the results yielded sufficient numbers to assume reliability and to continue further analysis.

Table 2: Summary Reliability Outcome

Factor	Cronbach's Alpha	Variance Explained (%)
Sensory Processing Sensitivity	.717	
Ease of Excitement	.748	51.28
Aesthetic Sensitivity	.528	43.74
Low Sensory Threshold	.612	56.65
Entrepreneurial Intention (Kautonen et. al, 2015)	.971	94.49
Entrepreneurial Intention (Linan &Chen, 2009)	.962	84.18
Attitude	.875	62.17
Social Norm	.877	80.5
Perceived Behavioral Control	.71	53.75

Control variables

Furthermore, the Big-Five measurement scale from Rammstedt and John (2007) was included as control variables, for example, to rule out negative affect from neuroticism. Further control variables include gender, education level, currently being an entrepreneur, family entrepreneurship, and entrepreneurship education.

3.3 Data Analysis

The following paragraph presents a preliminary data analysis. First the assumption of normality is discussed and further assumptions. Finally, the type of analyses are discussed.

3.3.1 Assumption of Normality, Sample Size, Check for Outliers

Before any statistical analysis was conducted, the assumptions for normality were controlled for. At first, probability plots and histograms were created (see Appendix A). The variables of interests were SPS and its subscales as well as entrepreneurial intention and its 3 antecedents. All eight associated variables showed fairly normal distributions except for the 2 EI measures. Following this overall positive visual evaluation, we continued to explore the normal distribution criteria statistically for the two EI measures operationalized by Kautonen (2015) and Linan and Chen (2009). The distribution of EI indicates too many low scores with skewness values of .627 and .376. Negative kurtosis values indicated a flat and light-tailed distribution (-.845 and -1.109). Next, we ran significance tests of skew and kurtosis and therefore divided the values by their associated standard error. Statistically significant result for skewness was found only for the EI measure of Kautonen with a z-score of 2.63 > 2.58 ($p <$

01). Skewness for the measurement of Linan and Chen (2009) gave no reason for concern. Kurtosis showed no statistically significant results for both measures as well. We concluded that even with the statistically significant skewness level of the EI measure by Kautonen et al. (2015), it is reasonable to continue statistical analysis. First, the value missed the threshold level closely by $2.63 > 2.58$. More importantly, we had confidence in the statistical power since we have the control measure by Linan and Chen (2009). All of the following analysis was always conducted for both measures. If any discrepancies were found between the measures by Linan and Chen (2009) and Kautonen et. al (2015), it would be reported clearly.

The sample size of $n=103$ is sufficient for regression analysis. Outlier analysis did not indicate any cases that needed to be dismissed. Multicollinearity between Attitude, Social Norm, Perceived Behavioral Control, and Sensory processing sensitivity was ruled out since all correlation values between the independent variables were below the recommended threshold of 0.7.

3.3.2 Type of Analysis

The statistical analysis seeks to test foremost the four hypotheses. For H1, SPS is a predictor variable and thus will be tested in a simple regression model. The main hypotheses of this study (H2-H4) were built around the claim that the three antecedents of the TPB will mediate the relationship between SPS and EI. The argumentation was based on a linear model approach with the assumption that an individual has a fixed SPS value and develops the inclination towards EI. The inclination, in that case, was determined by attractiveness, SN and PBC. Therefore, this theoretical model is best tested in a multiple regression mediation model. For this purpose, the three factors of TPB are tested for mediation on the relationship between SPS and EI for H2- H4.

Additionally, correlation analysis will be conducted in SPSS for the variables of interest. The reason for the additional analysis is the unexplored relationship between SPS and EI. For the same purpose, we also ran a simple regression analysis to test if the SPS subscales are predictors of EI and its antecedents. Controls for gender will be included because EI tends to be more prominent among male (Zhao, Seibert & Hills, 2005). Furthermore, control analysis for the personality traits of the BIG FIVE was included as well as for study direction, entrepreneurship education, parents' involvement in entrepreneurship, and current entrepreneurial activities.

4. Results

In this chapter the results of the analyses are presented. First the correlation between SPS and Entrepreneurial Intention (EI) is shown. Next, the results for SPS as a predictor in the Theory of Planned

Behavior (TPB) is presented. After this, a subscale analysis of Sensory Processing Sensitivity (SPS) is performed in relation with EI. Finally, the Control variables are discussed.

4.1 SPS correlation and prediction of EI

The correlation matrix shows statistically significant correlations between all three factors of the Theory of Planned Behavior (TPB) and Entrepreneurial Intention (EI) (see table 3). All correlation coefficients are positive as predicted by the TPB. Sensory Processing Sensitivity (SPS) was not associated with any of the three antecedents of the TPB. There was a significant relationship between SPS and EI. The direction was negative and weak with a coefficient of $-.21$. The simple regression analysis suggested that SPS accounts for 4.3% of the variation in EI. However, the relationship could not be replicated for the second entrepreneurial intention control measure. H1 is rejected based on the mixed results depending on the choice of entrepreneurial intention measurement.

Table 3. Inter- correlations and descriptive statistics.

	1	2	3	4	5	6	Mean	Std. Deviation
1. Sensory Processing Sensitivity	1.00						3.93	.77
2. Attitude	-.10	1.00					4.63	1.15
3. Social Norm	.06	.42**	1.00				10.09	5.23
4. Perceived Behavioral Control	-.15	.44**	.21*	1.00			3.18	.80
5. Entrepreneurial Intention (Kautonen et al., 2015)	-	.74**	.54**	.45**	1.00		3.23	1.87
6. Entrepreneurial intention (Linan & Chen, 2009)	-.17	.74**	.55**	.36**	.92**	1.00	3.53	1.78

* $p < .05$, two-tailed.

** $p < .01$, two-tailed.

4.2 SPS as a predictor in the TPB: A Multiple Regression Approach

We used multiple regression analysis to test the TPB framework with the collected data. The replication was only successful for the Entrepreneurial Intention (EI) measure by Kautonen et al. (2015). Attitude, social norm, and perceived behavioral control explained 62.8% of the variance in EI in this case. Perceived Behavioral Control (PBC) had the smallest coefficient of the three antecedents in this model with 0.14. For the same model with the entrepreneurial intention control measure by Linan and Chen (2009), attitude and social norm predicted EI, but behavioral control was not statistically significant.

Since SPS suggested a direct role for one of the EI measures, we also conducted a multiple regression with SPS as an independent variable (Fig 2). Adding SPS into the multiple regression model with all three TPB components did not yield a statistically significant result. SPS was only an independent predictor of entrepreneurial intention if behavioral control was not included in the multiple regression model ($R=.65$). The direction was negative for SPS and significant for both intention measures.

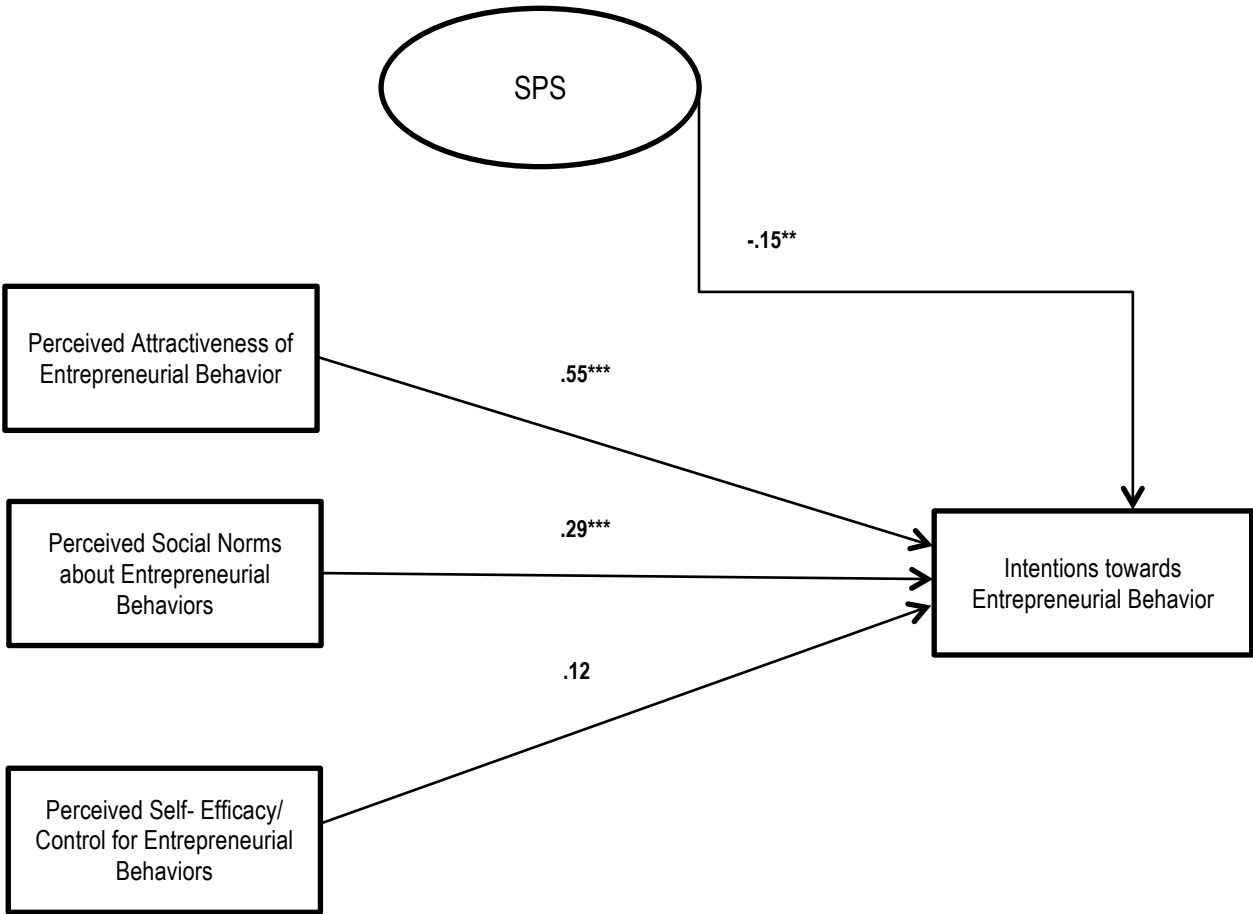


Figure 2. SPS in the TPB

4.3 Subscale Analysis: Mediation Analysis for Ease of Excitement (EOE)

The previous analysis failed to show that Sensory Processing Sensitivity (SPS) was associated with any of the entrepreneurial intention antecedents. Thus, no mediating role can be expected, and continuation with the mediation analysis would be redundant. As a result, H2-H4 are rejected because attractiveness, social norm, and perceived behavioral control are not possible mediators in the relationship between SPS and EI.

The analysis continues with the findings from the three subscales of SPS. Aesthetic Sensitivity (AES), as well as Low Sensory Threshold (LST), was not statistically related to any of the variables associated with EI (see Appendix C). However, Ease of Excitement (EOE) was negatively related to all variables of interests except for SN (Fig. 3).

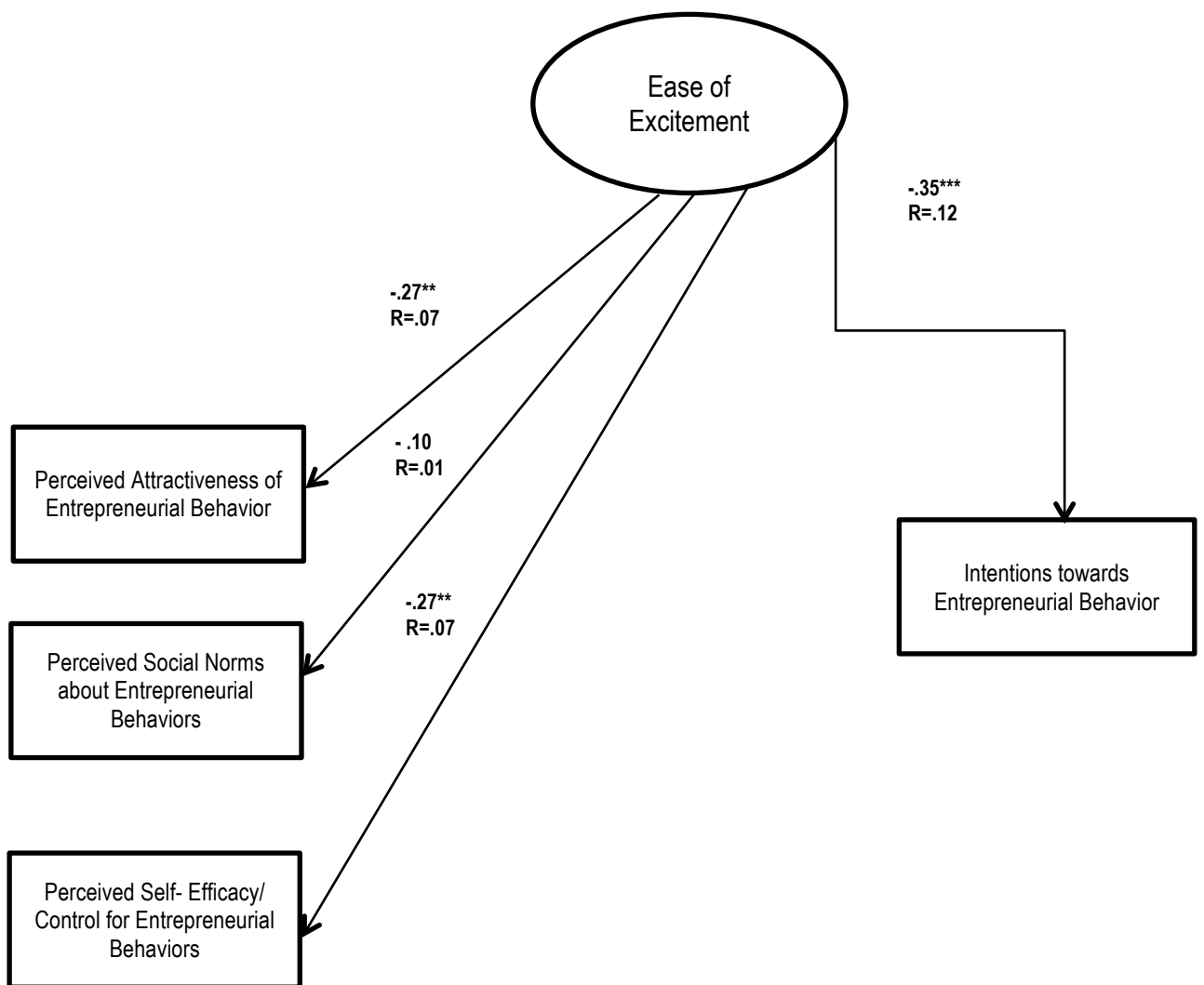


Figure 3. EOE in the TPB

H2- H4 stated that the three antecedents would mediate the effect of Sensory Processing Sensitivity (SPS) on entrepreneurial intention. In line with this hypothesis, the subscale Ease of Excitement (EOE) substitutes SPS in the following mediation analysis. Simple regression analysis suggested that EOE was only associated with attractiveness and perceived behavioral control. Thus, social norm was not included in the testing for mediation effect.

The mediation analysis followed the procedure outlined by Baron and Kenny (1986). The table below displays the associated variance explained and the beta coefficients for each step. The first three steps are primarily necessary to make sure that the relationship between the predictor, mediators and outcome variable are significant. The last step compared the models in the hierarchical multiple regression. The change was statistically significant, with an increase of 1.7% in predictive capacity with a total explained variance of 58,4 %. In the model, Perceived Behavioral Control (PBC) was no longer a statistical significant unique contributor.

Table 4: Mediated Regression Analysis for EOE as predictor

(1) Relation between predictor and mediators: Simple Regression	R ²	β	ΔR ²
Attitude	.072	-.268**	
SN	0.1	.021	
PBC	.071	-.267**	
(2) Predictor (EOE) related to outcome variable (EI)	.119	-.345***	
(3) Mediators related to outcome variable (EI): Multiple regression	.567		
Attitude		.675***	
PBC		.149**	
(4) Model outcome for mediation effect: Hierarchical regression	.584**		.017
Attitude		.65**	
PBC		.124	
EOE		-.137	

p<.05, *p <.01

The control analysis with the second operationalization of entrepreneurial intention by Linan and Chen (2009) gave a different outcome. PBC was not statistically significant in the performed multiple regression analysis under step 3. Testing for the mediation effect in step 4 was therefore not possible.

4.4 Control Variables

We have included several variables in the questionnaire to control the influence of them. At first, we looked into the inter-correlations between age, gender, study field, current entrepreneurship, parental entrepreneurship, entrepreneurship education, the Big Five personality traits in combination with the SPS and EI related variables that were included in the statistical analysis (see Appendix D).

Age, gender, and study field did not suggest any association as well as three out of five personality traits. Conscientiousness was the only trait that had a statistically significant correlation with PBC. Neuroticism was negatively associated with attitude towards entrepreneurship, PBC, and EI. The Entrepreneurial Trait profile consisting of all five measures showed no relevant correlations. Individuals that indicated they were currently working as an entrepreneur held statistically significant relations with Attitude, PBC, and EI. Entrepreneurship education related to SN. Parental entrepreneurship was also associated with SN in addition to EI. Based on this pre-scanning, we identified neuroticism and parental entrepreneurship as potential influencing variables and conducted two separated multiple regression analysis. Neuroticism and parental entrepreneurship were both not statistically significant predictors in the TPB model.

5. Discussion

In this chapter, results from the statistical analysis will be discussed in relation to the research question to what extent does Sensory Processing Sensitivity (SPS) influence the three factors of the Theory of Planned Behavior (TPB) regarding Entrepreneurial Intention (EI)? First, the proposed link between SPS and EI is discussed. Next, the effect of SPS on the three antecedents of the TPB is discussed.

5.1 Sensory Processing Sensitivity and Entrepreneurial intention

The first contribution of this study relate to the finding of the relationship between SPS and EI. The relation between SPS and EI is relevant because it allows conclusion about entrepreneurship behavior (Kautonen, van Gelderen, & Fink, 2015). Despite the fact that SPS was previously linked to EI in combination with opportunity recognition ability (ORA), our results also suggested a direct link of SPS. The results are mixed depending on the choice of the EI measure. For the measure from Kautonen et al. (2015), SPS was a negative predictor of EI. However, this relationship could not be replicated for the EI measure as indicated by Linan and Chen (2009). The mixed results are concerning and call for future research to rule out measurement errors.

Assuming that EI according to Kautonen et al. (2015) is accurate in measuring EI, the role of Opportunity Recognition Ability (ORA) seems critical. Harms et al. (2019) found that SPS in combination

with ORA leads to high degrees of EI. However, given the negative effect of SPS on EI in this study, it indicates that ORA is a necessary ability, which overcomes the negative effect of SPS on its own. In line with that reasoning, other entrepreneurship enabling abilities and traits could aid in overcoming the negative effect and in turn have an overall enhancing effect.

For the subscale analysis of SPS one factor was particular interesting. The specific subscale of SPS, which shows a negative effect on EI, captures the degree to which someone feels overwhelmed by internal and external impulses. This subscale is defined as Ease Of Excitement (EOE). From a practical perspective, these findings suggest that individuals with high EOE will be less likely to pursue an entrepreneurial career and will be more likely to choose employment over entrepreneurship.

5.2 Sensory Processing Sensitivity and the theory of planned behavior

The result for H2-H4 indicates that SPS has no significant correlation with the three antecedents of the Theory of Planned Behavior (TPB). Consequently, no mediating effects were found. Overall the TPB was validated. Attitude towards entrepreneurship, social norm, and perceived behavioral control are confirmed predictors of EI. The predicting role of PBC could not be replicated for the EI measure of Kautonen et al (2015). This finding is not concerning for the relevance of PBC in the TPB for two reasons. Firstly, Linan and Chen's (2009) measure showed significant support for the relationship between PBC and EI, while the data for Kautonen et al. (2015) violated the normal distribution with the skewness value. Secondly, PBC holds a direct link to the intentional behavior in the original TPB framework that was not taken into consideration in this study due to the focus on EI. The mixed results on the role of PBC are therefore not concerning.

However, the mediation analysis again showed interesting results with the three subscales of SPS. Similar to the relationship between SPS and EI, one subscale of SPS, namely EOE has a negative effect on two of the three antecedents of the TPB. However, this effect is only found when using Kautonen et al. (2015) measure, and could not be replicated with the EI model of Linan and Chen (2009). Attitude towards entrepreneurship had the strongest association with the subscale EOE. It seems, however, that the effect on EI is also present when EOE is a direct predictor. Conceptually, this means that EOE is a unique, incremental predictor of EI, but it does not add substantial explanation to the model in the TPB.

Overall, these findings were rather surprising given the negative direction of the relationship. It is reasonable to assume that only in the interaction with additional, entrepreneurship enhancing factors, SPS will increase EI rates. A closer look into the 5-items of EOE reveals that four of them are carrying negative connotations, such as feeling annoyed or unpleasant. Only one item 'Do changes in your life shake you up' could be considered from a neutral standpoint. In that sense, high EOE scores mainly

reflect the individuals' higher vulnerability to environmental challenges. It is not surprising that the idea of entrepreneurship is not encouraging in this emotional state. None of the items are positively framed and thus do not capture any aspects of SPS that might relate to higher EI. The closest operationalization to capture those aspects is the subscale of aesthetic awareness. However, it appears that the aspects that were hypothesized to favor entrepreneurship are neither predicting nor mediating the intention to pursue an entrepreneurial career.

6. Conclusion

This research aimed to explore the relationship between SPS, the TPB, and EI. This chapter concludes this thesis by providing a summary of its findings, presenting its limitations, and the implications of the research.

6.1 Summary

Sensory Processing Sensitivity (SPS) is a personality trait with increased processing of emotional and environmental stimuli. In the context of career choice and entrepreneurship, the role of high SPS is still unclear. To study the role of SPS on entrepreneurship, the Theory of Planned Behavior (TPB) is used to moderate the interaction between SPS and Entrepreneurial Intention (EI). TPB has been validated as an accurate predictor of EI and consists of three antecedents: attitude towards entrepreneurship, social norms regarding entrepreneurship, and behavioral control. SPS is likely to influence TPB, due to the stronger emotional reaction for which individuals with high SPS are known for. The research question of this study is:

To what extent does Sensory Processing Sensitivity (SPS) influence the three factors of the Theory of Planned Behavior (TPB) regarding Entrepreneurial Intention (EI)?

To test whether SPS has an effect on EI, moderated by the three factors of TPB, four Hypothesis (H) are stated:

H 1: SPS is a predictor of EI

H2: Attitude towards entrepreneurship will mediate the relationship between high SPS and EI

H3: Subjective Norm will mediate the relationship between high SPS and EI

H4: Perceived behavioral control will mediate the relationship between high SPS and EI

A total of 103 students filled in an online survey. The survey included two measurements for EI, one measurement for TPB and 1 measurement for SPS, which consists of three subscales. The subscales

of SPS are Aesthetic Sensitivity (AES), Low Sensory Threshold (LST), and Ease of Excitement (EOE). A regression analysis is performed to test H1 and multiple regression analyses are performed to test H2-H4.

All H are rejected, due to their overall weak relationships. However, H1 did show a significant negative relationship, but only with one EI measurement of Kautonen et al. (2015). Another significant finding, is the negative relationship between the SPS subscale EOE and two of the three antecedents of the TPB, namely: attitude towards entrepreneurship and behavioral control. However, this relationship is only found with the measurement for EI of Kautonen et al. (2015). Surprisingly, the SPS subscale EOE also shows a significant direct negative relationship with both EI measures.

The mixed results for H1 indicate a discrepancy in measuring EI. The two models used for measuring EI showed mixed results in the relationship with SPS. The results from H2-H4 pointed towards a lack of research for the construct of SPS. The subscale EOE has a significant relationship with both attitude towards entrepreneurship and behavioral control, while the subscales AES and LST did not show this relationship. In addition, EOE displays a direct relationship with both EI measurements. Therefore, the role of EOE in forming EI requires further attention from practitioners and researchers.

6.2 Limitations

In the next section, we would also like to point out one possible reason why the collected data failed to demonstrate the proposed relationship between SPS and EI. Firstly, it is important to consider the limitations of the sample. The fact that the sample consisted only of students cannot necessarily be considered as a limitation for generalizability. However, we propose that the age range of 17-32 years with an average age of 22,5 years could have influenced the found relationship given the role of emotional maturity and self-confidence for high SPS. Peer- group pressures, social insecurities, and the consequences of little work experience are prominent in this age group but tend to evolve with age due to experience, reflection, and learning. Individuals with high SPS in this age group are at the beginning of their career and might not have achieved adequate self- confidence and incorporated sustainable behavioral tools to handle the challenges of the SPS trait. Believing that one can cope with the overstimulation is necessary for an individual with high SPS before EI can be formed. Hence, we propose that for the formation of EI an individual with high SPS have first to learn to live with this trait in a productive and prosperous way. Only in time, this population group might have gained enough self-confidence and implemented the necessary coping mechanism to consider a career of self-employment.

6.3 IMPLICATIONS

To finalize this study, the recommendations for practitioners and researchers are presented.

6.3.1 Practitioners

The first group of practitioners to address in this chapter is the group of individuals with high SPS that feel discouraged from entrepreneurship. During this study the subscale Ease of Excitement (EOE) emerged as a barrier to entrepreneurial intention (EI) and consequently entrepreneurial action. This outcome should be a signal for individuals that have potential ideas but are held back from execution by their personality trait or do not consider entrepreneurship in the first place. On the one hand, one can argue that individuals with high EOE will have to undergo a deeper, inner challenge before entering the entrepreneurial process and will require an extra amount of emotional and outside support. On the other hand, one could also take the approach of questioning if individuals with high SPS are best placed in the role of an entrepreneur. How the experience of entrepreneurship unfolds when the entrepreneurial intention is translated into action and what specific challenges entrepreneurs with high SPS face is unexplored at this point. We can only assume that the emotional component of entrepreneurship will play a distinct role for individuals with high SPS.

We would encourage individuals to consider the potential positive side of entrepreneurship. Individuals with high EOE are prone to interpret the negative side of entrepreneurship with more bias. Therefore, these individuals may benefit from searching for counter evidence, which is more objective in supporting their view on entrepreneurship. In addition, it is recommended that individuals with high EOE do not take immediate action after a stimulus is presented. Therefore, these individuals may benefit from taking a day to think about this stimulus, prior to taking action. This enables high EOE individuals to process the potential consequences of their actions, rather than just reacting. Therefore, the simple phrase “let me get back at you” can be a helpful alternative to postpone on the spot decisions that should check for bias before leaning on a single course of action. Individuals with high EOE should therefore make an effort to keep schedules and tasks to a manageable degree.

The second stakeholder group addresses the growing number of coaches, early stage business partners, incubators, business angels and other service providers that work closely with highly sensitive entrepreneurs as their clients. Since social norm was not significant in the EOE prediction model, we first like to point out that the influential power of social members is limited. So the influence on the

entrepreneurial intention (EI) formation in the high EOE individual will have less impact than was assumed in the beginning of this study.

In general, we would advise in the first instance to assess the personality structure of a potential entrepreneur. In this assessment SPS, in particular the subscale EOE should be included. By identifying individuals with high EOE, supporting stakeholders are advised to perform one-on-one session with these individuals. This enables individuals with high EOE to focus on their personal progress, without being distracted by peers. In addition, allowing individuals with high EOE to take their time to consider business advice can limit the amount of stimuli, which may negatively influence their attitude towards entrepreneurship.

Lastly, we would like to address policy and decision makers that have the power to shape institutional contexts. Coordinators of entrepreneurship classes and events for students that have been subject in this study can influence entrepreneurial intention. SPS will always be a minority trait and as any other minority phenomena it demands extra attention. Individuals with high SPS/EOE will benefit from quiet time because they do not carry the jump-into-action mentality that is often rewarded in entrepreneurial simulation games or entrepreneurship classes focused on practical learning-by-doing approaches.

Students with high SPS will benefit from time off to process stimuli in engaging contexts. Postponing decisions on team building and course of action after breaks allow high SPS students to seek quiet moments to process the input. Working in groups, forming teams, and assigning team roles should therefore not take place immediately after the announcement. Promoting order could be another important approach for encouragement. A short individual, in-class writing exercise can also serve as a tool to sort and process new input. Another disadvantage of EOE is poor performance during observation and competition (Smolewska et al., 2016). We would not recommend cutting out competition of programs but stress the value of personal one-on-one assessments for high SPS.

6.3.2 Researchers

This study has several implications concerning Entrepreneurial Intention (EI) and the effect of Sensory Processing Sensitivity (SPS). First of all, future research is required to validate intention measures. The current study used entrepreneurial intention measures from Kautonen et al. (2015) and Linan and Chen (2009). Each of the measure showed different results for the relationship between intention and the 3 antecedents with regards to SPS. This calls for further analysis on both measures. Another explanation for the mixed results could point to a minimum effect that is not adequately captured in a linear model.

Alternative methods such as the qualitative comparative analysis approach by Harms et al. (2019) could be better suited in this case and could be used in future studies.

Specific approaches in studying SPS including the subscales may be fruitful in relation with Opportunity Recognition Ability (ORA). The causative mechanism between SPS and the Opportunity Recognition Ability (ORA) deserves attention, since ORA may overcome the negative influence of SPS. Alternatively, the other subscales of SPS may overcome the negative influence of EOE on EI. For the methodology part we would also recommend to choose qualitative study approaches, for example in-depth interviews. Aron and Aron (1997) chose this method in their initial exploration of the SPS trait. To this date SPS and entrepreneurship is in its early stages of research. In-depth interviews can generate insightful responses and reveal patterns about the relationship that is not understood yet. The qualitative approach should also cover a wider age range to overcome the limitation of this study.

Further research might also consider the integration of the SPS scale into the ADHD-entrepreneurship context. The academic discussion of the ADHD link and entrepreneurship is still ongoing (Canits et al., 2019). The mechanisms of ADHD in relation with SPS have not been addressed so far. We have discovered that the Behavioral Inhibition System (BIS) and the Behavioral Activation System (BAS) have been applied to explain entrepreneurship in ADHD (Barkley, 1997; Lerner, Hatak & Rauch, 2018) as well as to general behavioral patterns in SPS (Smolewska et al., 2006; Pluess et al. 2017; Greven et al. 2019). Since this study suggested a counter-productive SPS relation to EI contrary to previous findings (Harms et al., 2019), future research should include further aspects such as the ADHD measurement.

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Appendix A: Factor Analysis

Sensory Processing Sensitivity construct

Component Matrix	Component		
	1: Ease of Excitement	2: Aesthetics	3: Low Sensory Threshold
1. Do you seem to be aware of subtleties in your environment?		.423	
2. Are you easily overwhelmed by things like lights, strong smells, coarse fabrics, or sirens close by?	.627		.331
3. Do you have a rich, complex inner life?		.516	
4. Do you get rattled when you have a lot to do in a short amount of time?	.816		
5. Are you deeply moved by arts or music?		.606	
6. Are you annoyed when people try to get you to do too many things at once?	.656		
7. Do you make a point to avoid violent movies and TV shows?			.729
8. Do you find it unpleasant to have a lot going on at once?	.706		
9. Do changes in your life shake you up?	.410		
10. Do you notice and enjoy delicate/fine scents, tastes, sounds, works of art?		.747	
11. Are you bothered by intense stimuli, like loud noises or chaotic scenes?	.633		.219
12. When you must compete or be observed while performing a task, do you become so nervous or shaky that you do much worse than you would otherwise?	.601		

Ease Of Excitement

Reliability Statistics						
	Cronbach's Alpha					
Cronbach's Alpha	Based on Standardized Items		N of Items			
.748	.748		5			
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.559	51.180	51.180	2.559	51.180	51.180
2	.888	17.760	68.941			
3	.704	14.078	83.019			
4	.473	9.463	92.482			
5	.376	7.518	100.000			

Extraction Method: Principal Component Analysis.

Aesthetics

Reliability Statistics						
	Cronbach's Alpha					
Cronbach's Alpha	Based on Standardized Items		N of Items			
.528	.518		4			
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.709	42.737	42.737	1.709	42.737	42.737
2	.958	23.939	66.677			
3	.862	21.558	88.234			
4	.471	11.766	100.000			

Extraction Method: Principal Component Analysis.

Low Sensory Threshold

Reliability Statistics						
	Cronbach's Alpha Based on Standardized Items			N of Items		
Cronbach's Alpha	.612			3		
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.699	56.637	56.637	1.699	56.637	56.637
2	.809	26.959	83.596			
3	.492	16.404	100.000			

Extraction Method: Principal Component Analysis.

Attitude towards Entrepreneurship

Reliability Statistics						
	Cronbach's Alpha Based on Standardized Items			N of Items		
Cronbach's Alpha	.875			6		
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.730	62.174	62.174	3.730	62.174	62.174
2	.666	11.105	73.279			
3	.523	8.714	81.993			
4	.409	6.811	88.805			
5	.392	6.539	95.343			
6	.279	4.657	100.000			

Extraction Method: Principal Component Analysis.

Social Norms

Reliability Statistics						
	Cronbach's Alpha					
	Based on Standardized					
Cronbach's Alpha	Items	N of Items				
.877	.878	3				
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.415	80.495	80.495	2.415	80.495	80.495
2	.402	13.402	93.897			
3	.183	6.103	100.000			

Extraction Method: Principal Component Analysis.

Planned Behavioral Control

Reliability Statistics						
	Cronbach's Alpha					
	Based on Standardized					
Cronbach's Alpha	Items	N of Items				
.710	.712	4				
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.150	53.749	53.749	2.150	53.749	53.749
2	.762	19.056	72.805			
3	.603	15.064	87.870			
4	.485	12.130	100.000			

Extraction Method: Principal Component Analysis.

3-item Entrepreneurial Intention measure by Kautonen et al. (2015)

Reliability Statistics						
	Cronbach's Alpha					
Cronbach's Alpha	Based on Standardized Items		N of Items			
.971	.971		3			
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.835	94.489	94.489	2.835	94.489	94.489
2	.089	2.953	97.442			
3	.077	2.558	100.000			

Extraction Method: Principal Component Analysis.

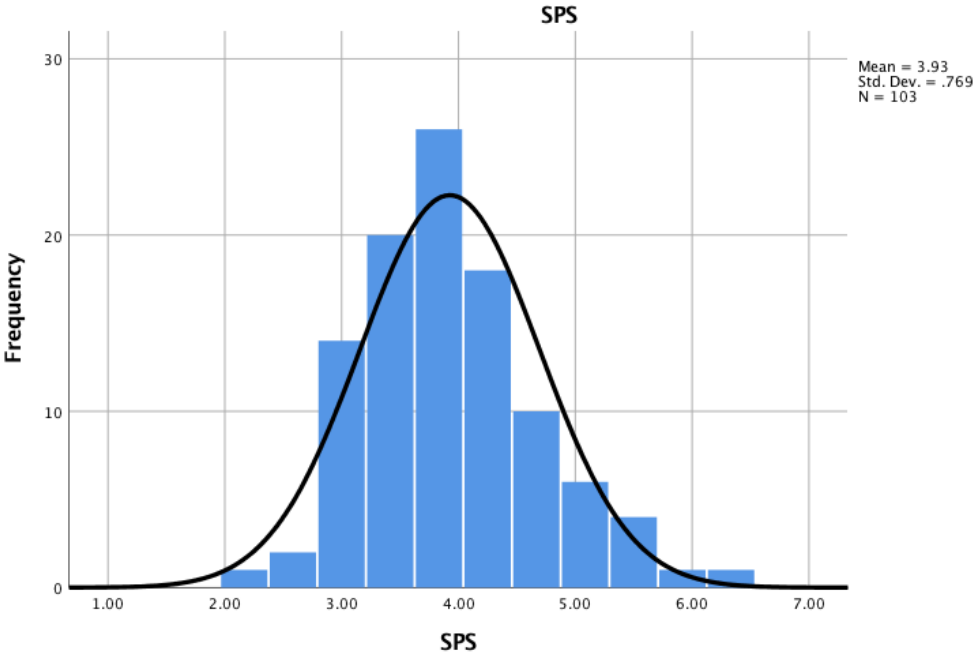
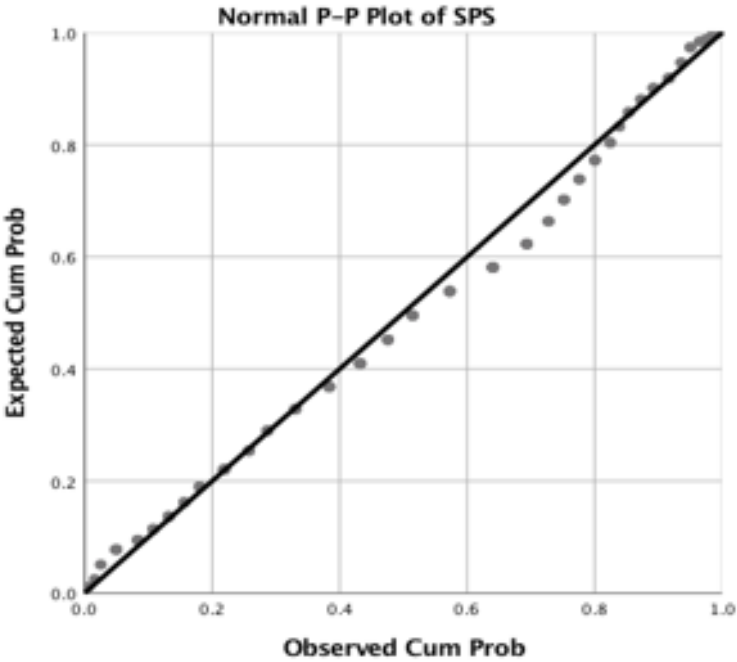
6 item Entrepreneurial Intention measure by Linan & Chen (2009)

Reliability Statistics						
	Cronbach's Alpha					
Cronbach's Alpha	Based on Standardized Items		N of Items			
.962	.962		6			
Total Variance Explained						
Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.051	84.178	84.178	5.051	84.178	84.178
2	.361	6.019	90.198			
3	.233	3.876	94.073			
4	.169	2.823	96.897			
5	.112	1.863	98.760			
6	.074	1.240	100.000			

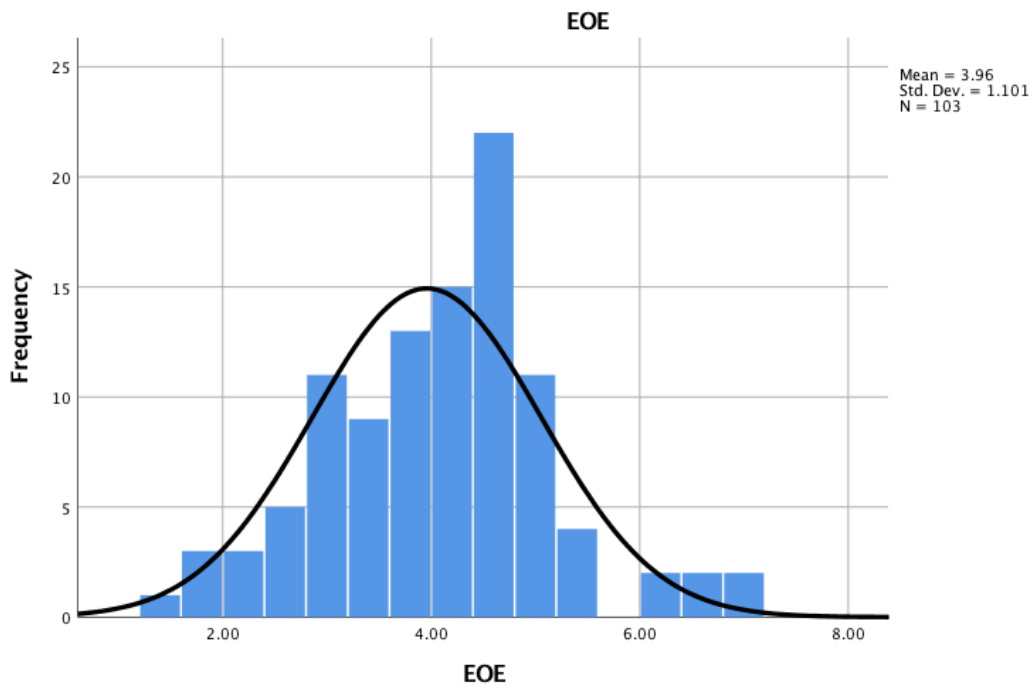
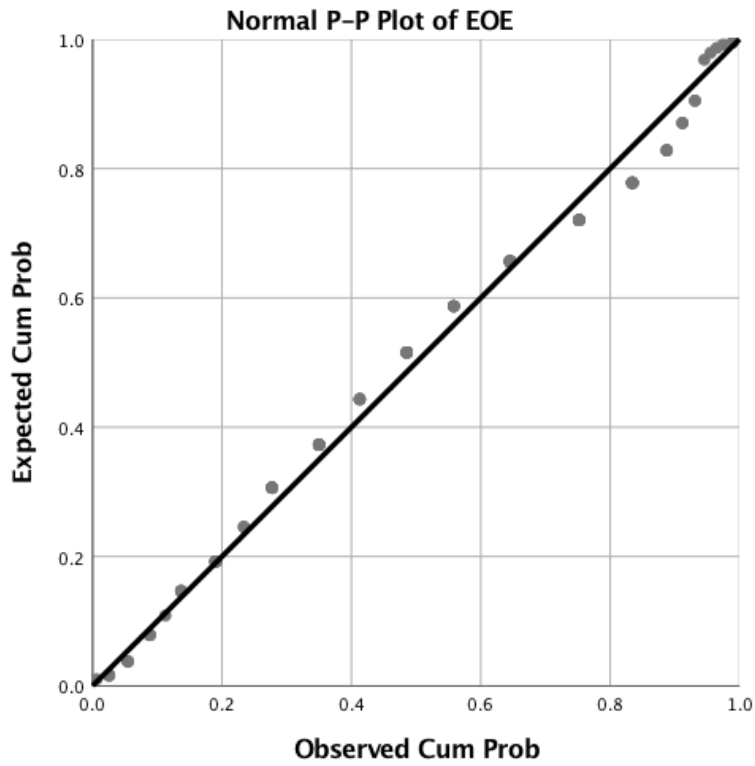
Extraction Method: Principal Component Analysis.

Appendix B: Assumption of normality

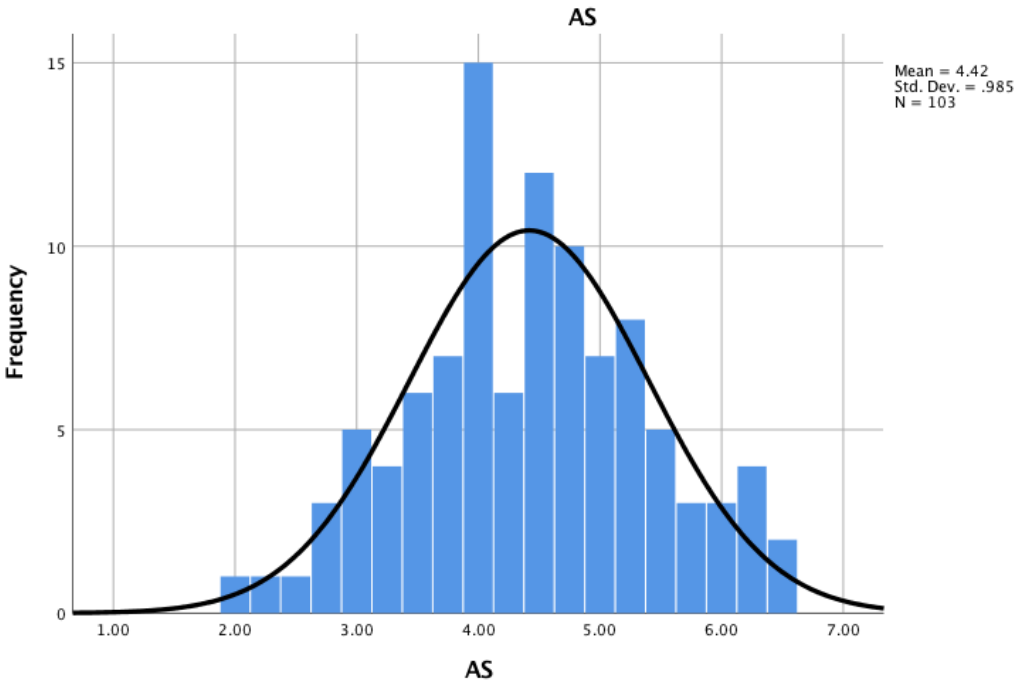
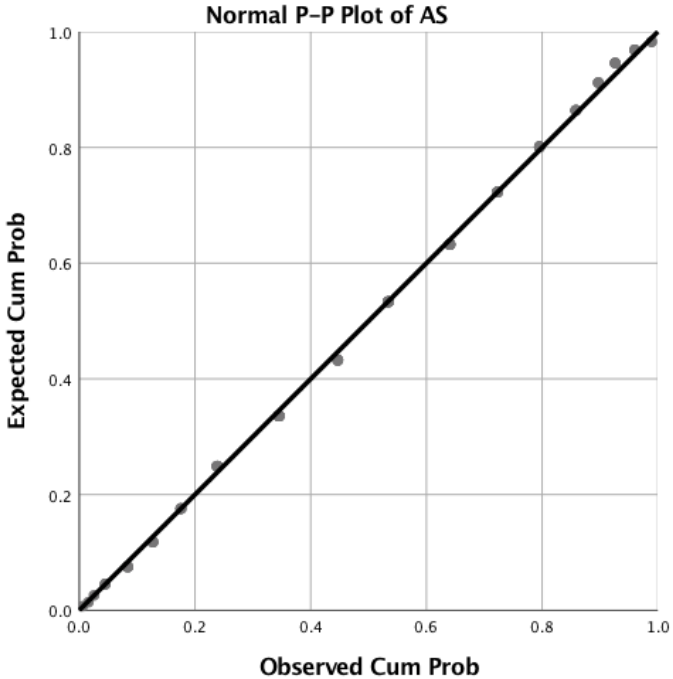
Probability Plot and Histogram for Sensory Processing Sensitivity (SPS)



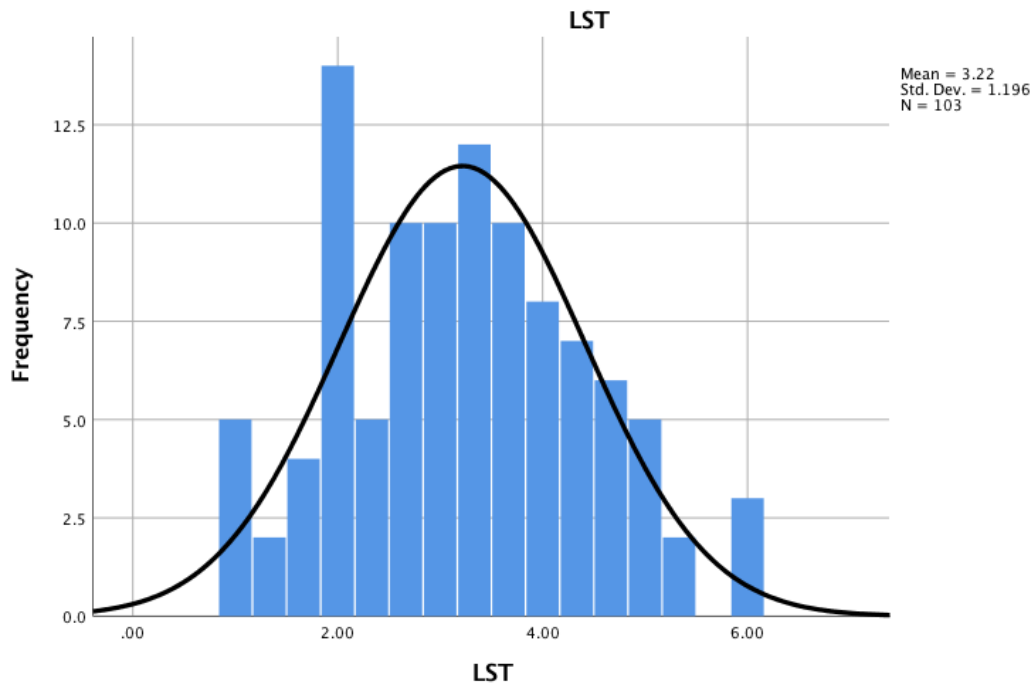
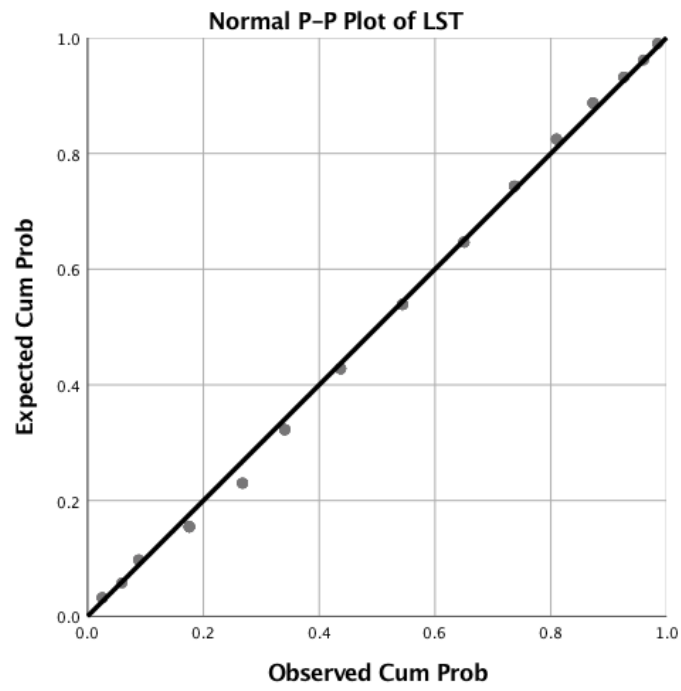
Probability Plot and Histogram for Ease of Excitement (EOE)



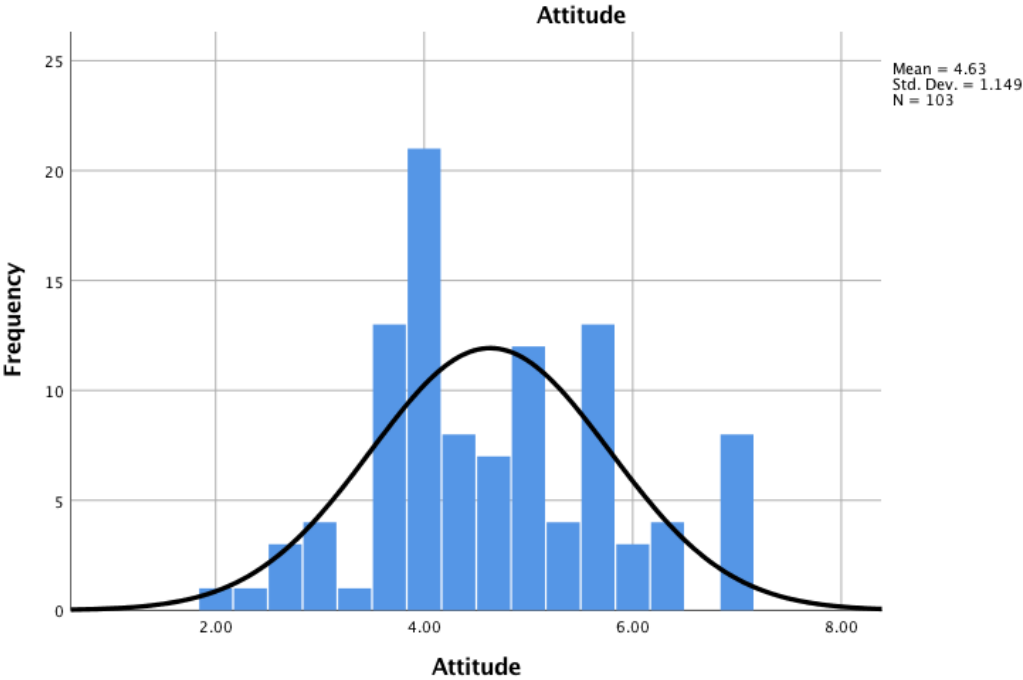
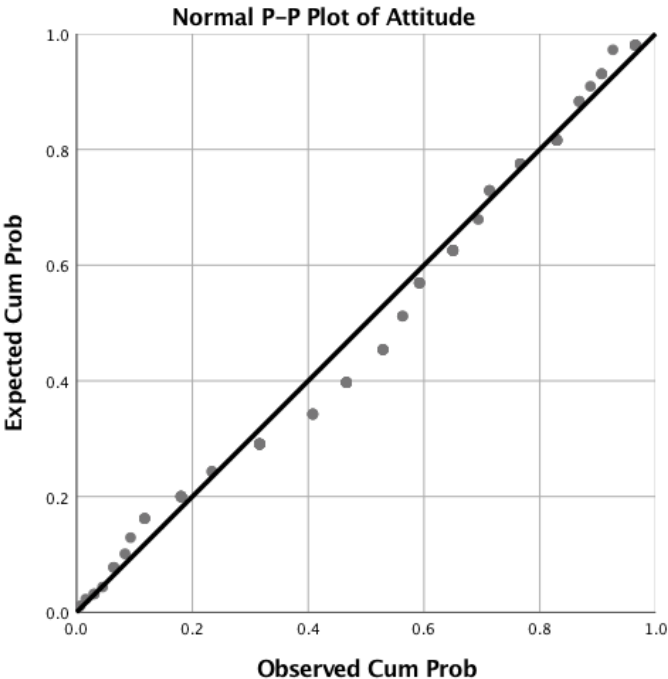
Probability Plot and Histogram for Aesthetics (AS)



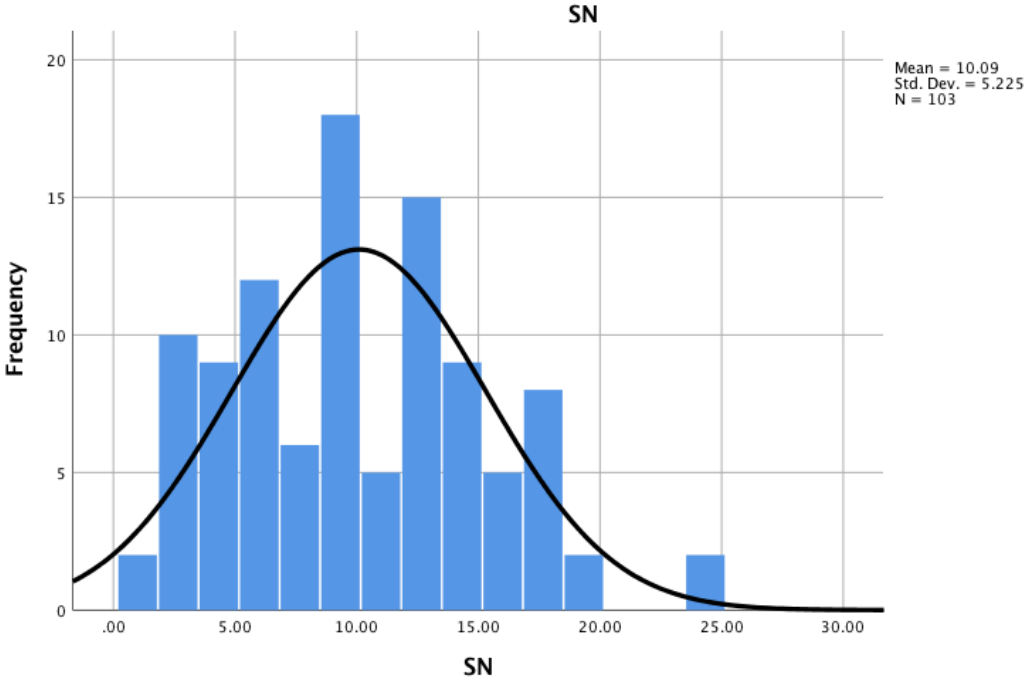
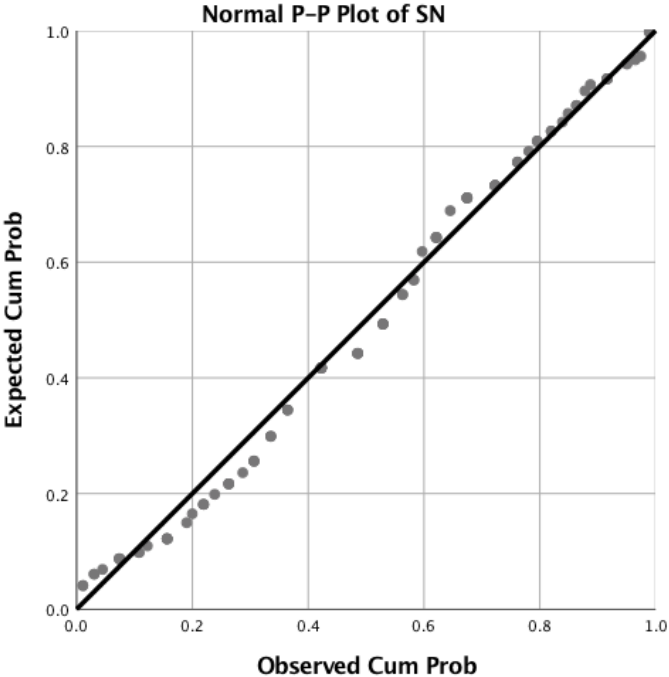
Probability Plot and Histogram for Low Sensory Threshold (LST)



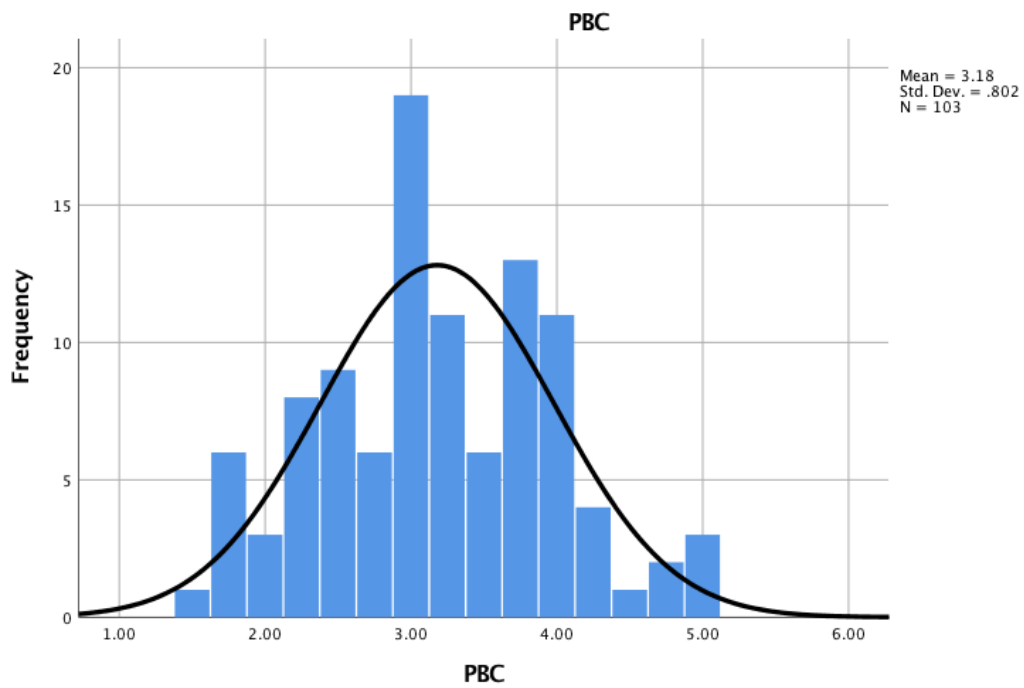
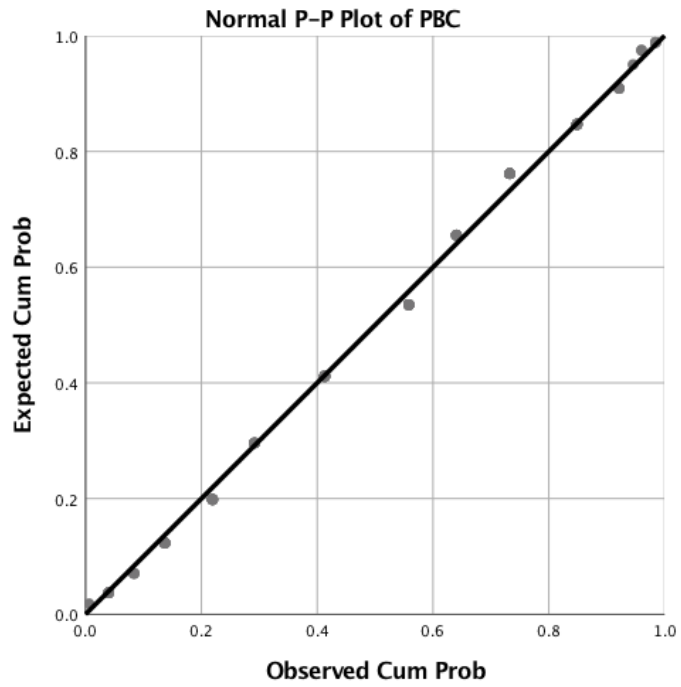
Probability Plot and Histogram for Attitude



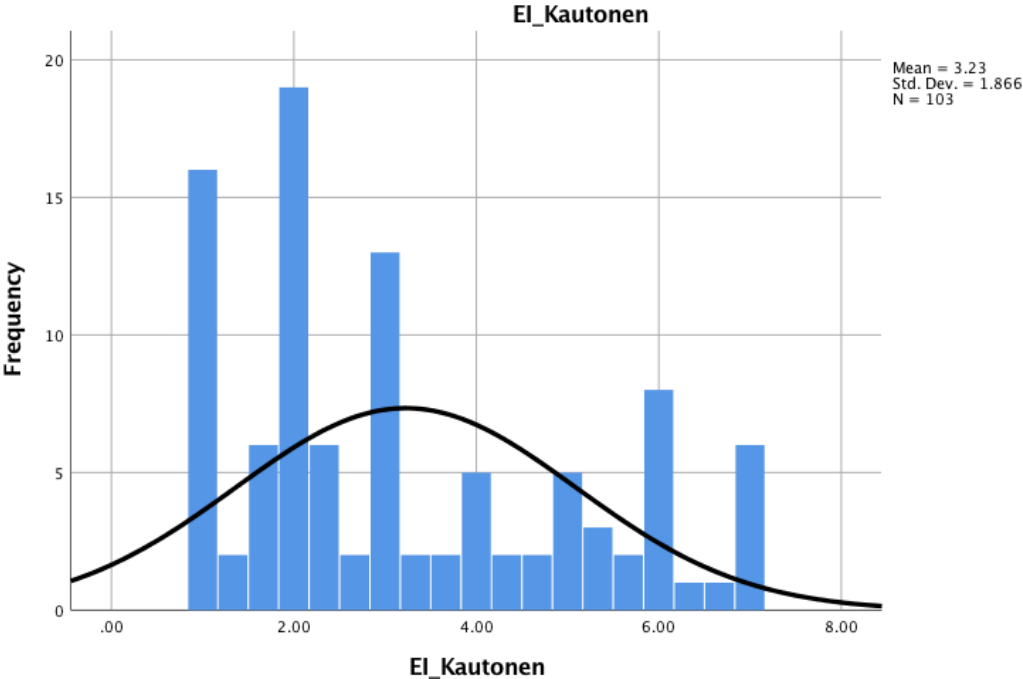
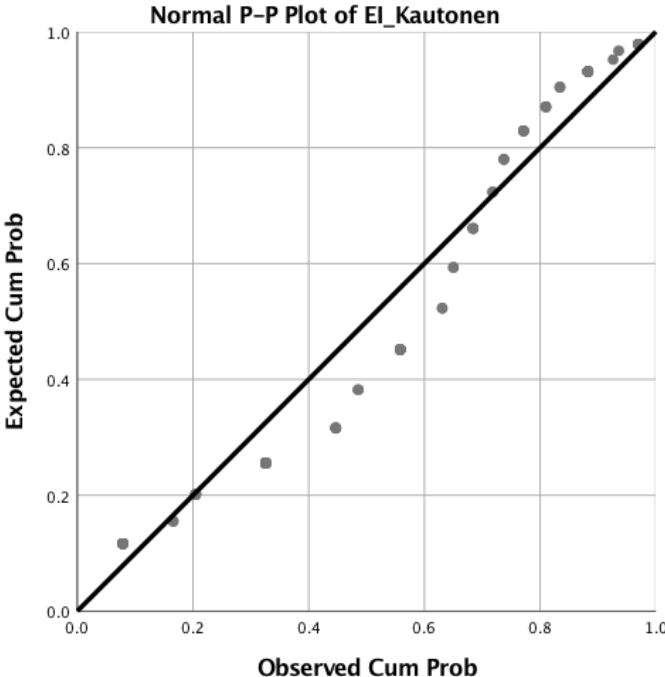
Probability Plot and Histogram for Social Norm (SN)



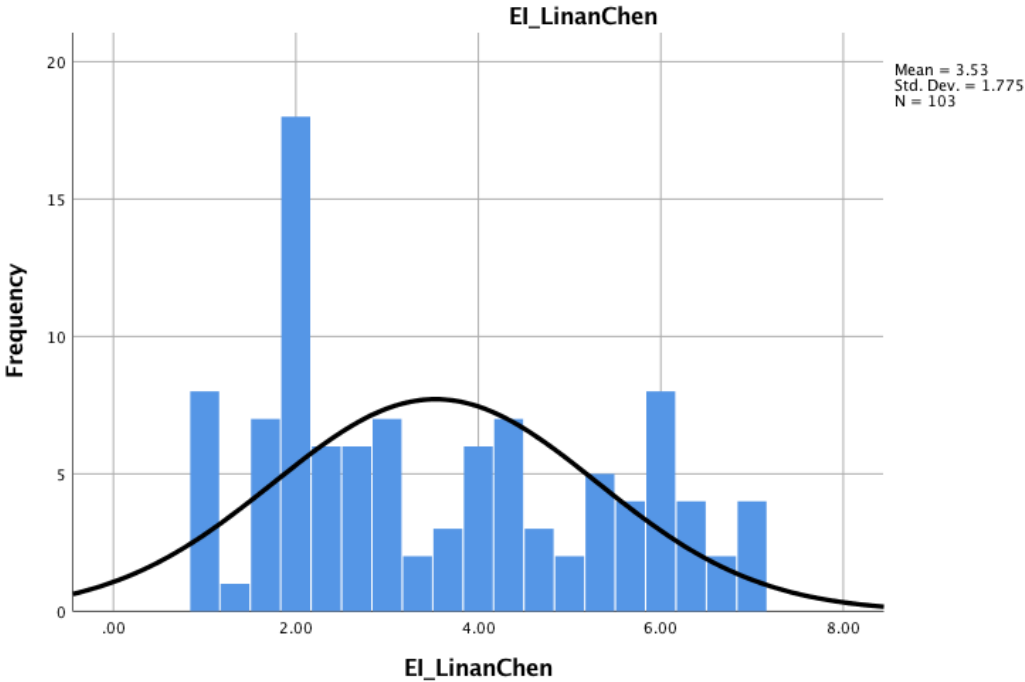
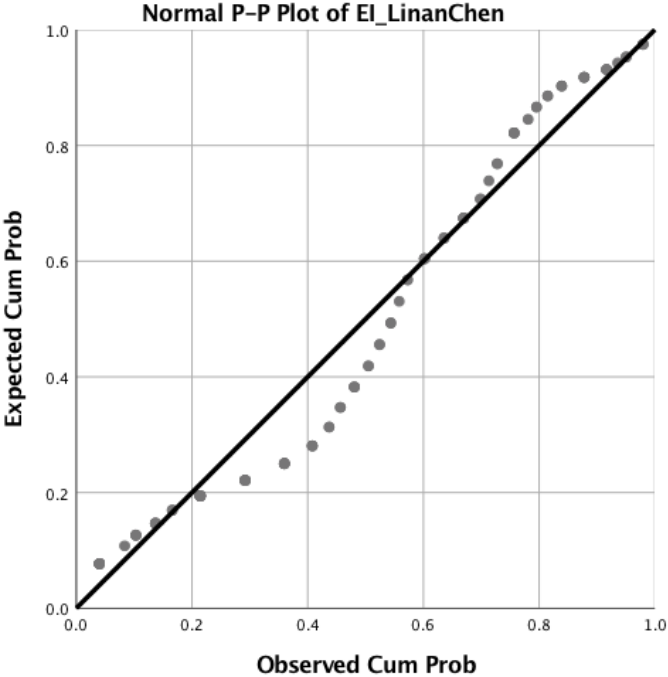
Probability Plot and Histogram for Planned Behavioral Control (PBC)



Probability Plot and Histogram for Entrepreneurial Intention (EI; Kautonen et al., 2015)



Probability Plot and Histogram for Entrepreneurial Intention (EI; Linan & Chen, 2009)



Appendix C: Results

Pearson Correlation Matrix for TPB and SPS Subscales (EOE, AES, LST)

Correlation

	1	2	3	4	5	6	7	8
1.Attitude	1.00							
2.SN	.42**	1.00						
3.PBC	.44**	.21*	1.00					
4.EI_Kau	.74**	.54**	.45**	1.00				
5.EI_Lin	.74**	.55**	.36**	.92**	1.00			
6.EOE	-.27**	-.10	-.27**	-.34**	-.32**	1.00		
7.AES	.14	.17	.10	.05	.11	.08	1.00	
8.LST	.01	.12	-.09	-.06	-.06	.42**	.23*	1.00

*. Correlation is significant at the 0.05 level (2-tailed).

** . Correlation is significant at the 0.01 level (2-tailed).

Simple Regression outcome for SPS and EI_Linan & Chen (H1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.168 ^a	.028	.019	1.75848

a. Predictors: (Constant), SPS

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.059	1	9.05	2.930	.090 ^b
	Residual	312.316	101	3.092		
	Total	321.375	102			

a. Dependent Variable: EI_Lin

b. Predictors: (Constant), SPS

Coefficients^a

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	5.052	.906		5.579	.000
	SPS	-.388	.226	-.168	-1.712	.090

a. Dependent variable EI_Linan & Chen

Simple regression analysis for SPS and EI_Kautonen (H1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.206 ^a	.043	.033	1.83484

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	15.128	1	15.128	4.494	.036 ^b
	Residual	340.030	101	3.367		
	Total	355.159	102			

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	5.192	.945		5.495	.000
	SPS	-.501	.236	-.206	-2.120	.036

a. Dependent Variable: EI_Kautonen

b. Predictors: (Constant), SPS

Validation multiple regression analysis TPB for EI_Linan & Chen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788 ^a	.621	.609	1.10980

a. Predictors: (Constant), PBC, SN, Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	199.441	3	66.480	53.976	.000 ^b
	Residual	121.934	99	1.232		
	Total	321.375	102			

a. Dependent variable: EI_Linan & Chen

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-2.031	.530		-3.833	.000
	Attitude	.937	.115	.606	8.161	.000
	SN	.098	.023	.290	4.253	.000
	PBC	.072	.153	.032	.471	.639

a. Dependent Variable: EI_Linan & Chen

Validation multiple regression analysis TPB for EI_Kautonen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.793 ^a	.628	.617	1.15482

a. Predictors: (Constant), PBC, SN, Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	223.131	3	74.377	55.771	.000 ^b
	Residual	132.028	99	1.334		
	Total	355.159	102			

a. Dependent Variable: EI_Kautonen

b. Predictors: (Constant), PBC, SN, Attitude

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-3.055	.551		-5.540	.000
	Attitude	.918	.119	.565	7.686	.000
	SN	.097	.024	.272	4.033	.000
	PBC	.330	.159	.142	2.074	.041

a. Dependent Variable: EI_Kautonen

Multiple Regression Analysis for Figure 2, SPS and EI_Kautonen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.806 ^a	.650	.636	1.12560

a. Predictors: (Constant), SPS, SN, PBC, Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	230.995	4	57.749	45.580	.000 ^b
	Residual	124.164	98	1.267		
	Total	355.159	102			

a. Dependent Variable: EI_Kautonen

b. Predictors: (Constant), SPS, SN, PBC, Attitude

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-1.424	.847		-1.681	.096
	Attitude	.897	.117	.552	7.687	.000
	SN	.104	.024	.290	4.388	.000
	PBC	.280	.156	.120	1.795	.076
	SPS	-.368	.148	-.152	-2.491	.014

a. Dependent Variable: EI_Kautonen

Multiple Regression Analysis for Figure 2, SPS and EI_Linan & Chen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.797 ^a	.636	.621	1.09279

a. Predictors: (Constant), SPS, SN, PBC, Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	204.343	4	51.086	42.778	.000 ^b
	Residual	117.032	98	1.194		
	Total	321.375	102			

a. Dependent Variable: EI_Linan & Chen

b. Predictors: (Constant), SPS, SN, PBC, Attitude

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-.743	.822		-.904	.368
	Attitude	.920	.113	.596	8.122	.000
	SN	.104	.023	.305	4.517	.000
	PBC	.033	.152	.015	.217	.828
	SPS	-.290	.143	-.126	-2.026	.045

a. Dependent Variable: EI_Linan & Chen

Multiple Regression Analysis for EOE and EI_Linan & Chen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.788 ^a	.621	.609	1.10980

a. Predictors: (Constant), PBC, SN, Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	199.441	3	66.480	53.976	.000 ^b
	Residual	121.934	99	1.232		
	Total	321.375	102			

a. Dependent Variable: EI_LinanChen

b. Predictors: (Constant), PBC, SN, Attitude

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-2.031	.530		-3.833	.000
	Attitude	.937	.115	.606	8.161	.000
	SN	.098	.023	.290	4.253	.000
	PBC	.072	.153	.032	.471	.639

a. Dependent Variable: EI_LinanChen

Multiple Regression Analysis for EOE and EI_Kautonen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.793 ^a	.628	.617	1.15482

a. Predictors: (Constant), PBC, SN, Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	223.131	3	74.377	55.771	.000 ^b
	Residual	132.028	99	1.334		
	Total	355.159	102			

a. Dependent Variable: EI_Kautonen

b. Predictors: (Constant), PBC, SN, Attitude

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-3.055	.551		-5.540	.000
	Attitude	.918	.119	.565	7.686	.000
	SN	.097	.024	.272	4.033	.000
	PBC	.330	.159	.142	2.074	.041

a. Dependent Variable: EI_Kautonen

Mediation Analysis for EOE and EI_Kautonen summarized in Table 2

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.268 ^a	.072	.063	1.11203

a. Predictors: (Constant), SPS_EOE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.678	1	9.678	7.827	.006 ^b
	Residual	124.897	101	1.237		
	Total	134.576	102			

a. Dependent Variable: Attitude

b. Predictors: (Constant), SPS_EOE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	5.740	.411		13.975	.000
	SPS_EOE	-.280	.100	-.268	-2.798	.006

a. Dependent Variable: Attitude

Mediation Analysis for EOE and EI_Kautonen summarized in Table 2

Step 1: Simple Regression EOE and Attitude

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.268 ^a	.072	.063	1.11203

a. Predictors: (Constant), SPS_EOE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.678	1	9.678	7.827	.006 ^b
	Residual	124.897	101	1.237		
	Total	134.576	102			

a. Dependent Variable: Attitude

b. Predictors: (Constant), SPS_EOE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	5.740	.411		13.975	.000
	SPS_EOE	-.280	.100	-.268	-2.798	.006

a. Dependent Variable: Attitude

Simple Regression EOE and SN

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.100 ^a	.010	.000	5.22449

a. Predictors: (Constant), SPS_EOE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F
1	Regression	28.107	1	28.107	1.030
	Residual	2756.825	101	27.295	
	Total	2784.932	102		

Simple Regression EOE and PBC

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.753 ^a	.567	.559	1.23984

a. Predictors: (Constant), PBC, Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	201.439	2	100.719	65.522	.000 ^b
	Residual	153.720	100	1.537		
	Total	355.159	102			

a. Dependent Variable: EI_Kautonen

b. Predictors: (Constant), PBC, Attitude

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-2.961	.591		-5.007	.000
	Attitude	1.097	.119	.675	9.218	.000
	PBC	.348	.171	.149	2.039	.044

a. Dependent Variable: EI_Kautonen

Correlations EI_Kautonen, Attitude, PBC, and SPS_EOE
Correlations

		EI_Kautonen	Attitude	PBC	SPS_EOE
Pearson Correlation	EI_Kautonen	1.000	.741	.447	-.345
	Attitude	.741	1.000	.440	-.268
	PBC	.447	.440	1.000	-.267
	SPS_EOE	-.345	-.268	-.267	1.000
Sig. (1-tailed)	EI_Kautonen	.	.000	.000	.000
	Attitude	.000	.	.000	.003
	PBC	.000	.000	.	.003
	SPS_EOE	.000	.003	.003	.
N	EI_Kautonen	103	103	103	103
	Attitude	103	103	103	103
	PBC	103	103	103	103
	SPS_EOE	103	103	103	103

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.753 ^a	.567	.559	1.23984	.567	65.522	2	100
2	.764 ^b	.584	.572	1.22138	.017	4.045	1	99

Model Summary

Model	Change Statistics	
	Sig. F Change	
1	.000	
2	.047	

a. Predictors: (Constant), PBC, Attitude

b. Predictors: (Constant), PBC, Attitude, SPS_EOE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	201.439	2	100.719	65.522	.000 ^b
	Residual	153.720	100	1.537		
	Total	355.159	102			
2	Regression	207.473	3	69.158	46.359	.000 ^c
	Residual	147.685	99	1.492		
	Total	355.159	102			

a. Dependent Variable: EI_Kautonen

b. Predictors: (Constant), PBC, Attitude

c. Predictors: (Constant), PBC, Attitude, SPS_EOE

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-2.961	.591		-5.007	.000
	Attitude	1.097	.119	.675	9.218	.000
	PBC	.348	.171	.149	2.039	.044
2	(Constant)	-1.659	.871		-1.905	.060
	Attitude	1.055	.119	.650	8.863	.000
	PBC	.289	.171	.124	1.693	.094
	SPS_EOE	-.233	.116	-.137	-2.011	.047

a. Dependent Variable: EI_Kautonen

Step 2: EOE related to EI_Linan & Chen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.319 ^a	.102	.093	1.04833

a. Predictors: (Constant), EI_LinanChen

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.572	1	12.572	11.440	.001 ^b
	Residual	111.000	101	1.099		
	Total	123.572	102			

a. Dependent Variable: SPS_EOE

b. Predictors: (Constant), EI_LinanChen

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	4.656	.231		20.166	.000
	EI_LinanChen	-.198	.058	-.319	-3.382	.001

Step 3: Attitude and PBC related to EI_Linan & Chen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.742 ^a	.551	.542	1.20090

a. Predictors: (Constant), PBC, Attitude

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	177.159	2	88.580	61.422	.000 ^b
	Residual	144.215	100	1.442		
	Total	321.375	102			

a. Dependent Variable: EI_LinanChen

b. Predictors: (Constant), PBC, Attitude

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	t	
1	(Constant)	-1.937	.573		-3.381	.001
	Attitude	1.118	.115	.724	9.700	.000
	PBC	.090	.165	.041	.546	.586

Step 4: Hierarchical regression for EI_Linan & Chen

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics			
					R Square Change	F Change	df1	df2
1	.742 ^a	.551	.542	1.20090	.551	61.422	2	100
2	.752 ^b	.566	.553	1.18737	.014	3.292	1	99

a. Predictors: (Constant), PBC, Attitude

b. Predictors: (Constant), PBC, Attitude, SPS_EOE

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	177.159	2	88.580	61.422	.000 ^b
	Residual	144.215	100	1.442		
	Total	321.375	102			
2	Regression	181.800	3	60.600	42.983	.000 ^c
	Residual	139.575	99	1.410		
	Total	321.375	102			

a. Dependent Variable: EI_LinanChen

b. Predictors: (Constant), PBC, Attitude

c. Predictors: (Constant), PBC, Attitude, SPS_EOE

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients		t	Sig.
		B	Std. Error	Beta			
1	(Constant)	-1.937	.573			-3.381	.001
	Attitude	1.118	.115	.724		9.700	.000
	PBC	.090	.165	.041		.546	.586
2	(Constant)	-.795	.847			-.938	.350
	Attitude	1.082	.116	.700		9.344	.000
	PBC	.039	.166	.017		.232	.817
	SPS_EOE	-.204	.113	-.127		-1.814	.073

a. Dependent Variable: EI_LinanChen

Appendix D: Results Control variables

Control variables correlations

	SPS	EOE	Conscientiousne	Neuroticism	ETP	Age	Gender
	ss						
SPS	1.00						
EOE	.79**	1.00					
Conscientiousness	.09	-.12	1.00				
Neuroticism	.52	.61	-.07	1.00			
ETP	.36	.19	.34**	.44**	1.00		
Age	.13	-.02	-.11	-.17	-.14	1.00	
Gender	.23**	.14	.07	.17	.22*	.15	1.00
ParentsEntr	.01	-.14	.06	-.13	.07	.01	.20*
CurrentEntr	-.15	-.20*	.15	-.19	-.06	.09	.07
EntrEdu	.04	-.14	.04	-.18	-.08	.21*	.07
Attitude	-.10	-.27**	.18	-.24*	.00	.09	.05
SN	.06	-.10	.05	-.16	-.13	.18	.15
PBC	-.15	-.27**	.24*	-.20*	.06	-.01	-.04
EI_Kautonen	-.21*	-.34**	.16	-.27**	-.09	.06	.06
EI_LinanChen	-.17	-.32**	.15	-.25*	-.08	.06	.05

Correlation

	ParentsEntr	CurrentEntr	EntrEdu	Attitude	SN	PBC	EI_Kautonen
SPS							
EOE							
Conscientiousness							
Neuroticism							
ETP							
Age							
Gender							
ParentsEntr	1.00						
CurrentEntr	.03	1.00					
EntrEdu	.20*	-.02	1.00				
Attitude	.13	.42**	.05	1.00			
SN	.33**	.16	.28**	.42**	1.00		
PBC	.18	.38**	.10	.44**	.21*	1.00	
EI_Kautonen	.24*	.52**	.12	.74**	.54**	.45**	1.00
EI_LinanChen	.28**	.48**	.15	.74**	.55**	.36**	.92**