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GENDER DIFFERENCES IN IMPULSIVITY OF E-COMMERCE ONLINE PURCHASE INTENTION AMONG UTAR STUDENTS: CONSCIENTIOUSNESS, NEGATIVE EMOTIONALITY AND EXTRAVERSION AS COVARIATES

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ABSTRACT

Previous research has shown that there were less studies between genders differences in impulsivity of online shopping purchase intention, most of the researches conducted in Western countries but not Eastern country (i.e. Malaysia). The objective of current study is to examine gender differences in impulsivity when extraversion, conscientiousness, and negative emotionality were controlled for among Chinese university students. 86 participants from one private university in Malaysia participated in this study. Purposive sampling method was used. Online survey and experimental method were used to conduct this study. The results demonstrated that there is significant difference between gender and time taken but not number of purchase unplanned items; results also revealed there is significant difference between gender and time taken when three covariates were controlled for and not controlled for. The underlying factor could be the three personality traits were not strong covariates that affect the relationship between gender and time taken. Future research might need to take into consideration to use time taken as one of the supporting measurements for impulsivity. From this research, marketers can focus on customers' needs and develop their own strategies to boost the sales.

Keywords: impulsivity purchase intention, university students, gender differences

CHAPTER 1 INTRODUCTION

1.1 Background of Study

The rapid growth of e-commerce nowadays marks the necessity of study how consumers process information and factors that affect purchase intention. E-commerce refers to electronic commerce, the purchasing and offering of items or administrations via the Internet (Yang & Lester, 2005). Online store serves as a platform that for buyers and sellers to have freedom to search for any goods and services that they wanted. E-commerce breaks the monopoly of limited commercial organizations. It is a new opportunity for merchants or organizations to reach new customers and retain existing customers more efficiently by substituting traditional retail stores with Internet-based electronic commerce. World Wide Web (WWW) has assisted businesses to explore into a new market which is also known as online merchandise (Angelides, 2013) . The numbers of organizations who are creating their business opportunities on the Internet are increasing nowadays. Retailers and consumers are connected by e-commerce.

Tao Bao, Alibaba, Amazon, Ebay, Lazada, 11 street, etc are the example of e-commerce company while Lazada stands out among the companies as e-commerce leader in Malaysia (Filimonova, 2018; Wei, Syahidah, Thenmoley, Elhussein, & Asirvatham, 2018). Thus, Lazada has been the main focus of e- commence company in this study. E-commerce has been perceived as a basic empowering agent to increase the income growth for the Malaysian economy, under the Digital Malaysia Initiative. This shows e-commerce has increasing significantly in Malaysia. Reason of Malaysian do online shopping might be due to item of price, reviews, convenience and special offers from online stores (“Malaysia - e commerce,” 2018). Online shopping enables customers to search information, provide more choices, compare the products and prices and purchase products (Yu & Wu, 2007). According to Bourlakis, Papagiannidis, and Fox, (2008),

they proposed purchase products and services through online store has been broadly accepted and it also become a more popular means in this Internet-based electric commerce.

Consumers purchase products through Internet are based on cyberspace appearance instead of the actual experience like 'touch and feel type' (Park & Kim, 2003). Consumers can get the details of the product from images, short video and information given by the websites. People able to search a wide variety of products by visiting shops' website to buy things within minutes instead of spending hours and visiting different stores. Convenience become the most significant factor that encourages consumers to shop online. Although there is a retail store, most of the consumer choose to purchase online since it is easier for them to get the products or services. By e-commerce, consumers can get the notifications of shopping deals and latest offers from online stores.

Piron (1991) defined impulse consumer purchasing is a behavior that occurs when consumers experience an unplanned, powerful and persistent urge to purchase something instantly. Research found out female take more time and visits more online websites to compare prices while male do fast decision than female (Reiter, 2013). Studies have focused on how personality affect decision consumers in purchasing items (Turkyilmaz, Erdem, & Uslu, 2015), eye movement on effects of elaboration on purchase intention (Yang, 2015). Extraversion, openness to change and agreeableness have positive effects, conscientiousness and neuroticism have negative effects on online impulse buying (Turkyilmaz, Erdem, & Uslu, 2015). Previous studies also found there is degree of differences of man and woman in trustworthiness of shopping orientation (Seock & Bailey, 2008), degree of risk in buying products online (Garbarino & Strahilevitz, 2004) and impulsivity purchase intention (Žnidersic, Grubor, & Maric, 2014).

Incident regarding impulsivity in shopping is getting extra attention from many advanced countries as well as the developing countries. This signifies the purchasing supremacy of consumers in the nation, either they are prone to shop impulsively or not. There are several factors that could influence the impulsivity in shopping. One of them is personality. One's personality was found to be an essential influencer to consumer inclination to shop impulsively. Gender differences is personality are usually examined by the Big Five Model which include the domains of openness, conscientiousness, extraversion, agreeableness and neuroticism (John, Naumann & Soto, 2008). A research by Weisberg, DeYoung, and Hirsh (2011) mentioned that the study of personality is useful in examining the differences of psychological between genders. Personality is known as an extent that each individual display different levels of personality traits. Traits are those consistent of feelings, thoughts, behaviors and motives where a person experiences across situations (Fleeson & Gallagher, 2009). Gender differences in personality usually categorized which gender has scores higher on the trait in average.

1.2 Problem Statement

Ninety percent of individuals engage into impulsive shopping (Hausman, 2000) and this explains why most consumers purchased more than 50 percent of their unplanned stuffs (Kacen, Hess, & Walker, 2012). Personality trait is found to be vital in troubles related to shopping (Mueller et al., 2010). It was demonstrated in a research study that one's personality could influence customers' inclination to be impulsive when buying things (Verplanken & Herabadi, 2001). Nevertheless, study on this phenomenon is still inadequate and restricted, especially in Malaysia. Not just that, research regarding the correlation between impulsivity in shopping and personality is also limited.

After comparing across different literature review about impulsivity in purchase bahaviour, there is less availability of latest studies between genders differences in impulsivity of purchase intention, most of the researches are conduct oversea (Morahan-Martin & Schumacher, 2001; Reiter, 2013; Seock & Bailey, 2008), with self-administrated questionnaire (Alyami & Spiteri, 2017; Arnaudovska, Bankston, Simurkova, & Budden, 2010; Delafrooz, Paim, & Khatibi, 2010; Lim, Osman, Romle, & Yusuf, 2015; Žnidersic, Grubor, & Maric, 2014). There is lack of research regarding e-commerce in Malaysia towards these variables, therefore the current study will conduct a quasi-experiment study to rule out the impact of genders towards the impulsivity purchase behavior of university students in Malaysia. It was proved that culture differences in one's country influenced her/his impulsivity in shopping (Kacen & Lee, 2002). Therefore, this study would like to fill up the research gap by conducting an experiment study among Malaysia's university students. As a result, the outcomes of this study will be more reliable as they are applicable to Malaysia context.

Both the men and women basically get equivalent access to Internet thus, this makes studying the usage of internet among university students becomes discerning at one time (Odell, Korgen, Schumacher, & Delucchi, 2000). This study is essential to carry out as it was found that gender is one of the factors that could influence the impulsivity of consumers when shopping considering that this would help the marketers in enlarging their businesses (Lin, 2013).

Although issues pertaining to gender differences in overall Internet usage among university students have been studied by researchers and scholars (Noble, Melancon, & Haytko, 2009) however, study that reports specific gender differences in impulsivity on online purchasing behavior among university students in Malaysia itself has been restricted. Besides that, the industry in this country is developing and growing tremendously yet there are still less available

online shopping website for the consumers. This study most probably could help the potential website developers to create more online shopping websites that could understand and comply more with the needs of the consumers and their way of thinking. This will help the new upcoming people to have a better understanding. Human being evolves, therefore, the online shopping websites have to always update and change according to the trend and current market.

The gender gap in the usage of Internet among university students should be narrowed down, specifically for shopping purposes alike since female and male university students utilize Internet more frequently as compared to the general populace. Research or study on the gender differences in impulsivity while doing online shopping among university students has been limited and inadequate despite the significance of this consumer group. This is supported by a finding from a study by Thompson and Prendergast (2015) that proposed personality could affect the impulsivity behavior of undergraduate and postgraduate students when shopping. University students or commonly called as generation Y and Z are a vital consumer group to study due to finding shows that they have unique behavior when it comes to shopping (Arnaudovska, Simurkova, Bankston, & Budden, 2010), plus they commonly possess positive attitudes toward online shopping (Engel, Meier, Bell, & Rumpel, 2011).

1.3 Significance of Study

By investigating impulsivity of online shopping behavior of university students in Malaysia, we are able to fill the research gap by conducting a quasi-experiment study to examine the impact of gender in impulsivity of online shopping purchase intention. Participants also able to aware and reflect their online shopping behavior through this study. Study impulsivity in purchase behavior is important to help consumers understand their behavior while boost sales of e-commerce retailer by increasing impulsivity of customers. According to Filimonova (2018),

growth of e-commercial market will be doubled by 2020, therefore it is important to study about online shopper's impulsiveness purchase intention.

1.4 Possible Implications

By conducting this study, it can assist the salespersons to sell and market their products more efficiently. This is because this study allows them to target their customers by marketing items in a particular way (Seock & Bailey, 2008). This study potentially be able to provide a basis for creating sites that fit to males' and females' distinctive information processing strategies to the website developers. Hence, the further studying about gender differences in shopping online able to assist those salespersons and website developers to vend more proficiently to their customers, this indicates that there could be useful knowledge to attain by experimenting these differences further, as they relate to other circumstances.

Besides that, this study also can enlighten the society more on the ways males and females process information generally. To comprehend these gender differences in processing information in everyday life, it gives a lot of benefits and advantages. This study most probably can help the marketers and business people to attract more customers by creating online shopping websites that meet consumers' needs and that understand their personality according to gender well. This current research also can potentially help consumers to understand their own behavior more so that they can avoid from impulsive behavior and control their spending. Therefore, more society can be molded and understood, if more knowledge about different ways of information processing, personality, and impulsivity is revealed.

This research also could be helpful for working people while in the workplace. Gender differences in decision-making on an editorial board has been viewed by a study done by Wing,

Benner, Petersen, Newcomb, and Scott, (2010). This study found out when making decision either to approve or discard a document, females who have the authority to inspect the system inclined to spend longer time than males did. This might indicate that, while making their decision, females tend to contemplate numerous points of view, and study individuals and things in a more in depth and complex way. They are less impulsive as they tend to plan and think carefully before doing something. Discrepancies in decision-making in the work place can be well explained if knowledge of these sorts of differences is learned. People must aware that, by recognizing gender differences in impulsivity can also assist in building a stronger work place. Therefore, by further examining these differences, it is probable that other societies could benefit as well.

Furthermore, this study aims to spread the novelty to the research field. This is because this study conducts quasi-experiment, and most of the possible confounding variables and limitations mentioned in the past studies are under control. This may contribute to a more reliable, valid, and coherent results or outcomes.

1.5 Research Questions

1. Do male participants have higher impulsivity of purchase intention than female participants?

2. Is there any significant difference between male participants and female participants, when extraversion was controlled for?

3. Is there any significant difference between male participants and female participants, when negative emotionality was controlled for?

4. Is there any significant difference between male participants and female participants, when conscientiousness was controlled for?

1.6 Research Objectives

The research objectives of this research are:

1. To examine if there is a gender difference in impulsivity of purchase intention.

2. To examine if there is a significant difference between male participants and female participants when extraversion was controlled for.

3. To examine if there is a significant difference between male participants and female participants negative emotionality was controlled for.

4. To examine if there is a significant difference between male participants and female participants when conscientiousness was controlled for.

1.7 Research Hypothesis

H1: Male participants have higher impulsivity of purchase intention than female participants.

H2: There is a significant difference between male participants and female participants when extraversion was controlled for.

H3: There is a significant difference between male participants and female participants when negative emotionality was controlled for.

H4: There is a significant difference between male participants and female participants when conscientiousness was controlled for.

1.8 The Current Study

University students are known as millennials who are considered as the first high technology generation (Lissitsa & Kol, 2016). Smith (2015) identified that consumers in this age group are the vital age demographic for online merchant as university students spend more

money online compared to in retail stores even though they earn lesser than others. University students are listed in the top internet usage and they have great intention to shop online (Edmunds, Thorpe, & Conole, 2010; Jones, 2009; Taylor & Cosenza, 2002). Eastman and Liu (2012) proved that university students are driven to displaying their wealth and also their purchasing power. In other words, they are more likely to practice status-seeking consumption. The targeted participants are university students in this quasi-experimental study. Even though Malaysia is a multiracial country, Chinese university students will be the main focus of this study as they are the majority online shoppers in Malaysia (Chua, Khatibi, & Ismail, 2006).

CHAPTER 2 LITERATURE REVIEW

2.1 Electronic Commerce in Malaysia

Digital networks that incorporate information trade exchange between the organizations and the customers is what define electronic commerce or commonly known as e-commerce. Furthermore, e-commerce is also defined by other authors as a transaction and action that happen on WEB legally, also it digitally allows commercial transactions between organizations and people (Hasan & Harris, 2009). E-commerce helps to clarify the establishment of many associations lately also the e-commerce implementation in the practices that are developing notably. Research done by Al-Alawi and Al-Ali (2015) showed that e-commerce possibly brings meaningful advantages to SMEs as support. In order to sell and market stuffs online with a best tactic that suits distinct consumers, participatory web and social networks could be utilized progressively. E-commerce already exists in economic life prior to the growth of Internet. E-commerce grows the method into information technology just to quicken it sturdy existence in making trade concurrently. This indicates that e-commerce is able to provide a tremendous drop of mediators or agents because of the direct relationship between businesses and purchasers (Nadler, 2001). The prevalent kind of e-commerce is called Business-to-consumer E-commerce. This type of e-commerce allows the customers to reach online deals directly. This involves the buying of merchandises and services retail stuffs and content online, though based on the data from international organizations is quite small (Drigas & Leliopoulos, 2013).

Approximately 22 million dynamic web consumers (roughly 68% of population) available in Malaysia and the other 5 million are needed to go for online method in subsequent year (Wei, Fauzi, Thenmoley, Elhussein, & Asirvatham, 2018). With roughly 150 handy participations for each 100 people, this shows that the population has huge degree high rates of

flexible cell entrance. 53 percent of these portable supporters use cell phones (Wei et al., 2018). Numbers of e-commerce users in Malaysia are high due to the flexible accessibility of Malaysia's web, and open fragment comfort. Malaysia glories 15.3 million online consumers and 62% of handy consumers use devices to shop on the web (Fawzy, Sharuddin, Rajagderan, & Zulkifly, 2018). Things that inspire online customers are: Accessibility of surveys, value points of interest, and item range. The anticipation of free shipping, best provisions presented by online stores, and comforts are what Malaysian consumers seek for (Khatibi, Haque, & Karim, 2006). Ultimately, this framework would look on one dominant online shopping website in Malaysia – Lazada.

2.2 Lazada

Numbers of web users who visited Lazada every month were roughly 30,300,000 people. Rocket Internet Company that based in Singapore launched Lazada in 2012. It’s an exclusive German e-commerce company. To utilize the online user marketplace place in Southeast Asia was the reason for launching Lazada Group (Calbeto, Abareshi, Sriratanaviriyakul, Nkhoma, Pittayachawan, & Ulhaq, 2017). Lazada also runs in Vietnam, Malaysia, Indonesia, Thailand, and Philippines. Lazada’s capital is raised via aggressive funding drives (Calbeto et al., 2017). Lazada sells things that originally from their stores only. This is to diversify its portfolio. In Malaysia, Lazada is the most commonly used e-commerce business site by the Malaysians (Fawzy, Sharuddin, Rajagderan, & Zulkifly, 2018).

2.3 Gender Differences in Impulsivity of Purchase Intention

2.3.1 Definition of impulsivity

The term ‘impulsivity’ has wide definition across medicine field (Carmen, Mihaly, & Leonard, 2016), marketing (Zhang, Prybutok, & Strutton, 2007), psychiatry (Cinti, Lastretti, & Pomilla, 2016), and psychology (Wolman, 1973). Impulsivity is one of the factor in consumer

decision making in traditional and online shopping. An impulse purchase decision is made due to sudden urge of appreciation of beauty of product and own desire for recreational purpose (Žnidersic et al., 2014). The deviation from rational purchase behavior is consider as impulse buying. Time used for impulsive decision making need only little in decision making (Hanna & Wozniak, 2001).

Spontaneous purchase behavior done without much thinking, normally in short of time (Rook, 1987). People bought item without habitual buying behavior. Impulsivity happens in gamblers (Takano, Takahashi, Tanaka, & Hironaka, 2010) and alcoholics (White, Marmorstein, Crews, Bates, Mun, & Loeber, 2011) too. In biological perspectives, people are high in impulsiveness when testosterone level is high ("Testosterone makes men more impulsive," 2017) and less dopamine in midbrain (Harmon, 2010).

Impulsiveness in DSM- V (2013) means the inclination to act quickly to immediate stimulus, without arranging one's very own behavior and without a detailed assessment of the conceivable outcomes of act, regardless of whether it has a negative nature. Impulsivity also act as personality trait (Patton, Stanford, Barratt, 1995). According to Dickman (1990), impulsivity is defined as acting without thinking carefully and unplanned.

Researcher has divided impulsivity into dysfunctional impulsivity and functional impulsivity (Dickman, 1990). Dysfunctional impulsivity is the inclination to act with less thinking than the majority people that have equivalent ability and the inclination is the source of trouble whereas functional impulsivity indicated the propensity to act with little thinking ahead when such propensity is ideal. Impulsivity can be caused by many factors occurring together, including biological. It is also associated with instant gratification (Logue, 1988), eating disorder

(Fessler, 2002), overbidding in competition (Sheremeta, 2016), aggression (Sara, Angela, & Matthew, 2008) and internet addiction (Cao, Su, Liu, & Gao, 2007).

In this study, impulsivity is defined as a behavior that occurs when consumers experience an unplanned, powerful and persistent urge to purchase something instantly as this is the usual definition of impulsivity in term of purchase intention in shopping behavior (Piron, 1991).

2.3.2 Theoretical framework of impulse buying

Impulsive buying behaviour model developed by Iram and Chacharkar (2017) has been used to explain this study. Impulsive buying behaviour model consisted of four stages: stimulation, urge handling ability, buying decision making, and impulse purchase buying. Stimulation stage consisted of marketers' dominance stimuli, point of purchase phenomenon, and situational factors. Marketers' dominance stimuli included the special offers or discounts from salesperson, and advertisements from media. Examples for point of purchase phenomenon are surprise offers, and attractive design of products. Situational factors included time, and special occasional needs. Au, Tse and Yip (1993) proposed desire of impulsive buying decreases as the time passed. The example of special occasional needs is the preparation of people towards certain festival could induce impulse purchase intention.

Second stage, the urge handling ability stated that consumers with low tension handling ability or low self-control tend to do impulse buying decision; customers who have no self-control tend to do compulsive buying behavior, while customers with high self-control tend to do normal buying behavior.

Customers who decide to make impulse purchase will enter stage four which is impulse purchase buying. The impulse purchase buying stages also involved four stages of process which

are exploration information, need stimulation, impulse purchase intention, and impulse purchase decision (Iram & Chacharkar, 2017). In first stage, shoppers explore themselves to information, identify 'solution' to fulfill their needs. Level of involvement, complexity of situation, risk, and capital involved determine the duration of time that spend on first stage. The second stage stated that customers will satisfy their needs according to their priorities, and choose which items to buy. It is not necessary that all needs of shoppers need to be fulfilled. The needs of shoppers from stage two will trigger them to enter stage three, they feel the urge to purchase products, this leads to impulse buying behavior online. The impulse purchase intention will only be eliminated after purchase the desired item. The last process is done when shoppers choose to purchase the item.

2.3.3 Conceptual framework of impulse buying

The focus of this research is on gender differences and impulsivity among UTAR students when extraversion, negative emotionality, and conscientiousness are controlled for. The conceptual framework for this research is shown in Figure 1.

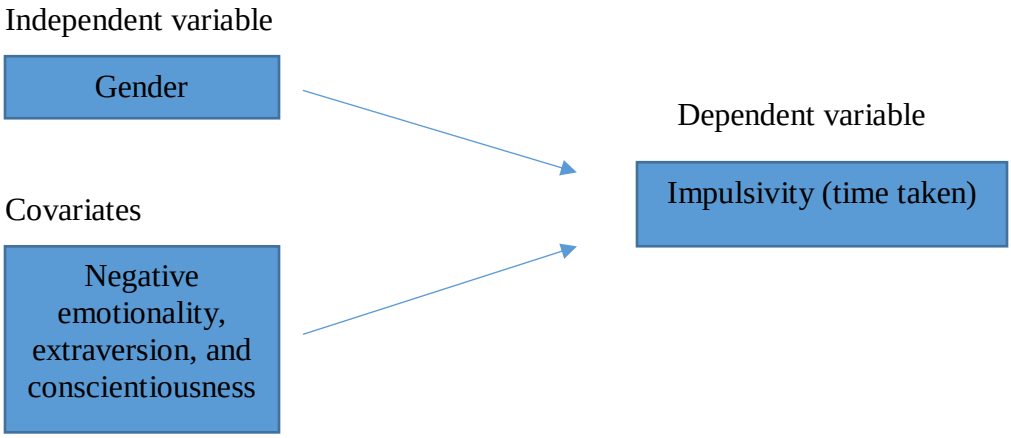

Figure 1. Conceptual model of the present study.

The proposed model hypothesized that there is a gender difference in impulsivity when the effect of negative emotionality, extraversion, and conscientiousness towards impulsivity are controlled for.

2.3.4 Gender and impulsivity

Males will choose to make fast purchase to prevent information overload in their brain while females like to take more time shopping, and this increased their satisfaction (Gasiorowska, 2011). In general, men were more motivated to shop online because they had less worries about privacy and security while shopping online (Garbarino & Strahilevitz 2004). Therefore, men tend to shop online more than women (Schwanen, Kwan, & Ren, 2014).

A study that done by using naturalistic observation design in university cafeteria on 232 college students in western country showed that male participants would be less particular and made decision more rapidly and proficiently, while female participants took more time in making choices and like to investigate potential outcomes in a circumstance. In other words, males made faster decision than females (Reiter, 2013). Males demonstrated higher time consciousness than female members. They would shop for garments where it saved time generally, and they were less likely to buy clothes in less convenient place (Seock & Bailey, 2008). This outcome proposed that men are more practical in their shopping disposition than ladies.

Female consumers usually planned before shopping, thus less impulsive, and buy things early while online before any big occasion. In contrast, men tend to do online shopping in fewer duration before the Christmas holidays. They tend to shop impulsively to satisfy their purchasing needs (Morahan-Martin & Schumacher, 2001).

Next, a positive relationship was examined between internet consumer impulsivity and purchase intention. This shows that more impulsive shoppers tend to make more number of purchases while online (Zhang, Prybutok, & Strutton, 2007). When a client takes purchasing items at a short time, it is generally activated by feelings and sentiments. Rush purchasing implies making a spontaneous buy.

Males had higher time consciousness than females since they focused more on convenience. Males tend to shop immediate needs compared to females who made purchases based on future needs (Lewis, n.d.). Females would buy grocery for next week or a dress for upcoming wedding dinner while males only shop when they need something now. Hence, a study showed that males were unlikely to consider that e-commerce was useful for them to make purchase when compared to females (Chiu, Lin, & Tang, 2005) as they only made purchase to fulfil their current needs and wants.

2.4 Personality Traits and Impulsivity

Personality trait was defined as an enduring temperaments that continue and stay relatively stable over time (Bleidorn, Hopwood, & Lucas, 2016). The Big Five Personality model has been widely used as a conventional framework of personality traits.

2.4.1 Conscientiousness and impulsivity

A research study that aimed to explore the correlation between personality traits and impulsivity, recruited 804 participants from majority Chinese culture setting for its study. The result showed conscientiousness was negatively associated with impulsivity, while negative emotionality, and extraversion were positively associated with impulsivity (Mao, Pan, Zhu, Yang, Dong, & Zhou, 2018). A study by Luo, Cai, and Chen (2014) on the relationship between

impulsivity and conscientiousness discovered that there was no significant relationship between the two variables. This study was conducted in order to investigate the impulsivity characteristics and its relationship with criminals' personality that resulted to 41 prisoners, and 21 normal subjects were recruited.

However, a significant negative relationship between both variables was discovered by a study from Lange, Wagner, Muller, and Eggert (2017). This finding was consistent with a research done by Hair and Hampson (2006) that was conducted among female undergraduate students. Consumers who scored high in conscientiousness were likely to do planning prior to shopping. Thus, that explains why it was found that conscientiousness was negatively correlated to impulsivity. Conscientiousness people tend to be more risk averse and form long term relationship since they have the tendencies to be self-controlled responsibility, hardworking, dependability, and achievement (Roberts, Jackson, Fayard, Edmonds & Meint, 2009). It also includes the features such as higher level of thoughtfulness, goal-directed behaviours, and good impulse control.

People who scored high in conscientiousness were more likely to be organized and mindful of details, and also increase the possibility of people to indulge in impulsive buying behaviours. However, individual with lower score for this traits was more likely to be distracted from the tasks given and tend to be less focused. Verplanken and Herabadi (2001) found out that impulsive buying behaviour was negative correlated to the trait of conscientiousness. It validates with the findings by Donelly, Iyer and Howell (2012) that conscientious people indeed to be more planned and low on impulsive buying behaviour.

2.4.2 Extraversion and impulsivity

Furthermore, relationship between extraversion and impulsivity also was studied and findings showed that no significant relationship found between both variables (Luo et al., 2014; Russo, Leone, Penolazzi, & Natale, 2012). However, this is not in line with several studies as they found that there was a positive relationship between both variables (Badgaiyan & Verma, 2014; Bratko, Butkovic, & Bosnjak, 2013). Extrovert consumers were usually being signified as those who find saving money tough for them. They were more attracted to smaller but instant rewards, and that was why they were more prone to have impulsive spending when shopping.

Based on Badgaiyan and Verma (2014), individuals score higher for the trait of extraversion would have an energetic approach to the social world. They tend to be active and more likely to experience positive emotions. Their tendency of risk taking was consistent with the tendency to pursue excitement and uncertainty preferences (Chen, 2011). Besides that, probability for high score extravert to engage in impulsive buying was higher than those individuals with lower score of extraversion as they may have uncertainty preference and higher tendency of risk taking (Badgaiyan &Verma, 2014).

Study done by Larson and Sachau (2008) stated that individuals who were extrovert were more likely to be active, assertive, ambitious, and dominant and stay positive in their life. The probability of extraverts engaging in impulsive buying was higher than those who scored low in this traits. There was high amounts of emotional expressiveness counts for an extrovert. This personality trait was positively related with impulsive buying behaviours (Shahjehan, Zeb & Saifullah, 2012).

2.4.3 Negative emotionality and impulsivity

Besides that, correlation between neuroticism and impulsivity also have been studied extensively by researchers, and it was found that there was a significant positive association between them (Bratko et al., 2013; Herabadi, 2003). This result is also supported by a study by Shahjehan et al. (2012) that discovered neuroticism was positively correlated with impulsivity. Neuroticism people were commonly known as those with unstable emotion. They get frustrated, moody, and anxious easily. Hence, that is why consumers with high neuroticism were inclined to shop impulsively because they perceived shopping as a momentary way for them to overcome the distress.

According to study by McCrae and Costa (2008), individual who scored high on neuroticism trait was tend to be emotional instability, while individuals with lower scores on this personality trait were tend to be more relaxed. For cognitive dimension, emotional instability (neuroticism) was positively correlated with impulsive buying (Shahjehan, Qureshi, Zeb & Saifullah, 2011). Individuals who experienced emotional instability, sadness, and anxiety were more likely to show impulsive buying behaviours. Emotion instability such as feeling of irritability or distress may also stimulate the impulsive buying behaviour which able to make people to feel better. Besides that, Huang and Hsieh (2011) mentioned that emotions could relate to one's behavioral outcome. For instance, research study by Youn and Faber (2000) showed that individual may relieve depression or cheer himself or herself up by making impulsive buying. Past study also stated that females and individuals scored higher on extraversion and emotional instability tend to engage more on impulsive buying behaviours. Research by Silvera, Lavack and Kropp (2008) believed that emotional instability was positively related to impulsive buying behavior and yet emotional stability would be negatively related to it.

2.5 Gender Differences in Personality

A research indicated that female's perceptions towards the characteristic of online shopping were less favourable than males (Slyke, Comunale & Belanger, 2002). This situation is more likely similar with the result that showed males scored higher than females in traits of openness (Costa, Terracciano, & McCrae, 2001). Openness has a relation to openness and people with high openness tend to pursue new activities or experience.

Individuals who were highly extraverted were expected to engage in shopping online as shoppers could share or get information and other shopping experiences for that products (Wolfinbarger & Gilly, 2001). Uncertainties of consumers could be reduced if there was enough physical contact with the products. The research found that females had a lower mean value for sense the easiness of making purchase through online as compared to males. Clarity of products' information, guarantee of delivery, ease of navigating websites, and reputation or rating of the company itself were significantly affect the online shopping behaviour of consumers (Venkatesh & Agarwal, 2006). Previous findings found that females scored higher than males in neuroticism. Neurotic people tend to shop online as buyers had more freedom to control over the transactions (Huang &Yang, 2010). People also could avoid social interaction with others and away from crowded environments. Therefore, according to Lewis (n.d.), females tend to invest more time and energy to search information, and compare the products. Females prioritised their purchases associated with shipping method, source, and cost of the products (Seock & Bailey, 2008).

Females tend to score higher than males in the aspects of agreeableness. Costa et al. (2001) found out that females scored higher than males, and this was consistent with previous study that showed females were more trusting than males. Hereby, females influenced by brand power and they would stick to a certain brand forever.

Study by Costa et al. (2001) mentioned that females scored higher than males in conscientiousness. Hence, results followed by price consciousness for both genders. Females purchased more through online than males as online shopping provided a more conducive environment to customers in terms of price and product comparison as females replace the in-store purchasing with shop online.

CHAPTER 3 METHODOLOGY

3.1 Research Design

A quasi-experiment, natural groups design was used. The venue was one of the psychology labs with desktop computers at the Department of Psychology and Counselling. The basic setting of the experimental room consisted of tables, chairs, internet access, and computers. A between-subjects study design was adopted, with gender (male and female groups) as independent variable; impulsivity was measured in terms of time taken to add items to cart as dependent variable. Extraversion, negative emotionality, and conscientiousness were covariates. Experimental and online survey method were employed to collect and gather data in this study.

3.2 Participants

The highest number of sample size for current research was calculated by using G power (refer to Appendix A, p.66) (Faul, Erdfelder, Buchner, & Lang., 2009). 84 students were needed for experiment and 86 students participated in this study. There were same number of male (43; 50.0%) and female (43; 50.0%) participants. The 86 participants were selected based on purposive sampling. Their age ranged from 19 – 26 years old and the mean age of the participants was 21.4 years. The targeted participants were Universiti Tunku Abdul Rahman (UTAR) students as majority of them were Chinese (Carmen, 2018). The rationale behind this was supported by a descriptive online shopping study from Malaysia, showed that Chinese university students have highest percentage (47.1%) than other ethnic groups, even though Malay ethnic group had about 252 participants participated out of 360 total participants (Chua, Khatibi, & Hishamuddin, 2006).

Inclusion criteria to recruit participant were Chinese, university students, familiar with Lazada, not in rush, and willing to sign up the experiment voluntarily. Prescreening items such as

"Are you a UTAR student?", "Do you have at least one hour to spare before your next class?", and etc. were also included in the consent form to reassure eligibility of participants. The one who self-reported themselves with more than or equal to 5, and fulfilled the criteria that were set, were included in data analysis (Refer to Appendix B, p.67). The exclusion criteria were non-UTARians, non-Chinese, no relevant shopping experience with Lazada, and those who were in a hurry. All respondents had been informed consent, and agreed to take part in the survey voluntarily.

3.3 Materials

3.3.1 Debut video capture software

Debut Video Capture Software, free screen recorder that showed no watermark on the desktop computers' screen was used to record the process and time of participants put the item in the cart in the study. Duration of participants to complete Task A was also recorded by using stopwatch. Experimenters went to observation room after briefed to participants, and used the stopwatch according to what stated in next subtopic while observed the participants.

3.3.2 Wireless remote control doorbell

Wireless remote control doorbell was used, participants could press the button once they were done with the experiment. It was placed on the table in the middle of room where participants could reach the button within one arm distance.

3.3.3 Lazada

Lazada website was the only official website that used in the study. It included the search column for participants to search for their items, and shopping cart that allowed participants to put specific items in it. There was a list that showed types of items available at the left side of the

website, the common theme or promotions occupied the middle of website, and as they scrolled down the website, it included most popular items, LazMall, ‘flash sell’, global collection, and ‘just for you’ categories. The screenshot of Lazada website has shown in Figure 2.

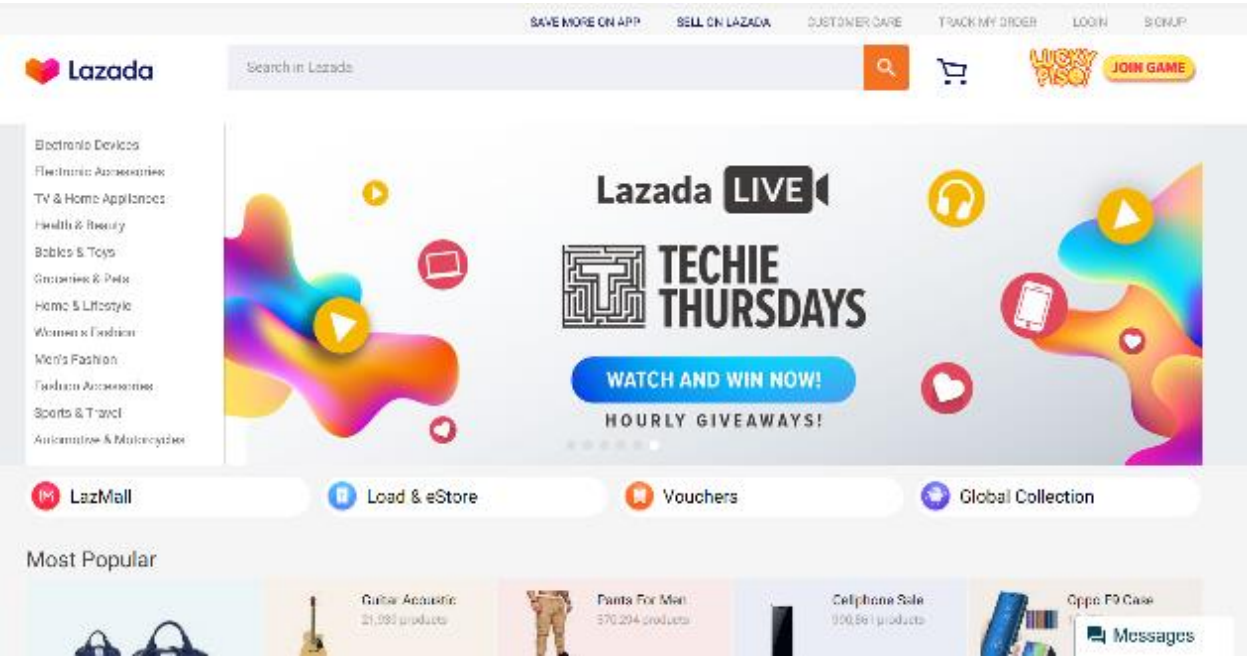

Figure 2. Screenshot of Lazada website.

3.4 Measurements

Big Five Inventory-2 (BFI-2). Conscientiousness, negative emotionality, and extraversion were measured with 36-item of BFI-2 (Soto & John, 2017). Permission was granted for research. There were 30 reversed-keyed items in this scale. The scale was scored using 5-point Likert scale, ranging from disagree strongly to agree strongly. Sample items were “I am someone who is outgoing, sociable” for extraversion, “I am someone who tends to be disorganized” for conscientiousness, and “I am someone who is relaxed, handles stress well” for negative emotionality. BFI-2 has strong internal consistency (Cronbach’s $\alpha = .85 — .90$), retest reliability,

ranged from .76 till .84 in student sample and adequate construct validity (Soto & John, 2017). Higher score in each subscale indicates higher the degree someone shows the trait.

Impulsivity of purchase intention. Impulsivity was measured by the mean time taken for participants to complete the Task A. Time taken as impulsivity measurement was supported by a study that used time taken to measure impulse purchase buying (Reiter, 2013). The shorter the time in shopping, the more impulsive the individual is. The duration taken by using stopwatch started when participants clicked the login button in Lazada website and stopped when participants pressed the button. Meanwhile, the duration taken by using screen recorder started when participants clicked the login button in Lazada website and stopped when mouse arrow didn't move for 3 seconds. The duration taken by using screen recorder and the duration taken by using stopwatch were calculated based on the differences between end time and start time. International System of Units (SI) of time, second was used. The mean time taken for participants to complete Task A was calculated based on the two time taken that calculated.

3.5 Questionnaire

The questionnaire used consisted of two sections which included demographic information (6 items), and Big Five Inventory-2 (BFI-2; Soto & John, 2017) (36 items). The demographic questions included were: age, gender, race, name of university, year of study, and student ID. There were total of 42 items in this questionnaire and it took about 10 minutes for participants to finish answer all the items.

3.6 Procedure

Before the experiment started, website quality and familiarity of participants towards certain e-commerce's website were controlled for by the use of Lazada website only in the study.

Internet speed was controlled for by connecting computers to similar network. Hawthorne effect was controlled for by allowing participants to carry out the task themselves without the presence of experimenters. No time limit was set for this experiment, and participants had to have at least one hour to spare before their next class, this was to increase the accuracy of result for impulsivity. Three personal Lazada accounts were created for participants to login to ensure no overlapping of participants in using the same account.

Participants were recruited through face-to-face and virtual invitation. For face-to-face approach, prescreening was done by asking respondents about their familiarity with Lazada and availability of time orally. Those who were eligible and interested with the study were brought to the psychology lab by experimenter in UTAR. For online approach, prescreening was done by creating a Facebook post that stated list of criteria of wanted participants, a sign up link, and acknowledgement of token of appreciation were mentioned. It was then shared to Facebook groups which were UTAR Bachelor of Social Science (HONS) Psychology, and UTAR Kampar group.

Participants were welcomed upon arrived, and agreed to complete and read the printed consent form and descriptions of Task A (Refer to Appendix C, p.69) given by experimenter. Next, they were briefed about the general aim of study: - gender differences in online shopping behavior, details of what they need to do for task A and B, and acknowledgment of token of appreciation. There were two tasks that participants had to complete without the presence of experimenters in the room.

In Task A, they were logged in to the Lazada account that stated in the paper. Next, they were asked to search for three specific items, water bottle, bag pack for school, and a stationery,

and added them in the cart (i.e. the planned purchase item). The rationale of choosing those items was due to no gender preferences imposed on the items, they were 'neutral' and had no limitation of choices for particular gender in this case. They could also put other items that they would like to buy as long as it did not exceed the amount of money (RM120) that was set by experimenters. The limited money, RM120 was set based on the total median price of each planned item in Lazada. Participants were required to press the button once they were done. Experimenters stayed behind the observational mirror to record the time taken when participants executing task A.

Experimenters helped participants enter Qualtrics Online Survey website after they were done with Task A. They were guided to the information sheet and informed consent page before answer the online questionnaire (Refer to Appendix D, p.70). If they encountered any doubts regarding task A and B, they could press the button for the experimenter to approach them. Participants were debriefed about the experiment after answered the survey. Anticipate effect was reduced as participants could only know about the screen recorder in computer and their time taken for Task A during the debriefing session, which was conducted right after the experiment (Refer content of debriefing to Appendix E, p.72).

The screen recording were deleted if participants requested for. Token of appreciation was given after the debriefing session. They were need to fill up a token of appreciation form to indicate that they had already received the money. Participants were thanked. Results were collected for further analysis. The brief version of overall process of the experiment has shown in Figure 3.

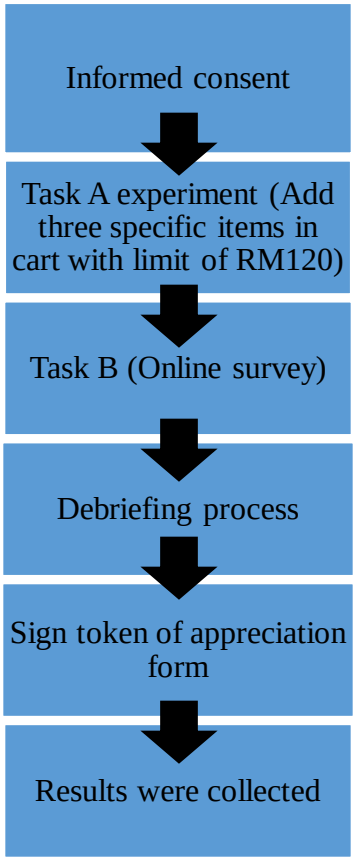

Figure 3. The overall process of experiment.

CHAPTER 4 RESULTS

This study examined the gender differences in impulsivity, when conscientiousness, negative emotionality, and extraversion were controlled for. Data cleaning was done before ANCOVA was performed. There were five missing values in the data and it has been removed by using missing value analysis. A total of 86 samples were involved in the final results. Data had been checked twice to ensure they were coded and keyed in correctly. Reverse-score items were recoded before conducted ANCOVA. There were few outliers but none of them were deleted, due to possibility of random variation of data according to a study by Rousseeuw and Hubert (2011).

4.1 Gender and Impulsivity

4.1.1 Gender and time taken

Assumptions of normality were violated so time taken were square-rooted. Normality of data was supported by P-P plot, histogram, kurtosis and skewness after square-rooted (Refer to Appendix F, p.73). Skewness and kurtosis values of all variables were within acceptable range (±2). Levene's test was used to test the homogeneity of variance of gender differences in time taken. Results of Levene's test shown non-significant, the variances were equal for both male participants and female participants and time taken, F (1, 84) = 0.37, p = .54.

Assumptions for valid independent-samples-t test were fulfilled. Result of independent-samples-t test shown that male participants (M = 26.71, SD = 8.40) and female participants (M = 31.10, SD = 9.34) differ significantly on time taken, t (84) = -2.29, p = .03, d= .49. Time taken for female participants were higher than time taken for male participants. The effect size's result indicated small effect size according to Cohen's d statistics. There was significant gender

differences in number of time taken.

4.2 Gender, Impulsivity, and Extraversion

4.2.1 Gender, time taken, and extraversion

Assumptions of normality were violated so time taken and extraversion were log-transformed. Normality of data was supported by P-P plot, histogram, kurtosis and skewness after log transformation (Refer to Appendix G, p.76). Skewness and kurtosis values of all variables were within acceptable range (±2).

Levene's test was used to test the homogeneity of variance of people high in extraversion and low extraversion in time taken. Results of Levene's test shown non-significant, the variances were equal for both extraversion and time taken, F (1, 84) = 1.73, p = .19. Result of independent-samples t-test showed that people with high level of extraversion (M = 2.86, SD = 0.30) and people with low level of extraversion (M = 2.94, SD = 0.20) did not differ significantly on total time taken in purchase item, t (84) = 0.94, p = .35, d= .31. The effect size result indicated small effect size according to Cohen's d statistics. There was no significant difference in impulsivity between people with high extraversion and people with low extraversion statistically, thus extraversion can be used as a covariate. The basic ANCOVA assumption of the independence of observations was met.

Linearity was tested by using scatterplot, the assumption of linearity also met as extraversion has a linear relationship with the impulsivity, there was no multicollinearity issue based on graph (Refer to Appendix G, p.79). The assumption of homoscedasticity, which was tested using Levene's Test, shown non- significant result, error variance of the time taken is equal across groups, F (1, 84) = 0.08, p = .77. The assumption was also fulfilled.

Furthermore, the assumption of the homogeneity of regression slopes was met as the test show non-significant, the regression line between extraversion, gender and time taken were almost the same, which were parallel with each other but not overlap F (2, 84) = 2.55, p = .08, η^2= .058. The effect size's result indicated small effect size. 5.8% variance in time taken was accounted for by gender and extraversion.

A between-subjects one-way ANCOVA was conducted with total time taken as the dependent variable and gender as the independent variable. When extraversion was controlled for, gender had significant effect on time taken (F (1, 84) = 4.82, p = .03, η^2=.055). The effect size's result indicated small effect size. 5.5% variance in time taken was accounted for by gender. When extraversion was not controlled for, gender still had significant effect on time taken (F (1, 84) = 4.97, p = .03. η^2= .056). The significant results showed that time taken was influenced by gender, the amount of variation accounted for by the model has increased to 0.405 unit of which extraversion accounts for 0.22 unit.

The results supported the hypothesis that time taken shown significant difference between male participants and female participants, when extraversion was controlled for. F value when extraversion was not controlled for was higher than F value when extraversion was controlled for, indicated extraversion was not an effective covariate.

4.2.2 Gender, time taken, and negative emotionality

Assumptions of normality were violated so time taken and negative emotionality were log-transformed. Normality of data was supported by P-P plot, histogram, kurtosis and skewness after log transformation (Refer to Appendix H, p.82). Skewness and kurtosis values of all variables were within acceptable range (±2).

Levene's test was used to test the homogeneity of variance of people high in negative emotionality and low negative emotionality in time taken. Results of Levene's test shown non-significant, the variances were equal for both negative emotionality and time taken, F (1, 84) = 0.87, p = .36. Result of independent-samples t-test show that people with high level of negative emotionality (M = 2.86, SD = 0.26) and people with low level of negative emotionality (M = 2.91, SD = 0.34) did not differ significantly on total time taken in purchase item, t (84) = 0.73, p = .47, d= .17. The effect size was trivial according to Cohen d statistics. Mean total time taken for people with low negative emotionality were slightly higher than mean total time taken for people with high negative emotionality. There was no significant difference in time taken between people with high negative emotionality and people with low negative emotionality, thus negative emotionality can be used as a covariate. The basic ANCOVA assumption of the independence of observations was met.

Linearity was tested by using scatterplot, the assumption of linearity also met as negative emotionality has a linear relationship with the impulsivity, there was no multicollinearity issue based on graph (Refer to Appendix H, p.85).. The assumption of homoscedasticity, which was tested using Levene's Test, shown non- significant result, error variance of the time taken is equal across groups, F (1, 84) = 0.03, p = .87.

Furthermore, the assumption of the homogeneity of regression slopes was met as the test show non-significant, the regression line between negative emotionality and time taken are almost the same, which were parallel with each other but not overlap F (2, 84) = 2.74, p= .07, η^2= .062. The effect size's result indicated medium effect size. 6.2% variance in time taken was accounted for by gender and negative emotionality.

When ANCOVA was conducted and negative emotionality was controlled for, gender had significant effect on impulsivity (F (1, 84) = 4.94, p = .03, η^2= .056). The effect size's result indicated small effect size. 5.6% variance in time taken is accounted for by gender. When negative emotionality was not controlled for, gender still had significant effect on impulsivity (F (1, 84) = 4.97, p = .03. η^2= .056). The significant results shown that impulsivity was influenced by gender, the amount of variation accounted for by the model has increased to 0.386 unit of which negative emotionality accounts for 0.003 unit.

The results supported the hypothesis that time taken shown significant difference between male participants and female participants, when negative emotionality was controlled for. F value when negative emotionality was not controlled for was higher than F value when negative emotionality was controlled for, indicated negative emotionality was not an effective covariate.

4.2.3 Gender, time taken, and conscientiousness

Assumptions of normality were violated so time taken and conscientiousness were log-transformed. Normality of data was supported by P-P plot, histogram, kurtosis and skewness after log transformation (Refer to Appendix I, p.88). Skewness and kurtosis values of all variables were within acceptable range (±2).

Levene's test was used to test the homogeneity of variance of people high in conscientiousness and low conscientiousness in time taken. Results of Levene's test shown non-significant, the variances were equal for both conscientiousness and time taken, F (1, 84) = 0.02, p = .89. Result of independent-samples t-test showed that people with high level of conscientiousness (M = 2.88, SD = 0.28) and people with low level of conscientiousness (M =

2.84, *SD* = 0.30) did not differ significantly on total time taken in purchase item, *t* (84) = -0.45, *p* = .66, *d*= .14. The effect size was trivial according to Cohen d statistics. Mean total time taken for people with high conscientiousness were slightly higher than mean total time taken for people with low conscientiousness. There was no significant difference in impulsivity between people with high conscientiousness and people with low conscientiousness, thus conscientiousness can be used as a covariate. The basic ANCOVA assumption of the independence of observations was met.

Linearity was tested by using scatterplot, the assumption of linearity also met as conscientiousness had a linear relationship with the time taken, there was no multicollinearity issue based on graph (Refer to Appendix I, p.91). The assumption of homoscedasticity, which was tested using Levene's Test, shown non- significant result, error variance of the time taken is equal across groups, *F* (1, 84) = 0.02, *p* = .88.

Furthermore, the assumption of the homogeneity of regression slopes was met as the test show non-significant, conscientiousness and time taken are almost the same, which were parallel with each other but not overlap *F* (2, 84) = 2.74, *p* = .07, η^2.= .062. The effect size's result indicated medium effect size. 6.2% variance in time taken was accounted for by gender and conscientiousness.

For ANCOVA test, when conscientiousness was controlled for, gender had significant effect on impulsivity (*F* (1, 84) = 5.43, *p* = .02, η^2= .061). The effect size's result indicated medium effect size. 6.1% variance in time taken was accounted for by gender. When conscientiousness was not controlled for, gender still had significant effect on impulsivity (*F* (1, 84) = 4.97, *p* = .03, η^2=.056). The significance results shown that time taken was influenced by

gender, the amount of variation accounted for by the model has increased to 0.461 unit of which conscientiousness accounts for 0.079 unit.

The results supported the hypothesis that time taken shown significant difference between male participants and female participants, when conscientiousness was controlled for. F value when conscientiousness was controlled for was higher than F value when conscientiousness was not controlled for, indicated conscientiousness was an effective covariate.

4.3 Additional Analysis

4.3.1 Gender and number of unplanned purchased items

Assumptions of normality were violated so number of unplanned purchased items were square-rooted. Normality of data was supported by P-P plot, Q-Q plot, kurtosis and skewness after square-rooted (Refer to Appendix J, p.94). Skewness and kurtosis values of all variables were within acceptable range (±2). Levene's test was used to test the homogeneity of variance of gender differences in number of unplanned purchased items. Results of Levene's test shown non-significant, the variances were equal for both male participants and female participants and number of unplanned purchased items, F (1, 84) = 0.26, p = .61. Assumptions for valid independent-samples-t test were fulfilled.

Result of independent-samples-t test shown that male participants (M = 0.90, SD = 0.74) and female participants (M = 0.75, SD = 0.66) did not differ significantly on number of purchase unplanned items, t (84) = 1.03, p = .30, d= .21. Number of purchase unplanned items for male participants were slightly higher than number of purchase unplanned items for female participants. The effect size's result indicated small effect size according to Cohen's d statistics. There was no significant gender differences in number of unplanned purchase items.

4.3.2 Time taken and number of unplanned purchased items

Assumptions of normality were violated so number of unplanned purchased items and time taken were square-rooted. Normality of data was supported by Q-Q plot, P-P plot, kurtosis and skewness after square-rooted (Refer to Appendix K, p.97). Skewness and kurtosis values of all variables were within acceptable range (±2). Levene's test is used to test the homogeneity of variance between time taken and number of unplanned purchased items. Results of Levene's test shown non-significant. The variances were equal for both variables, F (1, 84) = 2.03, p= .16.

Pearson Product Moment Correlation was used to examine the linear relationship between time taken and number of unplanned purchased items. There was a positive and weak relationship between time taken and number of unplanned purchased items, r (86) = .27, p= .01 according to Cohen's Rule of Thumb (Cohen, S. 1988). There was a significant correlation between time taken and number of unplanned purchased items.

In overall, there was significant differences between gender and time taken but not number of unplanned purchased item. Male participants tend to be more impulsive than female participants as they spent shorter time in online shopping. There were significant differences between gender differences and time taken when extraversion, conscientiousness, negative emotionality were controlled. Extraversion and negative emotionality were not effective covariates while conscientiousness was an effective covariate. There was a significant correlation between time taken and number of unplanned purchase items.

CHAPTER 5 DISCUSSION

5.1 Gender and Time Taken

It is found that there is a significant difference between gender and impulsivity. Male participants showed higher impulsivity in online shopping as compared to female participants. Hence, null hypothesis is rejected. Even though it was found that the time taken is significantly correlated with the unplanned purchase item, however, the relationship between gender and unplanned purchase item was discovered to be not significant. This is because of how bias most of the online shopping websites are. There is this generalization that women have greater tendency to carry out unplanned shopping behavior more than men. It is because of external factor, such as the online shopping website. The online shopping website has been tailored to market items to women more, making women more prone to be influenced by it than men. So to say that gender and unplanned purchase item is significant to each other is not relevant in the sense that it's bias to one gender.

Male participants spent shorter time than female participants when doing online shopping, and interestingly in average male participants bought two extra items impulsively besides what was listed in the list of must-purchase-items, while female participants in average bought one extra item. This sugests that male participants do have higher impulsivity compared to female participants. This finding is aligned with a study by Weinstein and Dannon (2015) that found men to be more impulsive in buying things than women. This is because, males want to prevent an overload of information in their brain, thus, they purchase things quickly and impulsively (Gasiorowska, 2011). Besides that, males are more impulsive in shopping because it was found that males make faster decision than female (Reiter, 2013), and spend shorter time when shopping (Hu & Jasper, 2004). According to Reiter (2013) who conducted an experimental study

among 232 college students, he discovered that male students were being less particular when buying things, and they made decisions more quickly and proficiently. Meanwhile, female students utilized more time in making choices, as they are likely to investigate potential outcomes in a circumstance beforehand. This has been supported by a research study from Morahan-Martin and Schumacher (2001). Morahan-Martin and colleagues (2001) who did a research to know more about the consumers' behaviors found out that men tend to do online shopping last minute, and they tend to shop impulsively to satisfy their purchasing needs. Unlike the female consumers, they shopped early and planned beforehand.

5.2 Gender and Time Taken When Extraversion is Controlled For

According to the results of this study, extraversion was not an effective covariate. This is because online shopping was differ from the real shopping setting where the extroverts buyers can meet, engage, and socialize with many other buyers, sellers, and even retailers when buying things in the hypermarket. Online shopping requires them to stay put at one place and scroll the online shopping website. This somehow has restricted the extrovert buyers' energetic actions or behaviors to socialize with others. It was found that when extroverts are asked to stay put at one place for certain period of time, they would feel unhappy and feeling blue about it (Dembling, 2013). This could actually affect their positivity that they have in themselves, thus, hinder them from being open, craze to discover novel things, and engage in impulsive buying. This could give an inconsistent result of impulsivity. Hence, extraversion is not a good predictor or covariate of impulsivity for the context of online shopping.

5.3 Gender and Time Taken when Negative Emotionality Is Controlled For

The results also showed that negative emotionality is not a good covariate of impulsivity. Buyers with negative emotionality are easily experience hostile emotions like anger, nervousness,

gloominess, and vulnerability (Udo-Imeh, 2015). Udo-Imeh also discovered that negative emotionality or emotional instability had the least influence on buyers' impulsive buying. This is because, there are so many external factors that could easily trigger the negative emotion of the negative emotionality buyers when they are shopping as they are easily vulnerable to unpleasant emotions. This can actually affect the results of the study as those external factors influence buyers' negative emotionality, hence impact theirs impulse buying behavior. So, researchers cannot get a direct influence from negative emotionality and buyers' impulsivity. Buying things online does have triggering factors that could influence the negative emotions of the buyers. This has been supported by Kumar (2013), that found, there are several external factors that influenced buyers and triggered their impulse buying. External factors are like the brightness of the light, temperature, environment, and layout of the place (Khawaja, 2018). Since there are many possible external factors that could be the confounding variables when measuring negative emotionality of a buyer and theirs impulsivity, hence, this explains why negative emotionality is not an effective predictor of impulsivity.

5.4 Gender and Time Taken when Conscientiousness Is Controlled For

This study discovered that conscientiousness is a good covariate of impulsivity. Impulsive buying happens because of the incapability to control the urge to purchase, and there's a difference in the level and strength of this loss of control. Impulsive in online shopping is categorized as a lower level of impulsive buying behaviour, while for compulsive case, it is considered higher level as it is more irresistible and severe (Žnidersic et al,, 2014).

Hence, it was found that only the existence of conscientiousness is needed in a buyer's personality when measuring the lower level of impulsive buying behavior (Shahjehan & Qureshi, 2019). Nevertheless, conscientiousness is also a trait that complements for the medium and

higher level. This signifies the importance and significance of conscientiousness in playing its role as a predictor of impulsivity.

5.5 Strengths and Implications

This present study able to fill the literature gap in Malaysian context since there are lack of research studies for this topic that can be found in Malaysian context. Since most of the research studies are from western culture, so it may be varying from the culture of Malaysian and thus the result may show to be different in the impulsivity of online shopping purchase intention. Besides, this study also can be the representative for Malaysian context and as a reference for future researchers who are interested in this area of study. For instance, Malaysia tends to have promotion like double 11, double 12 and also holidays sales such as Chinese New Year sales and Hari Raya sales. Likewise, western countries have Boxing Day, black Friday or four seasonal sales.

The present study has generated practical implications to the society. One of the implications is that it helps every individual to understand how personality traits effect on the impulsivity of online shopping purchase intention. By this research study, salespersons able to sell and market their products and services more effectively and efficiently. They also able to target their customers more accurately. Other than that, marketers or retailers can attract new customers and maintain existing customers through their online shopping website. Retailers can organize sales activities as it can improve the visibility of the brands or organizations and also able to reach to a bigger customer base (Long, 1997). Throughout this study, they will be more understand on customers' needs and wants and also how customers' personality related to their buying intention. The advantages of the present study enable e-retailers to be benefited from the website as a communication channel with the customers. Website serve as a communication

channel between retailers and customers (Kiang, Raghu, & Shang, 2000). Customers' convenience on accessing, communicating or searching the detail information for the products and services is important. For instance, the design of a shopping website and online promotion may be able to influence one's purchase intention. Next, consumers also benefitted by the present study where they can recognize their personality well so they able to keep themselves away from impulsive purchase behavior and control their spending amount.

For theoretical implications, the present research study with new method and new research design fills up some literature gap by conducting a quasi-experiment study for the interest topic among undergraduate students in Malaysia. The present study is difference with past studies where it is a new design that related to the impulsivity of time. Previous study measure impulsivity by using impulsive scale such as study by Park, Kim, Funches and Foxx (2012) modify existing scales into seven items measure e-impulse buying or experiment in terms of impulsivity of mental disorders or animal experiment. Quasi-experiment study that conducted in the present study had minimized the internal validity such as selection by setting several criteria for participants and control for the room situation. Research study on gender differences in impulsivity of online shopping purchase intention is still insufficient and research study regarding the relationship between impulsivity and personality is limited in either Malaysian context or Western context. Moreover, Necessary Condition Analysis (NCA) is necessary for future researchers to adopt in their research study. NCA is a new data analysis technique that identify necessary but not sufficient conditions in data sets. A critical factor of an outcome is necessary condition. Hence, outcome will not be occurred if the condition is not in place. Every single necessary condition should be in place in order to prevent failure.

5.6 Limitations and Future Directions

Future research can be carried out to further evaluate other factor such as ethnic groups and socioeconomic status (SES) that may be significant in the Malaysian context. Future researchers are suggested to recruit participants from other ethnicity or as well as socioeconomic status in order to avoid unrepresentative data and biased results to the population. Other than that, this research study is expected to contribute to a knowledge system by creating a model which includes emotional, cognitive and personal factors that related to impulsive buying. A comparative study on measuring the existing significant differences between cultures can be conducted in future by using necessary methods such as qualitative method. This study also can be repeated in multiple samples instead of only focus on university students, such as employers or workers. It will provide a better understanding on the dynamics of the relationship between personality and impulse purchasing. Impulsive scale such as Barratt impulsiveness scale that design for assessing personality or behavioural construct of impulsiveness (Steinberg et al., 2013) can be used to measure impulsivity in future research study.

One of the most significant limitation of this study is stability of internet connection is faster at night than during the day. It will influence the time taken measured for online shopping. The measurements of impulsivity are being used by this study are the number of unplanned item and the time taken of shopping online. The limitation of quasi-experiment study is internal validity as the participants for the present study is not randomized but convenience sampling. Random assign of participants is not done in the experiment for present study. Other limitation of the study is the focus of sample which comes from a specific group of consumers that is university students and it cannot be a claim for broader generalization. Nevertheless, the sample of current research study can be used to demonstrate how to use necessary condition analysis

(NCA) to meet the need for theoretical modeling based on necessity which is replicated using different samples in order to improve the generalizability.

In addition, peer pressure does influence the results of participants indirectly throughout this research. Result of current study can be difference as the psychology state of participants cannot be control and their state of mood also cannot be measured. Next, despite the present of doorbell, participants feel like they are being observed so they tend to be suit themselves to the situations. Due to money constraints, a better choice of sound reminder equipment which participants will press and indicate that they are done for the experiment is could not be found.

5.7 Conclusion

In conclusion, the present study had achieved the objectives to examine the gender effect in impulsivity of purchase intention in e-commerce when three personality traits (negative emotionality, extraversion and conscientiousness) are controlled. For the results obtained showed that there is a significant difference where males participants tend to be higher in impulsivity compare to females. Female participants use longer time than male when doing shopping online. Strongly suggest that male participants here are more impulsive that female participants. Besides, result of this study also indicated that personality traits are significant correlated towards impulsivity. Extraversion and negative emotion are positively correlated to impulsive online purchase, but conscientiousness is correlated negatively to impulsivity. Hence, buyers who are low conscientiousness, more extroversion and more negative emotion cause his or her to be more impulsive in online purchasing.

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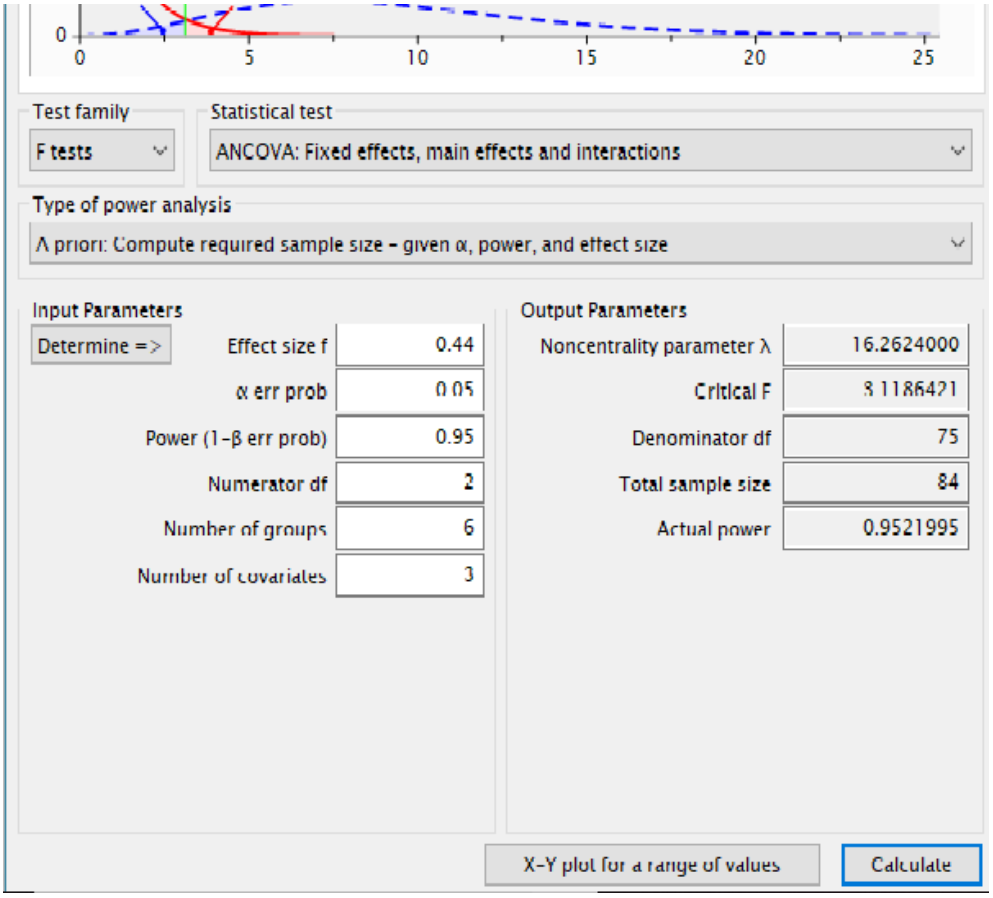
APPENDIX A

G Power Sample Size



APPENDIX B

FYP Consent Form

Faculty of Arts and Social Science

Before participating in this experiment, please answer the following questions:

1. Do you have at least one hour to spare before your next class? Yes No
2. Are you a UTAR student? Yes No
3. How familiar are you with Lazada if given scale from 1 to 10 (Not Familiar At All to Strongly Familiar)
4. In what way you are using Lazada? (You may choose more than one answer)
   a) I will scroll through Lazada website whenever I want
   b) I have purchased something from Lazada with my own account.
   c) I have purchased something from others' Lazada account.
   d) I put items that I am interested in the cart only.
   e) Others, please stated:

Consent form

We are final year students from UTAR who are taking UAPZ 3083 Final Year Project II. This study aims to understand online shopping purchase intention and shoppers' personality. The project is under the supervision of Dr. Lee Ai-Suan (email: aslee@utar.edu.my). If you have any questions regarding this experiment feel free to email group leader, Phang Shiau Fen (happyisbless@1utar.my) or our supervisor.

Please read the following information about the experiment before deciding to participate. If you agree to participate, please be aware that you are free to withdraw at any point throughout the duration of the experiment without any penalty. You will be asked to complete the following two tasks in this experiment. This study will take approximately 45 minutes to complete.

- Task A: You will be asked to add three specific items to your shopping cart from the Lazada website. You may also add additional items that you would like to buy, as long as the total bill does not exceed the total sum of money set by the researchers.

- Task B: You will be asked to answer an online survey, which measures your personality traits, and online shopping behavior.

No risks are anticipated in this study. Your information will be kept securely and only accessible by the researchers and supervisor. Should you feel uncomfortable at any point during the study, you may withdraw from the study without giving a reason, and your information will be discarded.

Please indicate with your signature on the space below that you understand your rights and agree to participate in the experiment.

Signature:

Name/initials of participant:

Date:

APPENDIX C

Description of Task A

Welcome to our research!

Please provide your personal information as stated below.

Demographics information

Please provide your personal information as stated below.

Age: Gender: Race:

Student ID: Name of university:

Task:

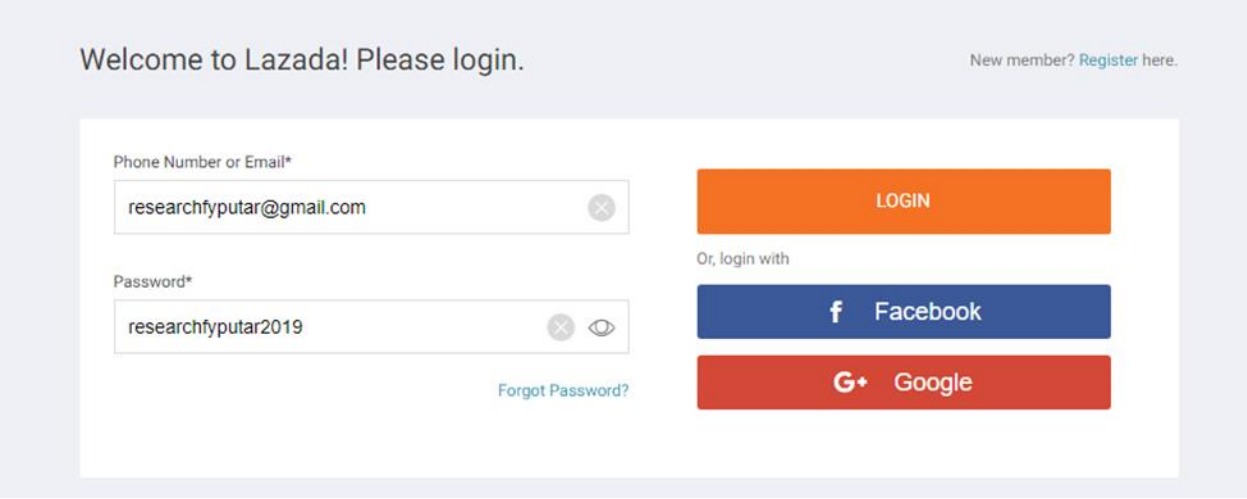
Step 1: Access the official website of Lazada at https://www.lazada.com.my/

Step 2: Assuming yourself have the intention to buy three specific items which are:

- Water bottle
- Bag pack for school
- One stationery item

You have only RM 120, put your chosen items into shopping cart once you have decided to buy the item. Beside these must-buy items, you may put other products that you like and will buy in real life in the cart as long as they didn't exceed the set limit amount of money. There is no time constraint for this task. Enjoy your shopping. Feel free to ask us any questions if you have any doubts about the experiment.

Step 3: Enter the login page. Fill up the information as picture below and log in to the account.



Press the button that we provided once you are done. We will approach you soon.

APPENDIX D

Online Questionnaire Consent Form

Thank you for your cooperation in task A.

Consent form task B
We are final year students from UTAR who are taking UAPZ 3083 Final Year Project II. This study aims to understand online shopping purchase intention and shoppers' personality. The project is under the supervision of Dr. Lee Ai-Suan (email: aslee@utar.edu.my). If you have any questions regarding this experiment feel free to email our supervisor.
This questionnaire contains 3 sections which included measurement of personality traits, online shopping behaviour and the last section required you to fill up your demographic information. The questionnaire required about 20 minutes to complete. All the information provided will remain anonymous and confidential. Your information will only be assessed by the authorized person. You may ask any questions to us if you have any doubts about our questionnaire.
No risks are anticipated in this study. Your information will be kept securely. The data will only accessible by the researchers. Should you feel uncomfortable at any point during the study, you may withdraw from the study without giving a reason.

I have read and understood the information given. I voluntarily agree to take part in this survey.

I am not willing to take part in this research.

Demographics information

Please provide your personal information as stated below.

Age:

Gender:

Race:

Name of university:

Student ID:

BFI-2

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? Please write a number next to each statement to indicate the extent to which you agree or disagree with that statement.

I am someone who...

1. Is outgoing, sociable.	31. Is sometimes shy, introverted.
2. Is compassionate, has a soft heart.	32. Is helpful and unselfish with others.
3. Tends to be disorganized.	33. Keeps things neat and tidy.
4. Is relaxed, handles stress well.	34. Worries a lot.
5. Has few artistic interests.	35. Values art and beauty.
6. Has an assertive personality.	36. Finds it hard to influence people.
7. Is respectful, treats others with respect.	37. Is sometimes rude to others.
8. Tends to be lazy.	38. Is efficient, gets things done.
9. Stays optimistic after experiencing a setback.	39. Often feels sad.
10. Is curious about many different things.	40. Is complex, a deep thinker.
11. Rarely feels excited or eager.	41. Is full of energy.
12. Tends to find fault with others.	42. Is suspicious of others' intentions.
13. Is dependable, steady.	43. Is reliable, can always be counted on.
14. Is moody, has up and down mood swings.	44. Keeps their emotions under control.
15. Is inventive, finds clever ways to do things.	45. Has difficulty imagining things.
16. Tends to be quiet.	46. Is talkative.
17. Feels little sympathy for others.	47. Can be cold and uncaring.
18. Is systematic, likes to keep things in order.	48. Leaves a mess, doesn't clean up.
19. Can be tense.	49. Rarely feels anxious or afraid.
20. Is fascinated by art, music, or literature.	50. Thinks poetry and plays are boring.
21. Is dominant, acts as a leader.	51. Prefers to have others take charge.
22. Starts arguments with others.	52. Is polite, courteous to others.
23. Has difficulty getting started on tasks.	53. Is persistent, works until the task is finished.
24. Feels secure, comfortable with self.	54. Tends to feel depressed, blue.
25. Avoids intellectual, philosophical discussions.	55. Has little interest in abstract ideas.
26. Is less active than other people.	56. Shows a lot of enthusiasm.
27. Has a forgiving nature.	57. Assumes the best about people.
28. Can be somewhat careless.	58. Sometimes behaves irresponsibly.
29. Is emotionally stable, not easily upset.	59. Is temperamental, gets emotional easily.
30. Has little creativity.	60. Is original, comes up with new ideas

APPENDIX E

Debriefing Content

1. Thank you for agreeing to participate in this study!

2. The aim of this research is to determine the gender differences in impulsivity of online purchase intention among UTAR students.

3. We have recorded the time you did for task A and screen recorded the whole process behind the observation mirror to ensure the validity of the result. If you feel uncomfortable about this, you may ask us to delete the video.

4. Give token of appreciation.

5. Clarify our experiment if participants ask any question.

APPENDIX F

Gender and Time Taken

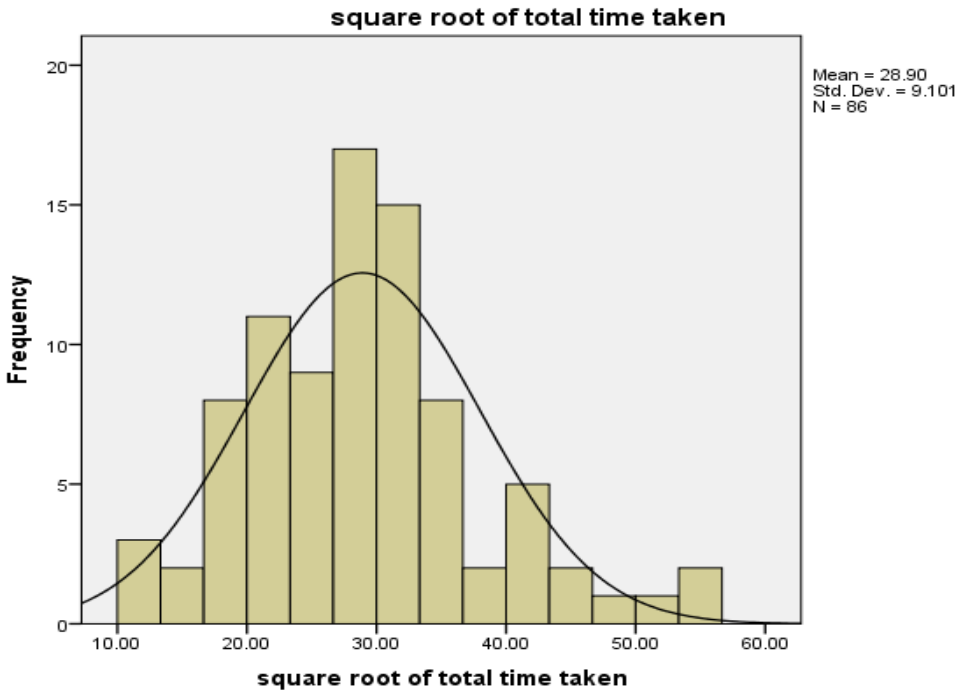
Normality Test

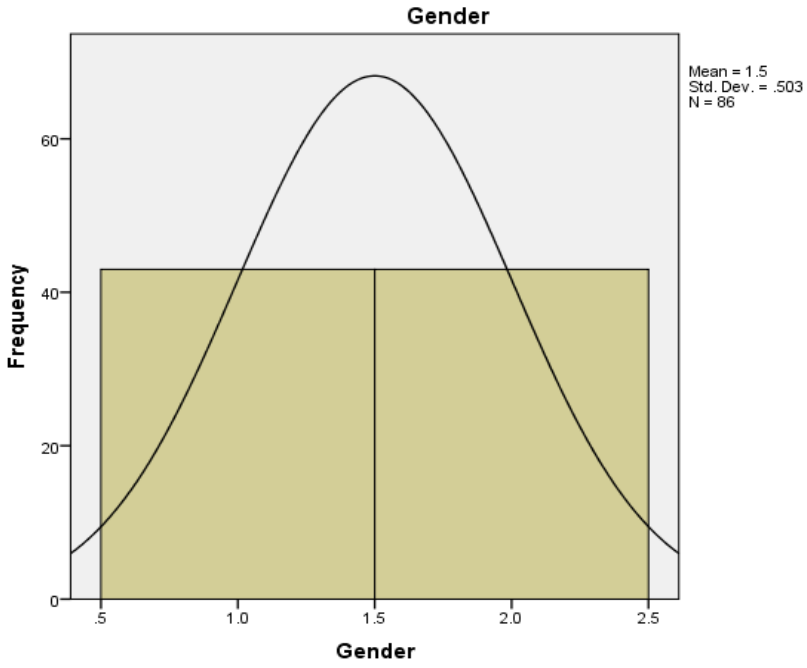
Skewness and Kurtosis

Statistics

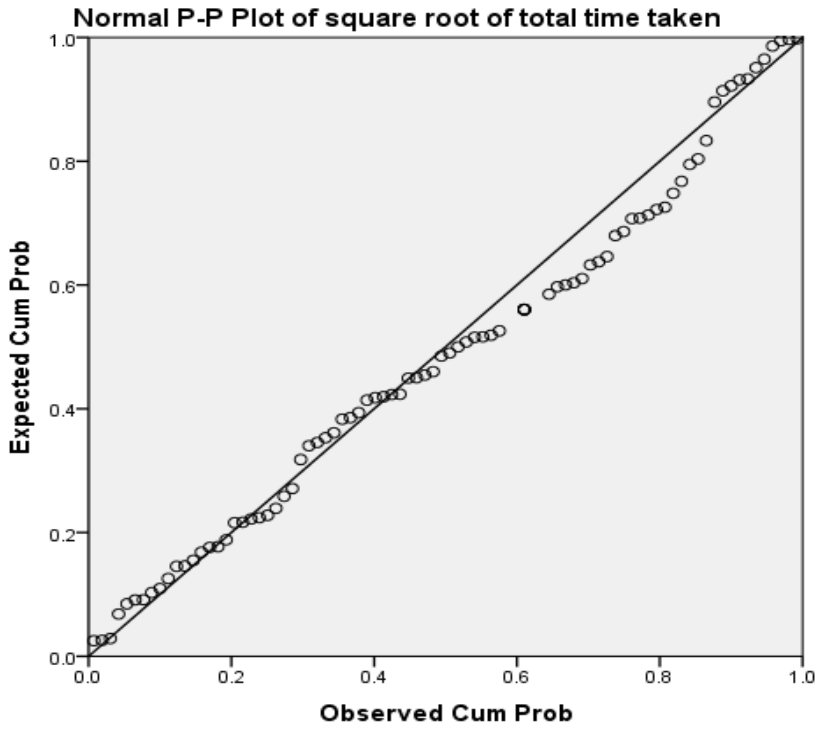
		square root of total time taken	Gender
N	Valid	86	86
	Missing	0	0
Mean		28.9048	1.50
Std. Deviation		9.10149	.503
Skewness		.637	.000
Kurtosis		.756	-2.048
Minimum		11.09	1
Maximum		55.24	2

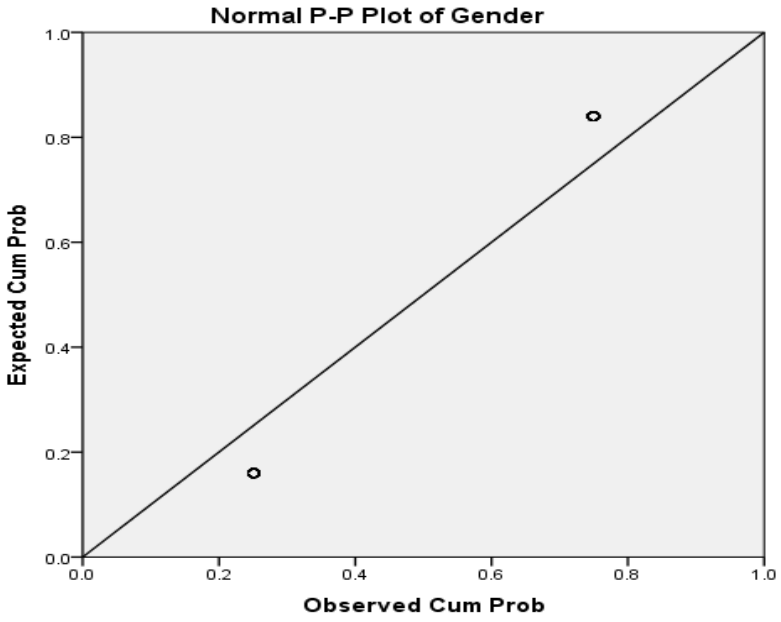
Histogram




Gender
Mean = 1.5
Std. Dev. = .503
N = 86
Frequency
60
40
20
0
.5
1.0
1.5
2.0
2.5
Gender

P-P Plot


Normal P-P Plot of square root of total time taken
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Levene's Test and Independent-Samples-T Test

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
square root of total time taken	Male	43	26.7118	8.40422	1.28163
	Female	43	31.0979	9.33639	1.42379

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
square root of total time taken	Equal variances assumed	.374	.542	-2.290	84	.025	-4.38602	1.91566	-8.19551	-.57652
	Equal variances not assumed			-2.290	83.087	.025	-4.38602	1.91566	-8.19612	-.57591

APPENDIX G

Gender, Time Taken, and Extraversion

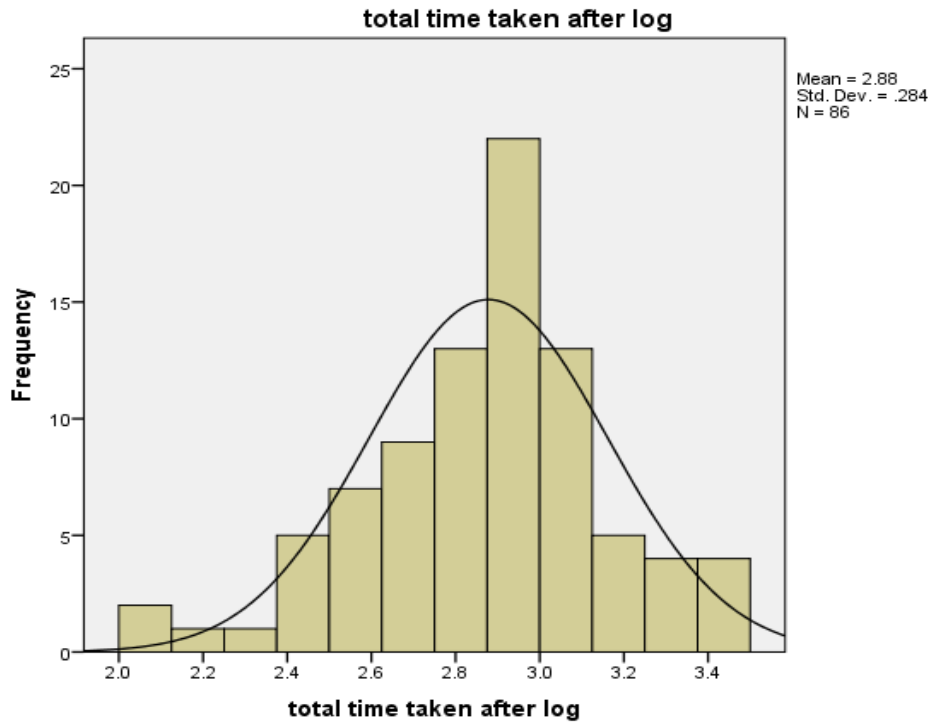
Normality Test

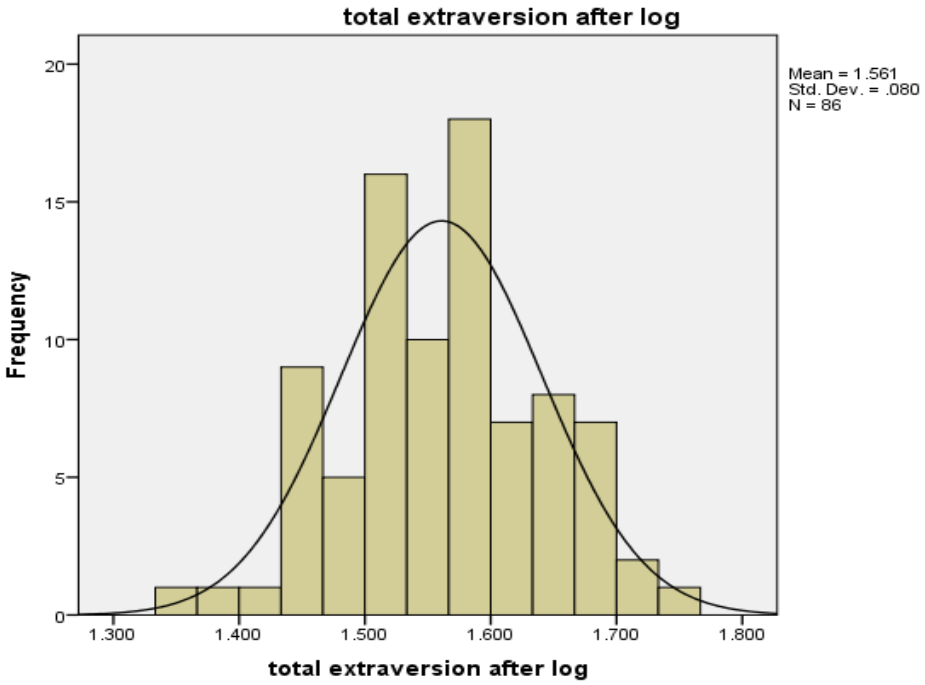
Skewness and Kurtosis

Statistics

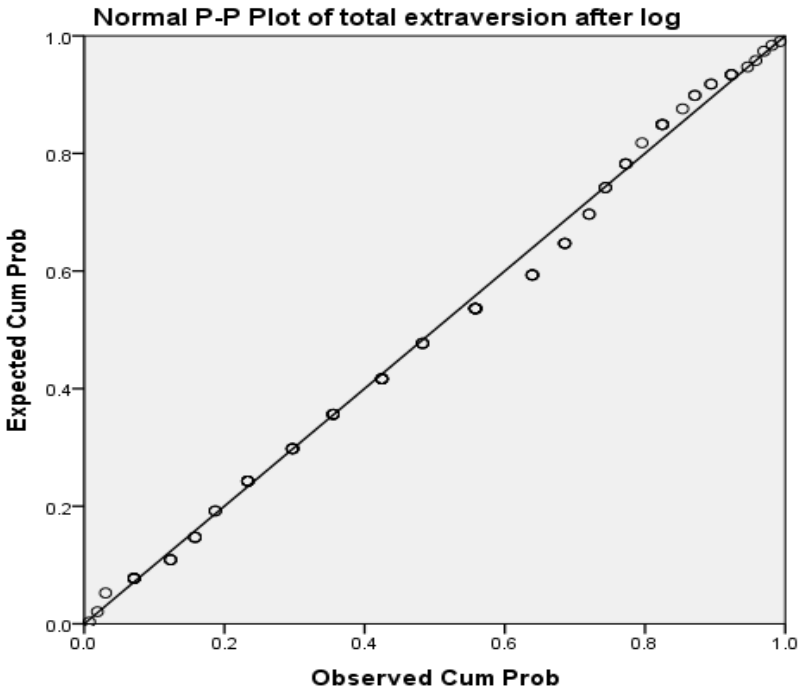
		total time taken after log transformed	total extraversion after log transformed
N	Valid	86	86
	Missing	0	0
Mean		2.88	1.56092
Std. Deviation		.284	.079916
Skewness		-.464	.053
Kurtosis		.671	-.123
Minimum		2	1.342
Maximum		3	1.748

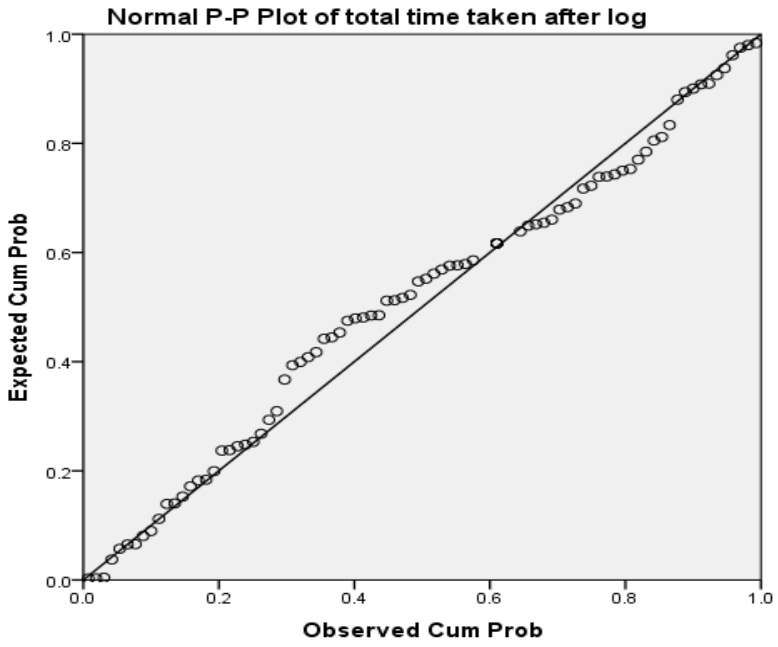
Histogram




total extraversion after log
Mean = 1.561
Std. Dev. = .080
N = 86
Frequency
20
15
10
5
0
1.300
1.400
1.500
1.600
1.700
1.800
total extraversion after log

P-P Plot


Normal P-P Plot of total extraversion after log
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Levene's Test and Independent-Samples-T Test

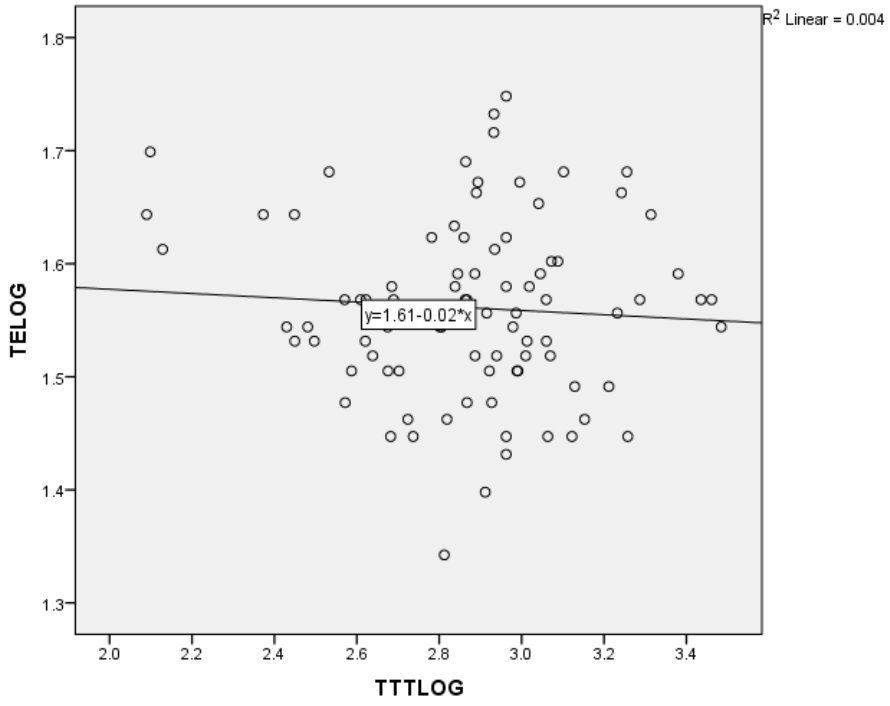
Group Statistics

	Grouping of extraversion after log transformed	N	Mean	Std. Deviation	Std. Error Mean
total time taken after log transformed	low extraversion after log transformed	17	2.94	.199	.048
	high extraversion after log transformed	69	2.86	.301	.036

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
total time taken after log transformed	Equal variances assumed	1.730	.192	.940	84	.350	.072	.077	-.081	.225
	Equal variances not assumed			1.199	36.396	.238	.072	.060	-.050	.195

Linearity



Levene's Test of Equality of Error Variances

Dependent Variable: TTTLOG

F	df1	df2	Sig.
.084	1	84	.773

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + TELOG + GENDER

Homogeneity of Regression Slopes

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.397[a]	2	.198	2.550	.084	.058
Intercept	2.271	1	2.271	29.205	.000	.260
GENDER * TELOG	.397	2	.198	2.550	.084	.058
Error	6.454	83	.078			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .058 (Adjusted R Squared = .035)

ANCOVA

When Extraversion Was Controlled For

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.405[a]	2	.202	2.606	.080	.059
Intercept	2.265	1	2.265	29.165	.000	.260
TELOG	.022	1	.022	.288	.593	.003
GENDER	.374	1	.374	4.820	.031	.055
Error	6.446	83	.078			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .059 (Adjusted R Squared = .036)

When Extraversion Was Not Controlled For

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.382[a]	1	.382	4.966	.029	.056
Intercept	712.386	1	712.386	9250.979	.000	.991
GENDER	.382	1	.382	4.966	.029	.056
Error	6.469	84	.077			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .056 (Adjusted R Squared = .045)

APPENDIX H

Gender, Time Taken, and Negative Emotionality

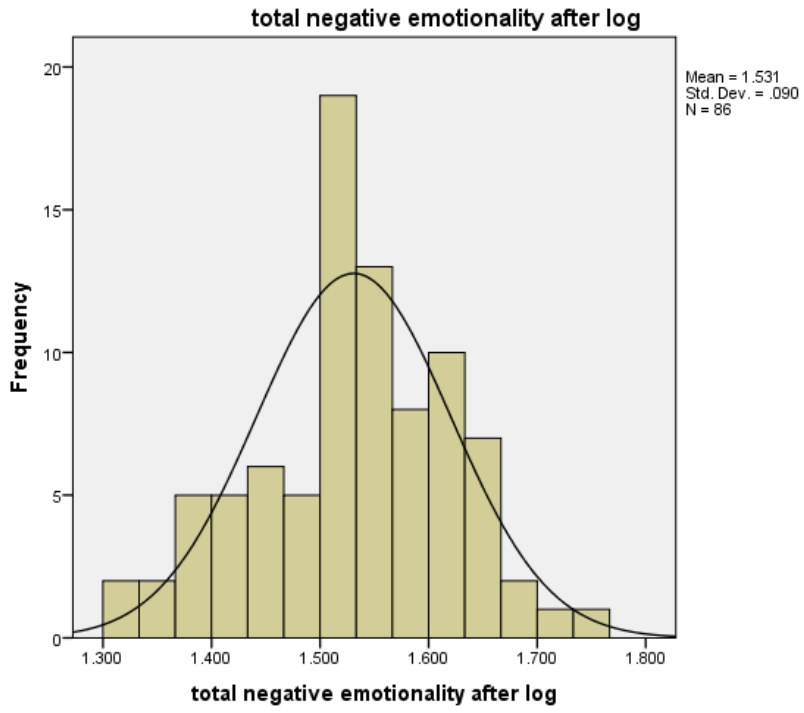
Normality Test

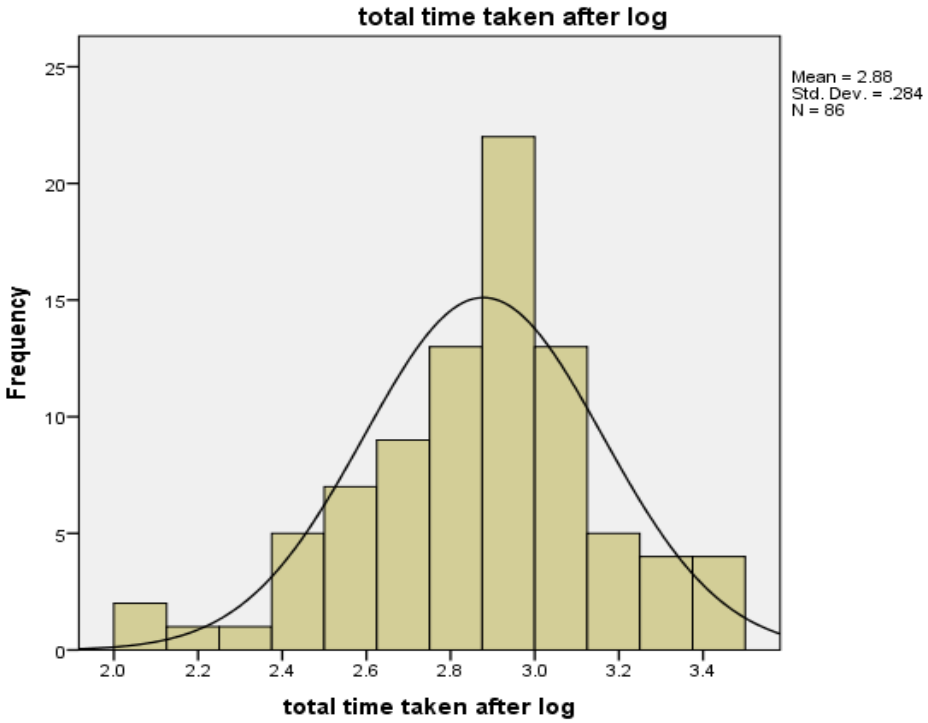
Skewness and Kurtosis

Statistics

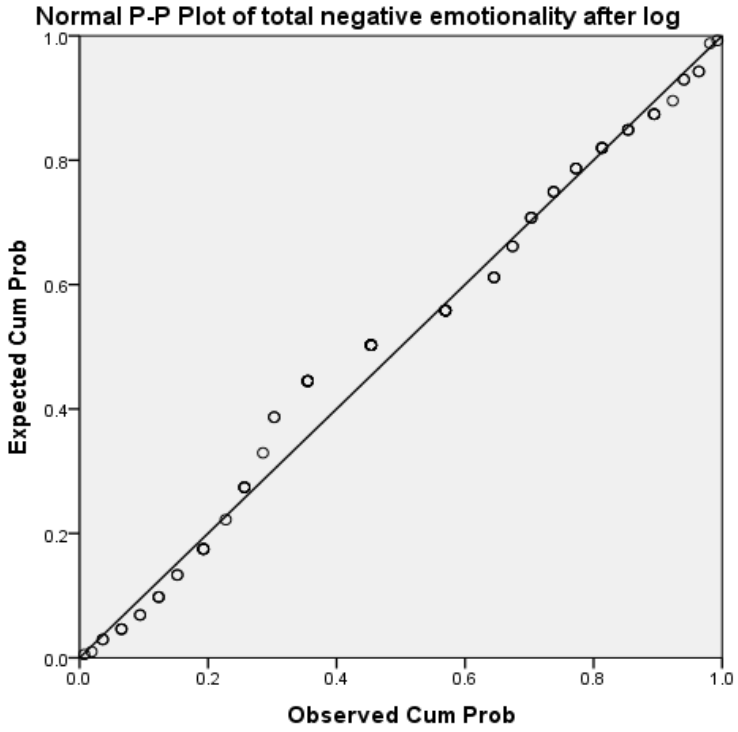
		total negative emotionality after log transformed	total time taken after log transformed
N	Valid	86	86
	Missing	0	0
Mean		1.53089	2.88
Std. Deviation		.089562	.284
Skewness		-.256	-.464
Kurtosis		.022	.671
Minimum		1.301	2
Maximum		1.748	3

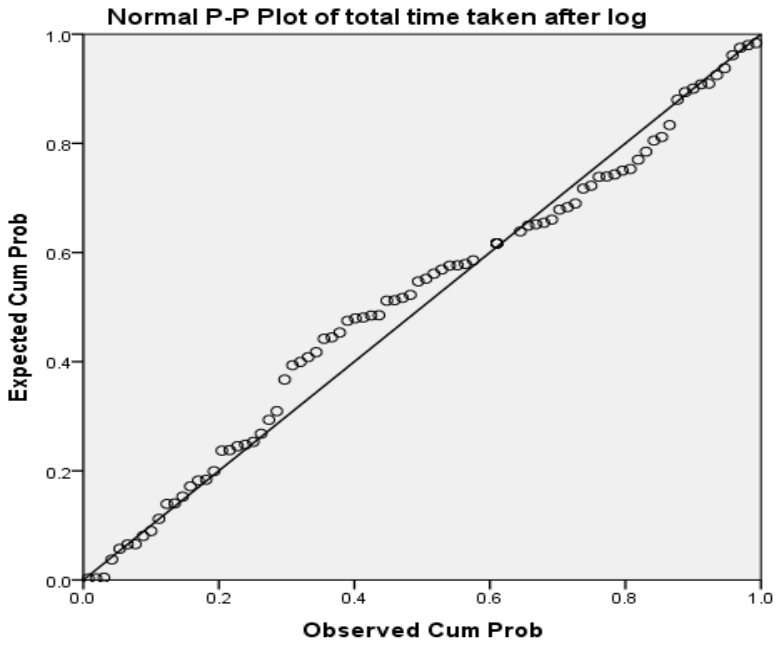
Histogram




total time taken after log
Mean = 2.88
Std. Dev. = .284
N = 86
Frequency
25
20
15
10
5
0
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
total time taken after log

P-P Plot


Normal P-P Plot of total negative emotionality after log
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Levene's Test and Independent-Samples-T Test

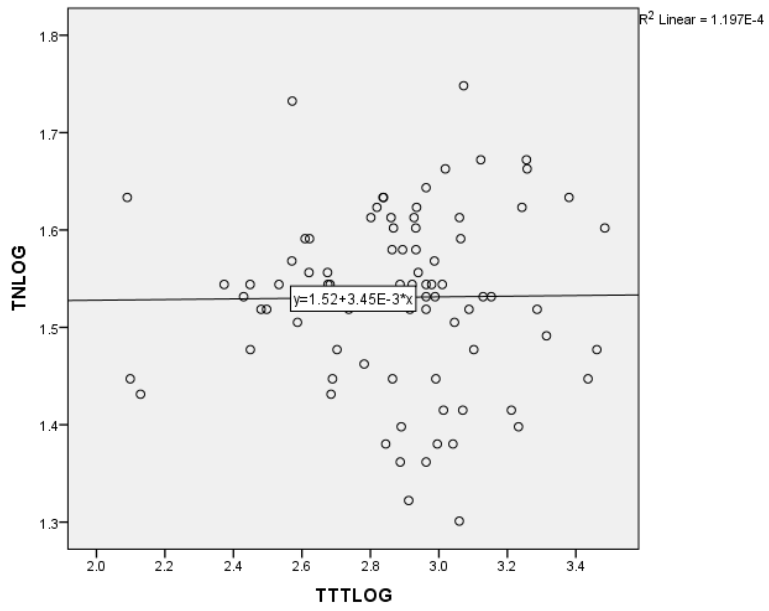
Group Statistics

	Grouping of negative emotionality after log transformed	N	Mean	Std. Deviation	Std. Error Mean
total time taken after log transformed	low negative emotionality after log transformed	25	2.91	.336	.067
	high negative emotionality after log transformed	61	2.86	.261	.033

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
total time taken after log	Equal variances assumed	.867	.355	.726	84	.470	.049	.068	-.085	.183
	Equal variances not assumed			.653	36.447	.518	.049	.075	-.103	.201

Linearity



Levene's Test of Equality of Error Variances

Dependent Variable: TTTLOG

F	df1	df2	Sig.
.028	1	84	.868

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + TNLOG + GENDER

Homogeneity of Regression Slopes

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.424[a]	2	.212	2.737	.071	.062
Intercept	2.570	1	2.570	33.190	.000	.286
GENDER * TNLOG	.424	2	.212	2.737	.071	.062
Error	6.427	83	.077			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .062 (Adjusted R Squared = .039)

ANCOVA

When Negative Emotionality Was Controlled For

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.386[a]	2	.193	2.475	.090	.056
Intercept	2.532	1	2.532	32.501	.000	.281
TNLOG	.003	1	.003	.040	.842	.000
GENDER	.385	1	.385	4.939	.029	.056
Error	6.465	83	.078			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .056 (Adjusted R Squared = .034)

When Negative Emotionality Was Not Controlled For

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.382[a]	1	.382	4.966	.029	.056
Intercept	712.386	1	712.386	9250.979	.000	.991
GENDER	.382	1	.382	4.966	.029	.056
Error	6.469	84	.077			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .056 (Adjusted R Squared = .045)

APPENDIX I

Gender, Time Taken, and Conscientiousness

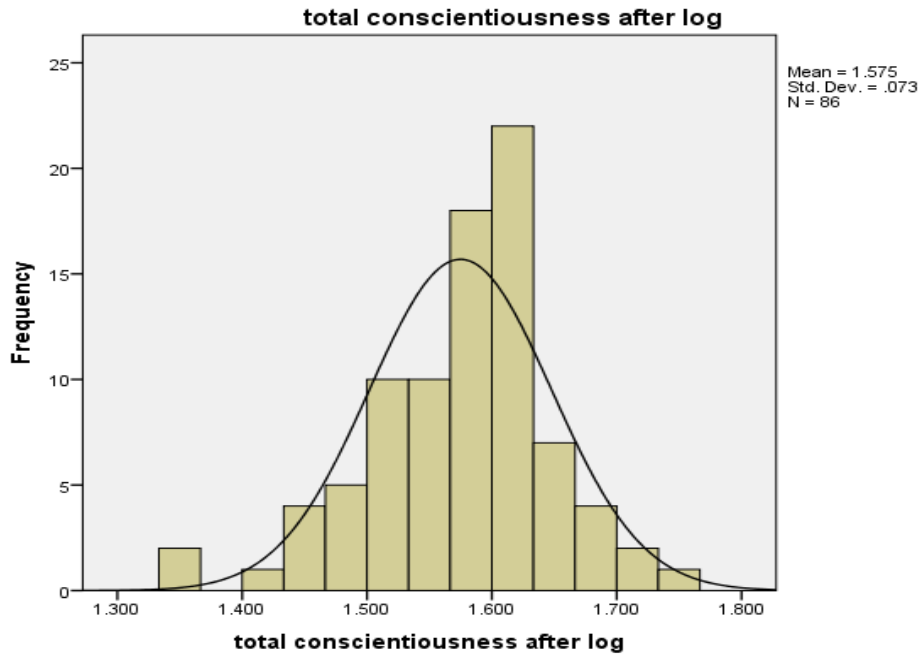
Normality Test

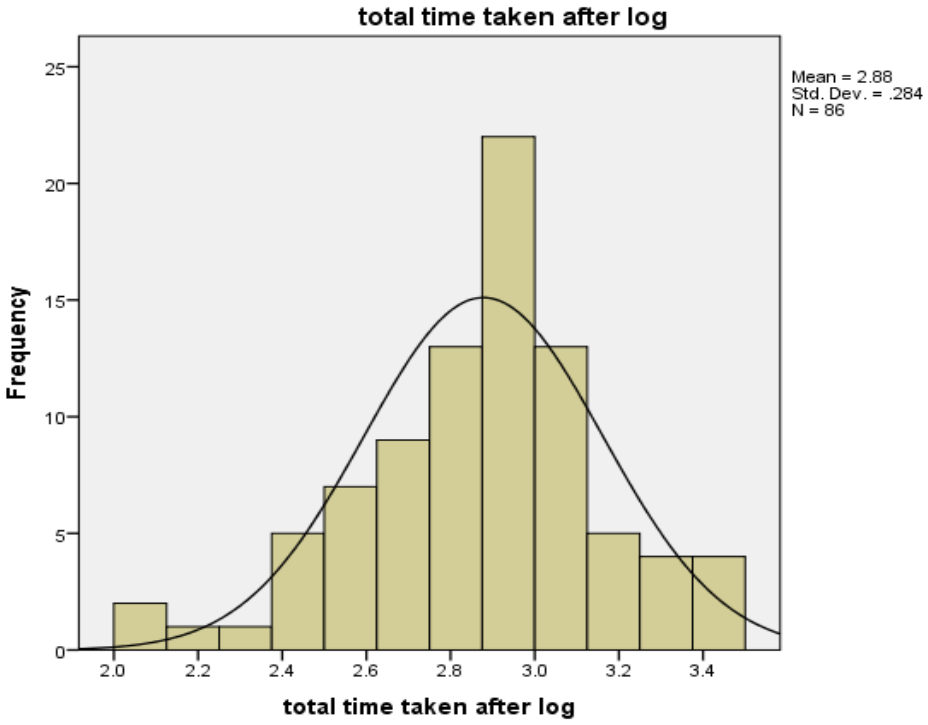
Skewness and Kurtosis

Statistics

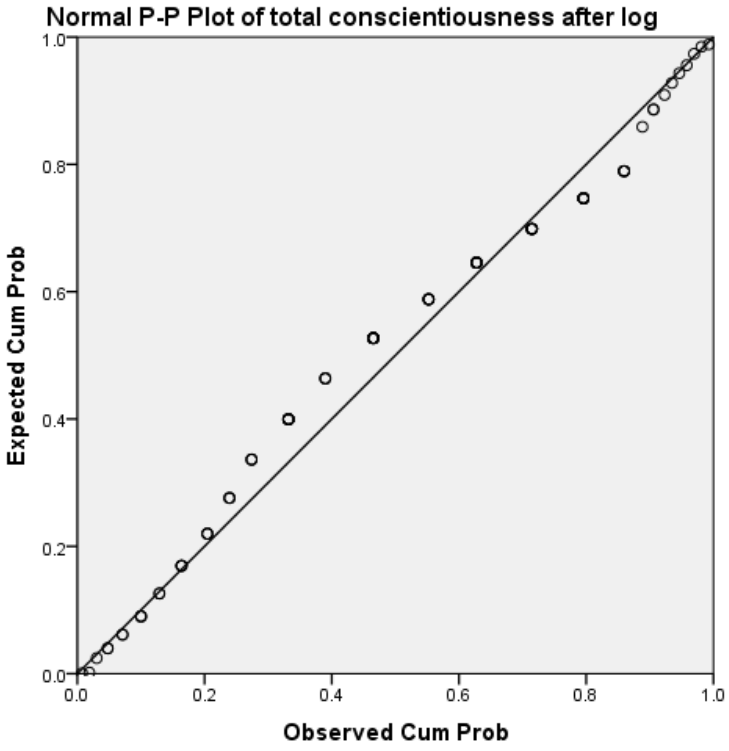
		total time taken after log transformed	total conscientiousness after log transformed
N	Valid	86	86
	Missing	0	0
Mean		2.88	1.57484
Std. Deviation		.284	.072876
Skewness		-.464	-.547
Kurtosis		.671	1.109
Minimum		2	1.342
Maximum		3	1.740

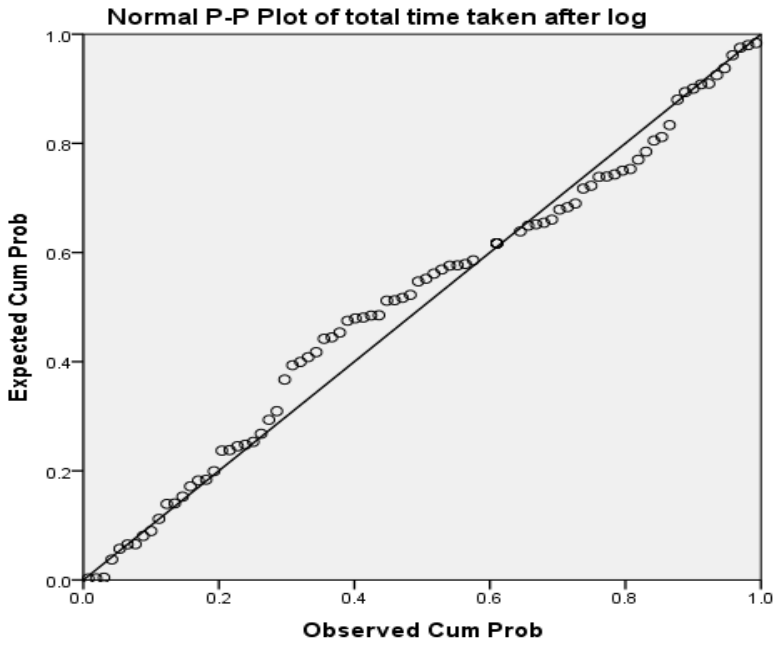
Histogram




total time taken after log
Mean = 2.88
Std. Dev. = .284
N = 86
Frequency
25
20
15
10
5
0
2.0
2.2
2.4
2.6
2.8
3.0
3.2
3.4
total time taken after log

P-P Plot


Normal P-P Plot of total conscientiousness after log
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0



Levene's Test and Independent-Samples-T Test

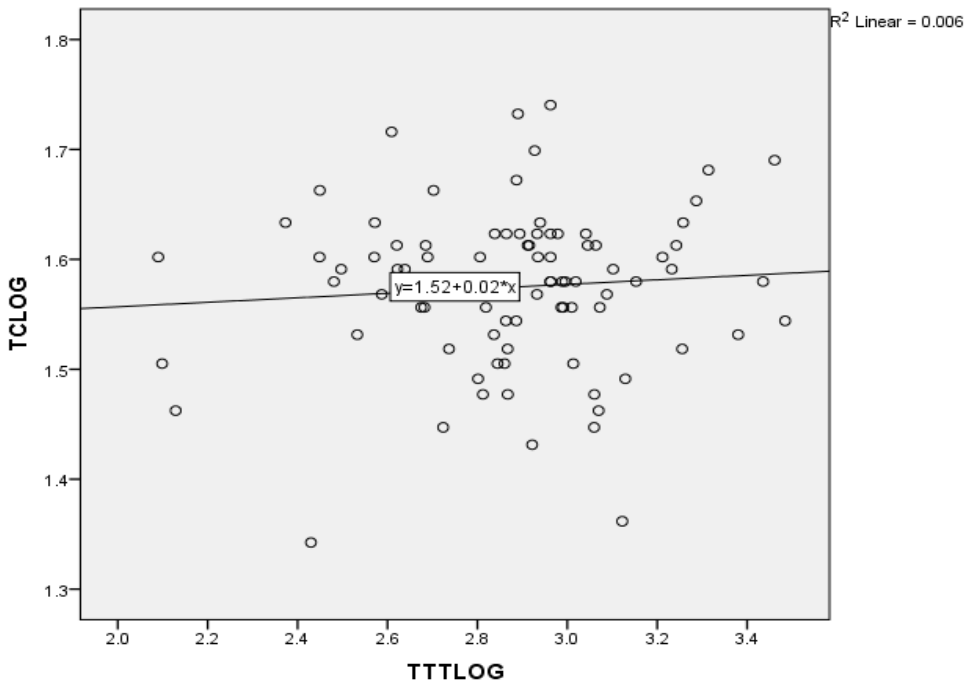
Group Statistics

	Grouping of conscientiousness after log transformed	N	Mean	Std. Deviation	Std. Error Mean
total time taken after log transformed	low conscientiousness after log transformed	12	2.84	.303	.087
	high conscientiousness after log transformed	74	2.88	.282	.033

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
total time taken after log tranformed	Equal variances assumed	.020	.889	-.449	84	.655	-.040	.089	-.216	.137
	Equal variances not assumed			-.426	14.276	.676	-.040	.093	-.240	.160

Linearity



Levene's Test of Equality of Error Variances

Dependent Variable: TTTLOG

F	df1	df2	Sig.
.024	1	84	.878

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
a. Design: Intercept + TCLOG + GENDER

Homogeneity of Regression Slopes

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.424[a]	2	.212	2.739	.071	.062
Intercept	.885	1	.885	11.432	.001	.121
GENDER * TCLOG	.424	2	.212	2.739	.071	.062
Error	6.427	83	.077			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .062 (Adjusted R Squared = .039)

ANCOVA

When Conscientiousness Was Controlled For

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.461[a]	2	.231	2.997	.055	.067
Intercept	.879	1	.879	11.424	.001	.121
TCLOG	.079	1	.079	1.026	.314	.012
GENDER	.418	1	.418	5.429	.022	.061
Error	6.390	83	.077			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .067 (Adjusted R Squared = .045)

When Conscientiousness Was Not Controlled For

Tests of Between-Subjects Effects

Dependent Variable: TTTLOG

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	.382[a]	1	.382	4.966	.029	.056
Intercept	712.386	1	712.386	9250.979	.000	.991
GENDER	.382	1	.382	4.966	.029	.056
Error	6.469	84	.077			
Total	719.237	86				
Corrected Total	6.851	85				

a. R Squared = .056 (Adjusted R Squared = .045)

APPENDIX J

Gender and Number of Unplanned Purchased Items

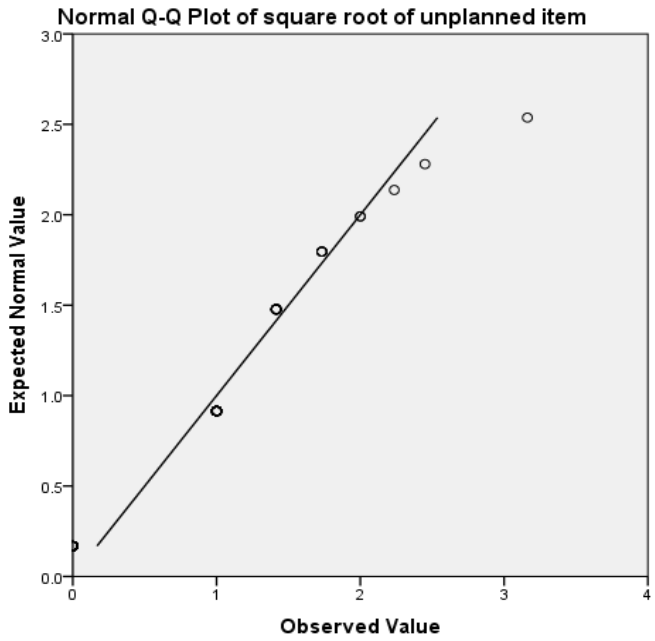
Normality Test

Skewness and Kurtosis

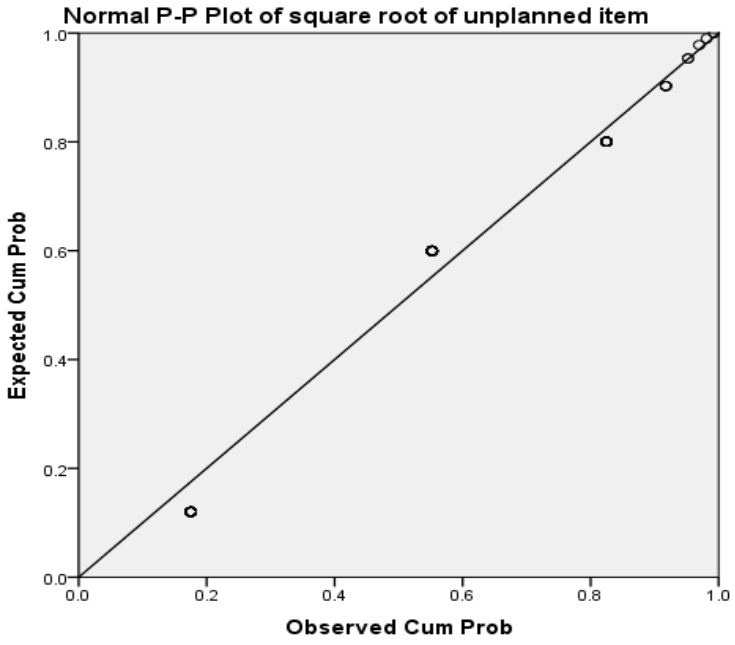
Statistics

		square root of unplanned item	Gender
N	Valid	86	86
	Missing	0	0
Mean		.8226	1.50
Std. Deviation		.70127	.503
Skewness		.426	.000
Kurtosis		.169	-2.048
Minimum		.00	1
Maximum		3.16	2

Q-Q Plot



P-P Plot



Levene's Test and Independent-Samples-T Test

Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
square root of unplanned item	Male	43	.9008	.74180	.11312
	Female	43	.7445	.65765	.10029

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
square root of unplanned item	Equal variances assumed	.257	.613	1.034	84	.304	.15625	.15118	-.14438	.45689
	Equal variances not assumed			1.034	82.81	1.304	.15625	.15118	-.14445	.45695

APPENDIX K

Time Taken and Number of Unplanned Purchased Items

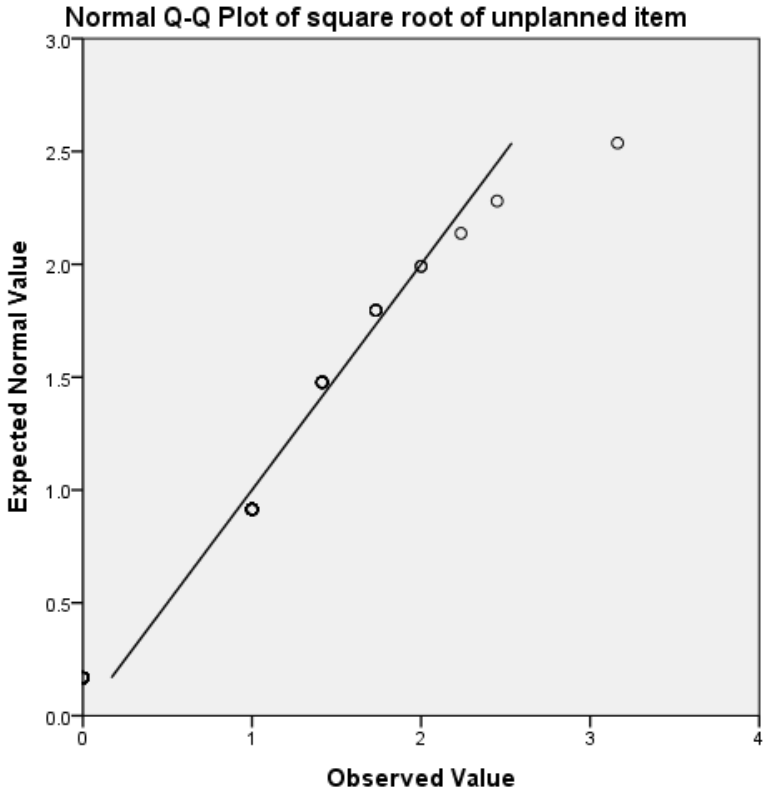
Normality Test

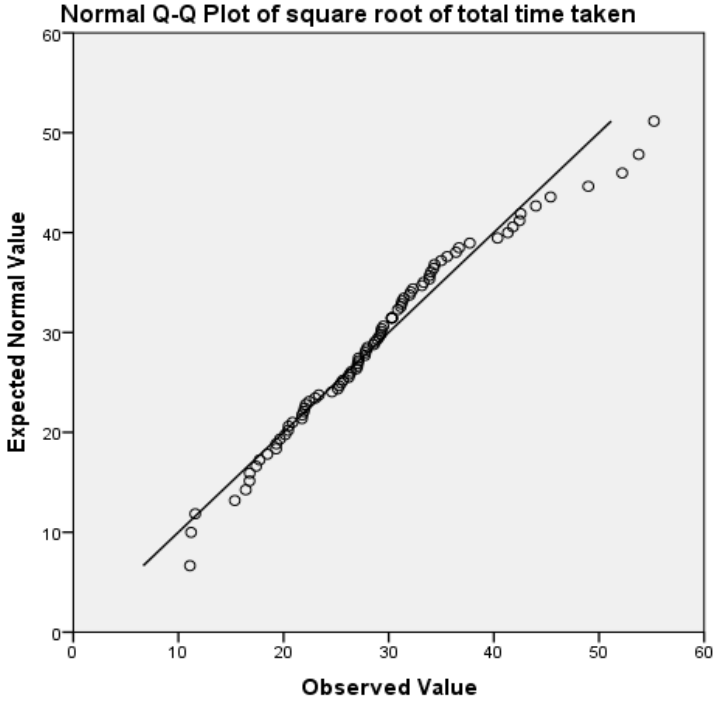
Skewness and Kurtosis

Descriptives

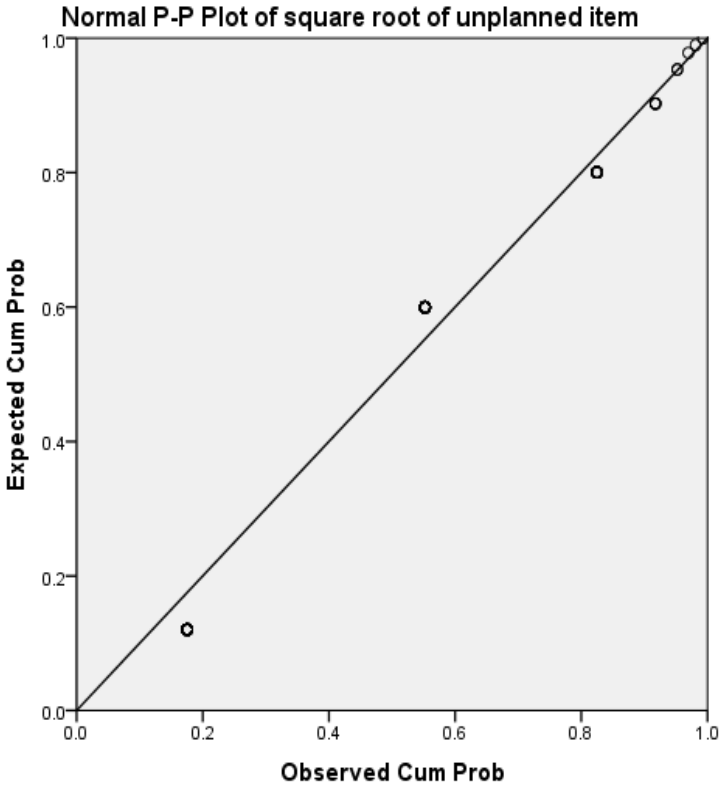
	grouping square root of total time taken			Statistic	Std. Error
square root of unplanned item	shorter time	Mean		.6730	.10217
		95% Confidence Interval for Mean	Lower Bound	.4667	
			Upper Bound	.8794	
		5% Trimmed Mean		.6445	
		Median		1.0000	
		Variance		.438	
		Std. Deviation		.66214	
		Minimum		.00	
		Maximum		2.00	
		Range		2.00	
		Interquartile Range		1.00	
		Skewness		.232	.365
		Kurtosis		-1.405	.717
	longer time	Mean		.9654	.10781
		95% Confidence Interval for Mean	Lower Bound	.7480	
			Upper Bound	1.1829	
		5% Trimmed Mean		.9197	
		Median		1.0000	
		Variance		.511	
		Std. Deviation		.71510	
		Minimum		.00	
		Maximum		3.16	
		Range		3.16	
		Interquartile Range		1.16	
		Skewness		.547	.357
		Kurtosis		1.082	.702

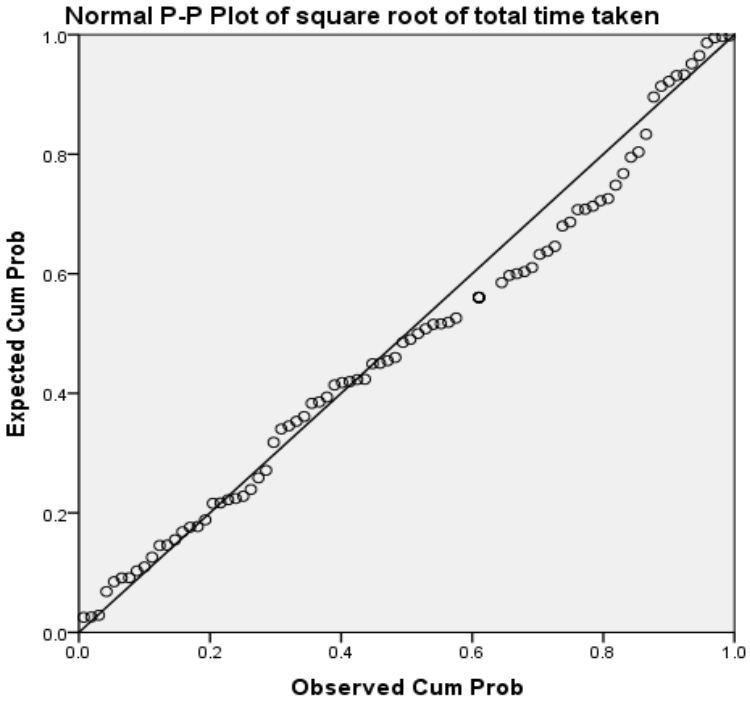
Q-Q Plot


Normal Q-Q Plot of square root of unplanned item
Expected Normal Value
Observed Value
0.0
0.5
1.0
1.5
2.0
2.5
3.0
0
1
2
3
4


Normal Q-Q Plot of square root of total time taken
Expected Normal Value
Observed Value
0
10
20
30
40
50
60

P-P Plot


Normal P-P Plot of square root of unplanned item
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0


Normal P-P Plot of square root of total time taken
Expected Cum Prob
Observed Cum Prob
0.0
0.2
0.4
0.6
0.8
1.0

Levene's Test

		Levene Statistic	df1	df2	Sig.
square root of unplanned item	Based on Mean	2.034	1	84	.158
	Based on Median	1.087	1	84	.300
	Based on Median and with adjusted df	1.087	1	81.634	.300
	Based on trimmed mean	1.546	1	84	.217

Pearson Product Moment Correlation

Correlations

		square root of total time taken	square root of unplanned item
square root of total time taken	Pearson Correlation	1	.269*
	Sig. (2-tailed)		.012
	N	86	86
square root of unplanned item	Pearson Correlation	.269*	1
	Sig. (2-tailed)	.012	
	N	86	86

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