Investigating the Relationship Between Satisfaction with Life and Self-Awareness of Big 5 Personality Traits

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Abstract

This research endeavoured to establish if there is a relationship between Satisfaction with Life (SWL) scores and self-awareness of one's own personality, as measured by the Big 5 personality trait structure. That is to say, where a greater level of self awareness is present, the expectation is that higher SWL will also be present and vice-versa for lower levels.

To establish this, participants completed a combined set of questionnaires designed to measure what they believed their respective traits scores are, what their actual trait scores are (the latter subtracted from the former to create a delta score), and what their current (at time of participation) SWL scores are. The delta scores for each of the Big traits along with their aggregated total delta was then compared to the SWL score, with the expectation that higher delta scores (i.e. a lack of self-awareness) would correlate with a lower SWL score and vice versa, where lower delta scores (i.e. greater self-awareness) would correlate with a higher SWL score.

The findings of the study did not support the original hypothesis or any of the sub-hypotheses. A such, while research in self awareness in other domains has been shown to be beneficial to SWL and other life outcome measures such as goal achievement, self-awareness of Big 5 does not appear to significantly predict SWL.

Contents

Introduction

Satisfaction with life (SWL) should be seen as a key metric in the advancement of civilization and technology but, given its subjective rather than objective nature, it hasn't always increased in line with the objective improvements in worldwide living conditions. One example of worldwide improvements are longer life expectancy, as since 1770 to 2019 global life expectancy has increased from an average of 29 years to 73 (Roser, Ortiz-Ospina & Ritchie, 2022). A possible reason for SWL not increasing in line with metrics such as life expectancy is the psychological phenomenon of hedonic adaptation, an evolutionary mechanism where individuals adapt to changes in environment as they improve or decline and to acclimatise over time, or as described by Sheldon and Lyubomirsky (2012) that the emotions associated with success and failure tend to abate with time. If over time, improvements made by each generation are adapted to and the baseline for same adjusted, this would suggest that the subjective experience of SWL may only be temporary for any given epoch and can't be passed on through the generations. Although, objective improvements made in the search of SWL can have wider, longer lasting effects, such as the increase life expectancy above. So even though SWL is probably temporary, this temporary natures prevents stagnation in the pursuit of greater outcomes which in turns improves the worldwide life outcomes.

However, even if SWL scores do or do not improve generation to generation, it can improve over the life time for any given individual and as such, this is another reason why it is a worthwhile endeavour to find out what affects SWL scores, so that we can then leverage this to improve the lives of individuals and the general population at large as although the subjective measures such as SWL seem to be

temporal, the wider benefits are meaningful and can be compounded upon generation after generation for continuous positive development.

This research aims to add further definition and detail on SWL, based on the convergence of SWL with self-awareness and Big 5 personality traits (Big 5) in an attempt to find ways to improve SWL. A significant amount of research has already been conducted relating to the Big 5 and on the influence the Big 5 has on SWL outcomes. Additionally, a large body of research also exists on self-awareness and how self-awareness is related to SWL. Both Big 5 and self-awareness are discussed in detail below.

Satisfaction with life

The SWL scale was created and designed with the intention to assess an individual's judgment of their own SWL (Diener, Emmons, Larsen & Griffin, 1985). As such, finding ways to influence SWL scores should feasibly lead to an increase in overall SWL itself, although it should be noted that the aim is to increase scores of SWL by increasing subjective SWL and not just to increase scores on the scale. It should also be noted that SWL has been generally trending upward over time, as in over 71% of 69 countries with relevant survey data, the most recent observation had significantly higher average scores than the earliest observation (Ortiz-Ospina & Roser, 2022).

Research to date suggests that SWL judgement represents a complex combination of both bottom-up and top-down factors and that some personality traits can put in place a controlling narrative structure for an individual's subjective SWL (Pavot & Dierner, 2008) and that this subjective SWL can be scored and measured using the satisfaction with life scale (SWLS) . Pavot & Diener (2008) also recognised

that the SWLS is advantageous as it allows respondents to select their own criteria for inclusion in the satisfaction with life responses. A key purpose of measuring SWL is to find areas that require improving and finding solutions to create those improvements. For example, research shows that SWL over the long term has been shown to be influenced by positive decision making, particularly for critical life issues (Cobb-Clark & Schurer, 2011) and so increasing an individual's ability for positive decision making in critical life issues should increase their SWL and this can be tracked over time through the SWLS. This finding is demonstrative of what this current study is aiming to find, that once a mechanism has been established and awareness of same created, it can then be harnessed to improve SWL.

Self-awareness (and Metacognition)

Research to date has shown that self-awareness too can be predictive of SWL and this is a critical component in the current study. Self-awareness can be described as simply "knowledge about the self" and self-awareness has been found to be significantly, positively correlated with well-being (Richards, Campenni & Muse-Burke, 2010), as well-being is related to life satisfaction received from personal and societal experiences (Argan, Argan & Dursun, 2018). Self-awareness can also be defined as the focusing of attention inward toward the self, which occurs especially when exposed to self-focusing stimuli (Morin, 2011).

Similar research by Kreibich et al. (2020) indicated that self-awareness plays a crucial role for identifying obstacles to goal completion and that general self-awareness seemed to predict life satisfaction more generally; the implication being that paying attention to aspects of the self will promote the process of comparing ideal states with actual states, helping to identify obstacles in goal-setting, that enable

successful completion of personal goals (made easier by identifying the obstacles to success) was influenced by self-awareness and that overall this had a positive effect on SWL. Self-awareness was also found to have a significant positive correlation with self-actualization, with research showing that environmental and interpersonal factors such as self-awareness (and personality traits) are effective in gifted students realizing their scholarly potential in the "giftedness to talent process", (Rafatpanah, Seif, Khosravani & Alborzi, 2016) and this is another form of goal completion which can impact SWL.

Synonymous with self-awareness, metacognitive awareness is being aware of how you think and research results have revealed that SWL was significantly positively correlated with metacognitive awareness (Cikrikci & Odaci, 2015). Flavel (1979) originally referred to Metacognition as the knowledge about and regulation of one's cognitive activities in learning processes and Rahimi and Abedi (2014) found, when researching listening strategies, that self-efficacy is significantly and positively related to metacognitive awareness. Additionally, for practical or professional development, it was found to be beneficial to have higher levels of metacognitive awareness and that this awareness was positively related with academic achievement (ÿz, 2016).

In summary, self-awareness and its related variations can be seen to improve performance on cognitive tasks and goals which, in turn, can improve SWL by enabling individuals to critically evaluate themselves, to set and complete goals and to improve performance in personal, academic and professional settings.

Big 5 relationship to SWL

The literature reviewed to inform this current research has shown how the Big 5 traits, individually, collectively and in conjunction with each other, can be predictive of SWL and this is one of the critical components in the current study. For example, the Big 5 has been shown to have explicit correlational effects on SWL, with extraversion and neuroticism found to be the strongest predictors (out of the Big 5 traits) for SWL (Joshanloo & Afshari, 2011), whereas higher scores on the SWLS were predicted by lower scores in Neuroticism and greater scores in Conscientiousness (Hayes & Joseph, 2003). In addition to this and lending further weight to the suggestion that the Big 5 can dictate SWL scores, there are implicit impacts of the Big 5 on SWL, as research has shown that specific traits can influence life decisions, in non-obvious ways. For example, those who engaged in entrepreneurial activities were more likely to score higher on trait Extraversion (Leutner, Ahmetoglu, Akhtar & Chamorro-Premuzic, 2014) which suggests that for someone who is of an extroverted predisposition, if they were to engage in a greater number of entrepreneurial type activities and as a result increase their synchronicity to their Big 5 trait, it would be reasonable to assume they would then score higher in SWL. Therefore, if this extroverted person had knowledge of their own extroversion, they could then deliberately adjust their lifestyle toward typically extroverted type goals and activities as a method to increase their SWL.

A further effect of Big 5 is that it can “set the tone” for subjective life experiences and how life experiences are interpreted by an individual, with extraversion in particular being noted as a key influencer in this way (Pavot & Diener, 2008). Although research to date has focussed on the explicit effects of Big 5, such as the aforementioned tone-setting of extraversion, this current research is interested in

how the self-awareness and knowledge of one's own Big 5 traits are impacting SWL, with the assumption that greater levels of self-awareness will show increased levels of SWL (and vice versa).

Broadening the span of how impactful Big 5 traits can be, there exists other fundamental every-day life events where effects of the Big 5 can be seen, such as an individual's perspective on finances. Research by Brown and Taylor (2004) found that some personality traits are associated with aspects of economic and financial decision making, such as the probability of holding credit card debt being positively correlated and associated with extraversion. Inversely to this finding, trait conscientiousness was found to be negatively associated with the probability of holding credit card debt (Brown & Taylor, 2014). This suggests that even something as rudimentary as personal debt type, if aligned (or not) to a person's Big 5 traits, can affect the SWL scores of that individual, positively or negatively and gaining knowledge of this could help the individual to align predisposition preferences to their actual life circumstances, in this case what type of debt they should hold, if any.

Another life aspect, outside of financial dealings, where individual traits can also have an impact is on student performance and course grades, with research showing some predictive validity for Big 5 personality traits (Lounsbury, Sundstrom, Loveland & Gibson, 2003). As found by Noftle and Robins (2007), two specific personality traits which seemed to have a bi-directional impact on self-awareness and goal performance in an academic setting were Conscientiousness and Openness. Conscientiousness was positively related to both college and high school exam scores (Noftle & Robins, 2007), with the assumption being Conscientiousness would be expressed and exert its effects on real-world outcomes by shaping a person's thoughts and feelings (i.e. self-awareness) and thereby influencing their behaviour. A similar

finding was established for Openness, where a strong relation to verbal scores was found and, in this case, the assumption is that openness might influence a person's identity as a verbally intelligent person (i.e. self-awareness) and that this self-perception might start a chain-reaction of self-fulfilling actions that translate into the pursuit of activities, such as reading more frequently (Noftle & Robins, 2007). Both of these findings are adjacently suggestive that self-awareness relating to Big 5 traits can be utilized to increase the likelihood of desirable life outcomes (such as academic performance) which, in turn, should improve SWL scores over time.

It is not only the case that Big 5 traits can impact in a positive way in academic settings, as described in the above examples. Using Neuroticism as an example, a significant negative correlation was found to exist between Neuroticism and success in academic settings (Chamorro-Premuzic & Furnham, 2003). Neuroticism was also found to be a predictor of smoking during teenage years (Soldz & Vaillant, 1999). Therefore, a potential preventative measure for both outcomes, using general awareness and directed self-awareness of Big 5 traits in educational and health campaign settings, targeted toward teenagers high in neuroticism, could identify and preemptively educate those act risk to a proclivity of lower academic success and at risk of beginning the act of smoking. Thus, in this instance, increasing the community awareness and the individual self-awareness should increase SWL over time, by reducing the number of teenage smokers, as research has shown a relationship exists between low SWL scores and substance use behaviours in teenagers (including cigarette smoking) when compared to a control group who did not report substance use (Zullig, Valois, Huebner, Oeltmann & Drane, 2001).

The common theme in the above is that we can see where different Big 5 traits can predict things such as academic performance or even personal finances, if an

individual can increase their self-awareness relating to these traits and their own life circumstances, they can endeavor to align the two and this could, where life outcomes improve as a result, ultimately impact and increase SWL.

However, it should be noted that it is not only top-down reasoning such as Big 5 traits that impact SWL, but bottom-up circumstances such as satisfaction with specific life events are also relevant. So that if a person is satisfied with the smaller facets of their life, they're more likely to be satisfied with their entire over-arching life (Pavot & Diener, 2008). This is a finding consistent in the literature, such as findings by Judge and Watanabe (1993), who were confident that job satisfaction and SWL are reciprocally and positively related. However, it could also be speculated that the reason for the greater levels job satisfaction is due to it being aligned to the person's personality traits as suggested by above, although this is just speculation for now as the reviewed research didn't cover that specific aspect of it.

It was also found to be possible to compensate for dissatisfaction in one life domain if we have sufficient satisfaction elsewhere to make the trade-off worthwhile (Rojas, 2006), suggesting that Big 5 self-awareness and alignment to same is not the only method for improving SWL. There are however conflicting findings to this too, as Rode (2004) established that job satisfaction and SWL may not in fact be directly related, alluding that any amendments to life outcomes may or may not have the desired outcome to SWL, which is not surprising given how complex any person's circumstances may be. As such, what this current study aims to establish will not be a perfect predictive model for any given individual, but a helpful tool to inform decision making, as any individual is too complex for such a simple conceptual algorithm to be all encompassing.

Some limiting factors for consideration in the relationship between Big 5 and SWL, which this research will not capture, include the values instilled in the individual, which may be more prevalent in any given scenario than their Big 5, namely "Traits refer to what people are like, values to what people consider important." (Roccas, Sagiv, Schwartz & Knafo, 2002), suggesting that a given set of values could be more impactful to SWL than the Big 5 for any given person.

The current study – Self-awareness of Big 5 on SWL

As established above, certain facets of the Big 5 can be predictive when it comes to SWL and greater levels of self-awareness can also be predictive of SWL. Therefore, this research aims to to combine these two factors, to find if self-awareness of one's own Big 5 will predict SWL. It is hypothesized that greater levels of self-awareness will predict greater levels of SWL and vice versa for lower levels and that, if correct, SWL can be increased by increasing knowledge and self-knowledge of the Big 5.

Rationale and research aims/hypotheses.

Previous research has found that certain Big 5 traits and combinations of Big 5 traits can be predictive of satisfaction with life. There is also existing research for how self-awareness in certain domains can be predictive of satisfaction with life. However, the reviewed research did not investigate the relationship between self-awareness of personality traits and how this may or may not predict SWL. Therefore, the aim of the current study is to provide a greater understanding of self-awareness, using Big 5 personality traits to establish if it is predictive of SWL scores. If this is found to be predictive, it can be a tool for individuals to increase SWL scores by gaining a greater self-awareness of their Big 5 personality traits.

Hypothesis 1: Greater levels of self-awareness of the Big 5 personality traits as a whole will produce greater levels of satisfaction with life.

Hypothesis 2: Greater levels of self-awareness for Big 5 personality trait Openness will produce greater levels of satisfaction with life, and vice versa.

Hypothesis 3: Greater levels of self-awareness for Big 5 personality trait Conscientiousness will produce greater levels of satisfaction with life, and vice versa.

Hypothesis 4: Greater levels of self-awareness for Big 5 personality trait Extraversion will produce greater levels of satisfaction with life, and vice versa.

Hypothesis 5: Greater levels of self-awareness for Big 5 personality trait Agreeableness will produce greater levels of satisfaction with life, and vice versa.

Hypothesis 6: Greater levels of self-awareness for Big 5 personality trait Neuroticism will produce greater levels of satisfaction with life, and vice versa.

Method

Participants

The research sample within the current study consisted of 130 participants (Males: n = 42; Females: n = 85; other/prefer not to say: n = 3) with an average age of 36.15 years (Standard Deviation of 11.68 years) and was composed of friends, family, colleagues, fellow students and peers of the researcher. Participants were recruited through convenience sampling using the researcher's messaging and social media accounts (Whatsapp, Instagram & LinkedIn). A non-probability , convenience sampling strategy was implement to recruit participants online and in line with ethical considerations, participants were required to provide informed consent before completing the questionnaire.

Measures/Materials

The questionnaire was created using two main pre-existing questionnaires; 1) **The Big Five Inventory (BFI) by Oliver P. John & Christopher J. Soto** which is a battery of 44 questions to ascertain where an individual falls on the spectrum of each of the personality traits Openness, Conscientiousness, Extraversion, Agreeableness & Neuroticism (appendix D). The Cronbach's Alpha for the Big 5 in other research ranged typically from 0.82 to 0.86 (Soto & John, 2017) and this is relatively consistent with this research (a = .72) for the 44 items, which indicated a moderate level of internal consistency.

Additionally, a set of definitions for each Big 5 trait was provided by Soto and John (2017) and these definitions were also used as questions to ascertain self-awareness and compare these responses against the actual 44 responses of the big 5

inventory (to create a delta score for each trait and a total delta score for the aggregate of same) and these definitions can be found in appendix B.

The Satisfaction with Life Scale (SWL) by Pavot, W., & Diener, E (appendix C) where higher scores equate to higher life satisfaction. The highest possible score is 35 and the Cronbach's Alpha for the SWL scale in other research typically ranged from 0.79 to 0.89 (Pavot & Diener, 2008) which is consistent with this research (a = 0.85), which indicated a high level of internal consistency.

Responses for all of the above were measured with Lickert 5-point or 7-point scales respectively (consistent with the questionnaire creator's formatting) and the content of these scales were copied directly and amalgamated into a Microsoft Forms, a survey builder.

Design

The present study is a cross-sectional research design as all data was collected at a specific point in time. The study was also quantitative in nature, employing survey research to collect data. Spearman's correlations were conducted to assess the all hypotheses as the data proved to not follow a normal distribution. The study contained 6 independent variables (IV), namely, the delta score for each of the Big 5 traits (Openness, Conscientiousness, Extraversion, Agreeableness & Neuroticism) and their combined total delta. The dependent variable (DV) was Satisfaction with life (SWL). The delta scores were calculated by categorising the 44 responses for the Big 5 traits into their respective trait category, assigning a response score based on the associated lickert scale (1-5 scale) and totalling these values for each trait, dividing the total score by the number of questions to acquire the mean score and then comparing the mean scores for each to the mean score of the 5 respective responses

for the Big 5 definition based questions. The Big 5 definition based questions were answered via a Lickert scale also but as this scale was 1-7 (unlike the Big 5 which was 1-5), so scores were divided by 7 and multiplied by 5 to get a consistent mean score for accurate and meaningful comparison to the Big 5 mean scores. This was completed to see if a discrepancy (delta) existed between the two sets of scores and if so, how much of a discrepancy existed (i.e. would an individual self-assess differently based on a high level definition of trait, relative to the narrower individual questions of the survey).

Procedures

Data was collected through an online questionnaire published and stored through Microsoft forms. The questionnaire used within the current study was an anonymous, self-report questionnaire, which was shared on the researcher's social media and messaging accounts via a web-link. When participants decided to participate in the study and open the shared web-link, they were provided with an information sheet detailing what was involved in participation as well as any risks or benefits of participation (appendix E). Participants were also provided with a consent form and were required to provide their informed consent to participate in this research before continuing with the questionnaire (appendix F). The questionnaire was completed by participants in their own time and took an average time of 11-12 minutes to complete. Once participants completed this questionnaire they were provided with a debriefing form (appendix E).

The questionnaire itself was created on Microsoft forms, using the set of predetermined questions from the two above mentioned questionnaires and the full list of questions can be found in appendix C and Appendix D. An additional set of

questions was created from the Big 5 questionnaire list, using the definitions for each of the Big 5 traits used with the original questionnaire from the same source and author (appendix B).

Once the closing date had been reached (circa 8 weeks in length total), the final set of 130 responses were extracted from Microsoft Forms and exported to Microsoft Excel (appendix A).

From here, a score was attached to each response for each participant (in accordance with the original, source questionnaires) and these scores were then aggregated for each participant, for each Big 5 trait, the total of those Big 5 traits and the SWL score and the delta scores for all of the above. A sample of scores were tested through and compared to the original source questionnaires to ensure accuracy and consistency with the source material. After all scores were calculated and listed, these were then input to SPSS (see Appendix A) and the analysis began.

Ethical considerations

All data was collected in accordance with the ethical guidelines of NCI. The risks and benefits of partaking in the study were clearly outlined and there was no incentive to take part, and all participants provided informed consent. Helplines, such as Samaritans, contact details were provided in the debrief form for those that felt distress as a result of taking part in the study (see Appendix F).

Results

Descriptive statistics were performed for all variables including and Means (M), Standard Deviations (SD), Medians (MD), and Range were obtained with results for same presented below in table 1. Histograms were also obtained and indicated that the data was not normally distributed. Histograms for all variables are presented in Appendix G.

Of the 130 participants, 65.4% were female, 32.3% were male and the remaining 2.3% chose other/prefer not to say. The average age was 36.15 with an SD of 11.68. For life-satisfaction, the average score was 24.7 out of possible 35 (consistent with average ranges found in other research, which was 23.6-27.9 (Pavot & Diener, 2008)) and this represents a designation of "slightly satisfied". For Big 5, the mean scores for each trait, out of a maximum score of 5, were in line with average scores from source material which ranged from 2.3 – 3.8 (Soto & John, 2017), are below in table 1.

Table 1 –

Descriptive statistics for Big 5 trait scores, N = 130

Variable	M (95% Confidence Intervals)	Median	SD	Range
Openness	3.40 (3.30-3.51)	3.35	0.60	3.40
Conscientiousness	3.74 (3.63-3.86)	3.83	0.65	3.11
Extraversion	3.39 (3.30-3.49)	3.50	0.55	2.63
Agreeableness	3.96 (3.85-4.07)	4.05	0.62	3.22
Neuroticism	2.78 (2.64-2.91)	2.75	0.79	3.88

The absolute mean delta shows the level at which a participant was incorrect in their self assessment (i.e. if a person self scored as 10 but scored 9 or 11 on the questionnaire, their delta is 1 regardless of positive or negative) and these scores for each of the Big 5 traits are in listed in table 2 below, along with the mean total life-satisfaction score and the total delta score which is the aggregated mean delta across all combined Big 5 traits. The delta percentage value, showing the percentage for how far away each respective delta was from it's absolute score (i.e. how incorrect each mean trait score was after comparison, regardless of under or over estimation), for each is as follows; Openness 20.8%, Conscientiousness 20.8% Extraversion 15.8%, Agreeableness 20.2% & Neuroticism 17.0%. The average response delta relative to absolute trait scores across all Big 5 traits combined was 19.0%.

Table 2 –

Descriptive statistics for Big 5 trait mean delta scores, N = 130

Variable	M(95% Confidence Intervals)	Median	SD	Skewness	Kurtosis	Range
Life Satisfaction	24.74(23.72-25.76)	25.50	5.86	-0.77	0.15	28.00
Openness Delta	1.04 (0.89 – 1.17)	0.86	0.79	1.11	1.28	3.87
Conscientiousness Delta	1.04 (0.89 – 1.19)	0.84	0.85	0.97	0.28	3.73
Extraversion Delta	0.79 (0.67 – 0.90)	0.62	0.66	1.21	1.32	3.14
Agreeableness Delta	1.01 (0.87 – 1.15)	0.76	0.82	0.82	-0.42	3.35
Neuroticism Delta	0.85 (0.75 – 0.95)	0.78	0.58	0.69	-0.31	2.52
Total Delta	0.95 (0.88 – 1.01)	0.86	0.39	0.69	0.37	2.06

The relative mean delta values, showing under/over estimation (where a negative score equals overestimated and a positive score equals underestimated) of traits are as follows; For Openness, 44 participants over estimated their level of openness by a mean score of 0.65 (13% from mean total score), 86 under estimated by a mean score of 1.23 (24.60% from mean total score), and 0 participants had a delta of >.01 (>1% from mean total score).

For Conscientiousness, 32 participants over estimated their level of conscientiousness by a mean score of 0.42 (8.40% from mean total score, which was the joint lowest over estimation of all Big 5 traits), 97 under estimated by a mean score of 1.26 (25.20% from mean total score, which was the largest under estimate of all Big 5 traits), and 1 participants had a delta of >.01 (>1% from mean total score).

For Extraversion, 65 participants over estimated their level of extraversion by a mean score of .058 (11.60% from mean total score), 65 under estimated by a mean score of 0.99 (19.80% from mean total score), and 0 participants had a delta of >.01 (>1% from mean total score).

For Agreeableness, 18 participants over estimated their level of agreeableness by a mean score of 0.42 (8.40% from mean total score, which was the joint lowest over estimation of all Big 5 traits), 111 under estimated by a mean score of 1.12 (22.40% from mean total score), and 1 participant had a delta of >.01 (>1% from mean total score).

For Neuroticism, 50 participants over estimated their level of neuroticism by a mean score of 0.75 (15.00% from mean total score, which was the largest over estimation of all Big 5 traits), 80 participants under estimated by a mean score of 0.91

(18.20% from mean total score, which was the lowest underestimation of all Big 5 traits), and 0 participants had a delta of >.01 (>1% from mean total score).

In total across the combined 650 data points (130 participants for each respective Big 5 trait response total), 209 over estimated by an average of score of 0.56 (11.20%), 439 under estimated by an average score of 1.10 (22.00%) and only 2 participants had a discrepancy of >.01 (>1%).

Inferential statistics

Preliminary analyses were performed which showed the data violated assumptions of normality and that none of the variables measured were normally distributed, as can be observed in the produced histograms (appendix G). Therefore, a non-parametric analysis was completed via a Spearman correlation, which was computed instead of Pearson correlation to assess the relationship between the variables. Scatterplots were also produced as part of the analysis and these can be seen below in figures 1–6. Inspection of the scatterplots showed that data was not normally distributed for all variables and that no strong correlation for any of the respective combinations of the dependent variable and independent variables was observed.

Figure 1

Scatterplot of SWL Score and Total delta of all Big 5 traits

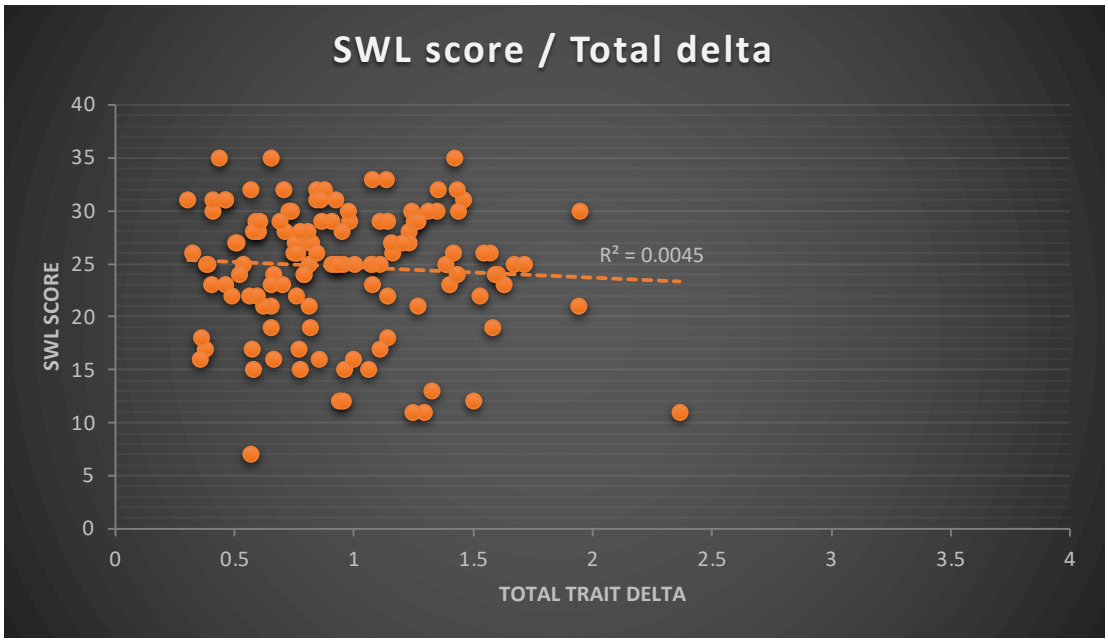


Figure 2

Scatterplot of SWL Score and Total delta Openness

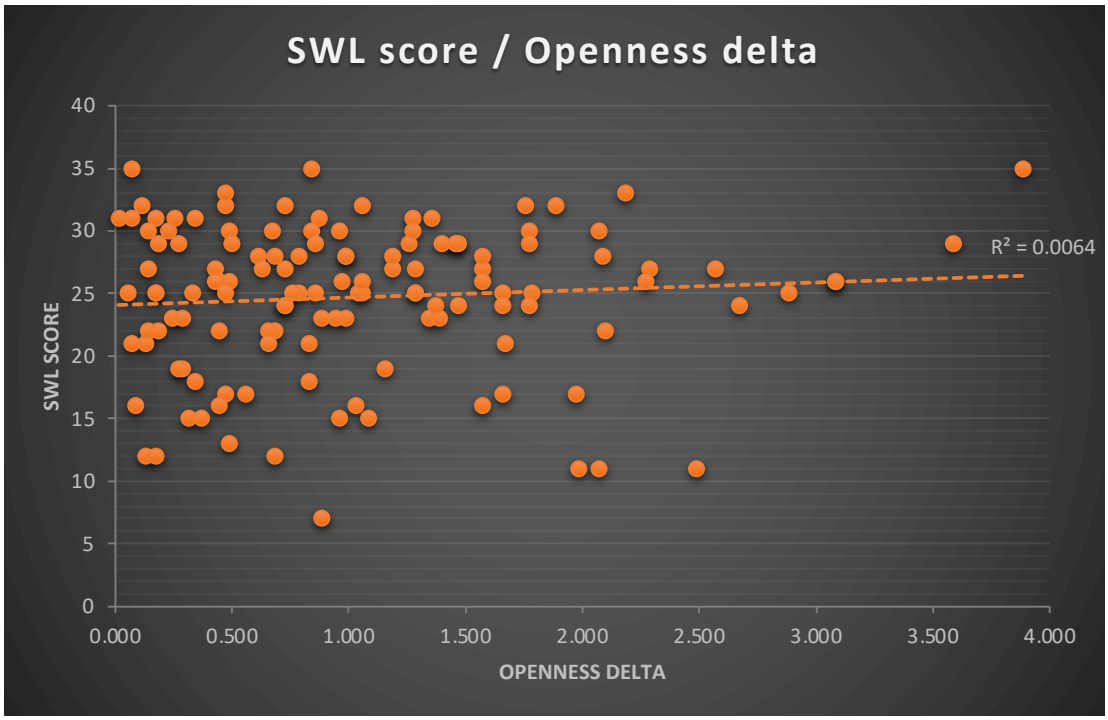


Figure 3

Scatterplot of SWL Score and Total delta Conscientiousness

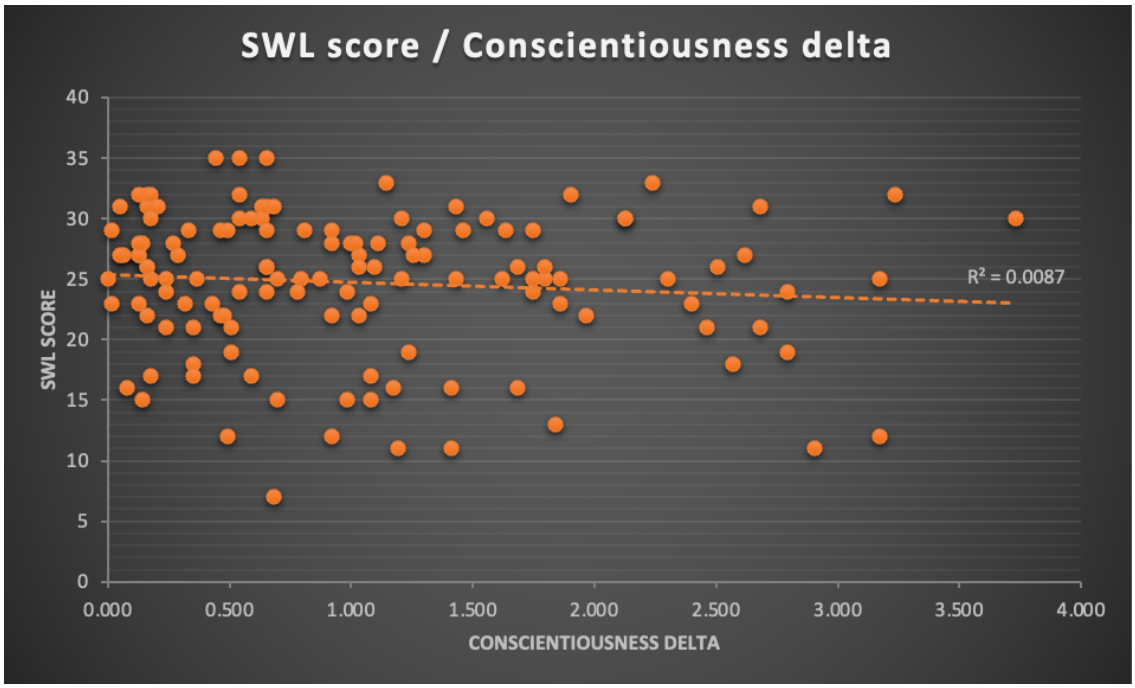


Figure 4

Scatterplot of SWL Score and Total delta Extraversion

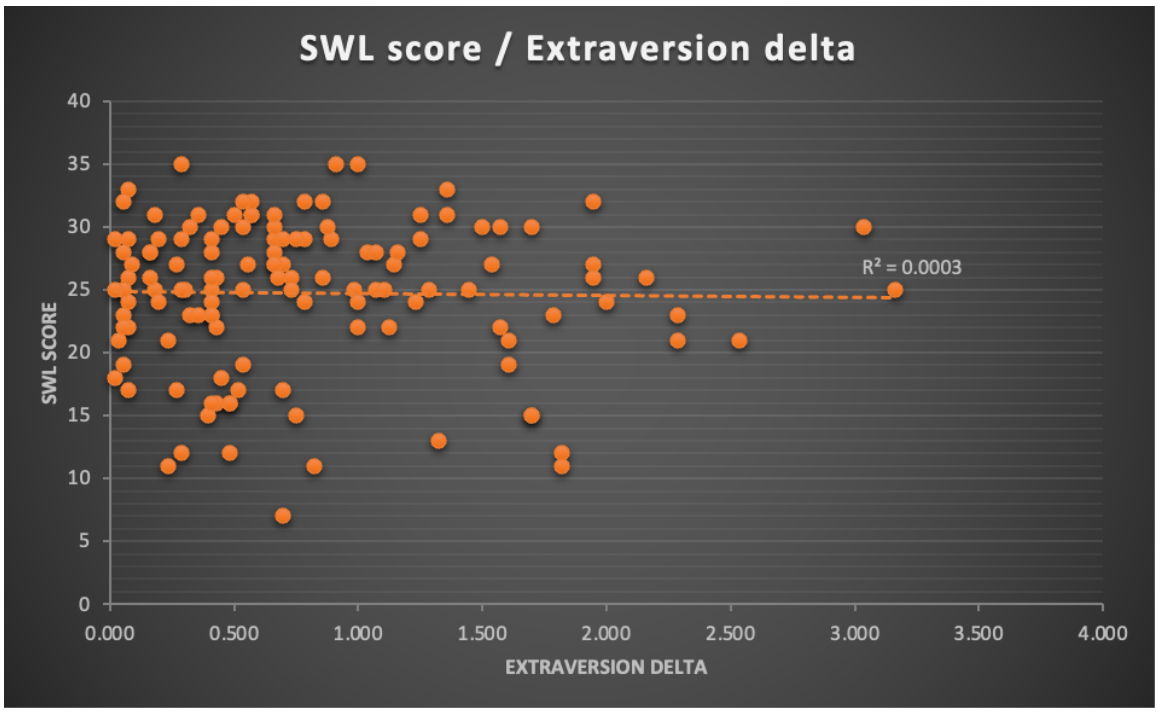


Figure 5

Scatterplot of SWL Score and Total delta Agreeableness

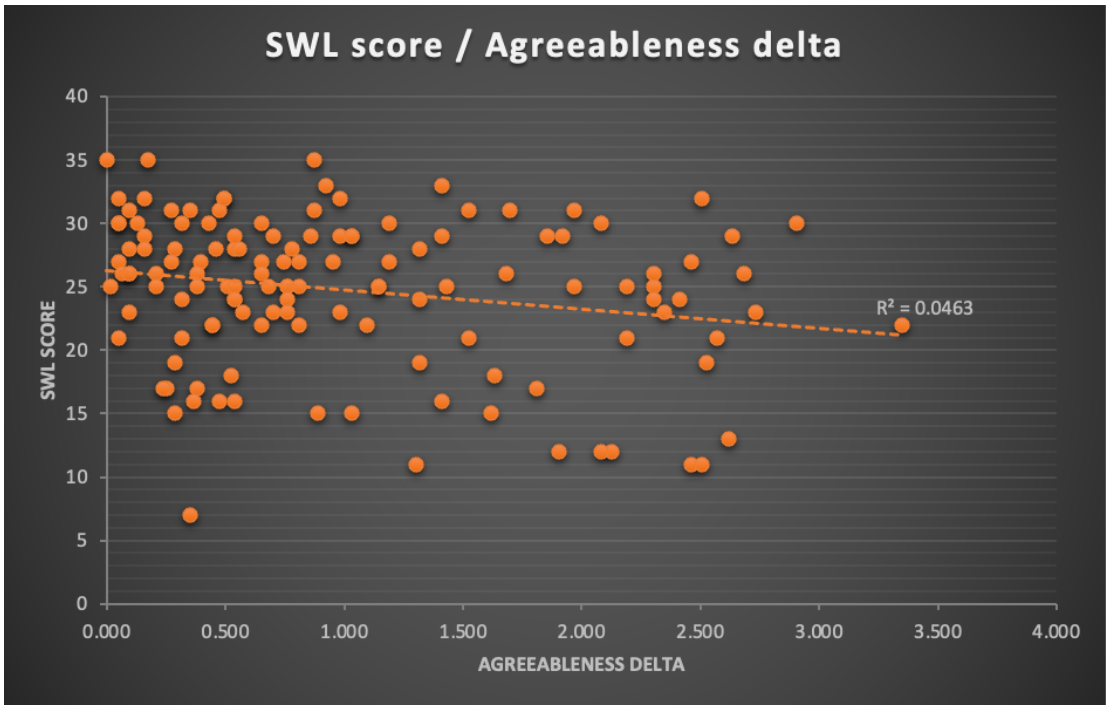
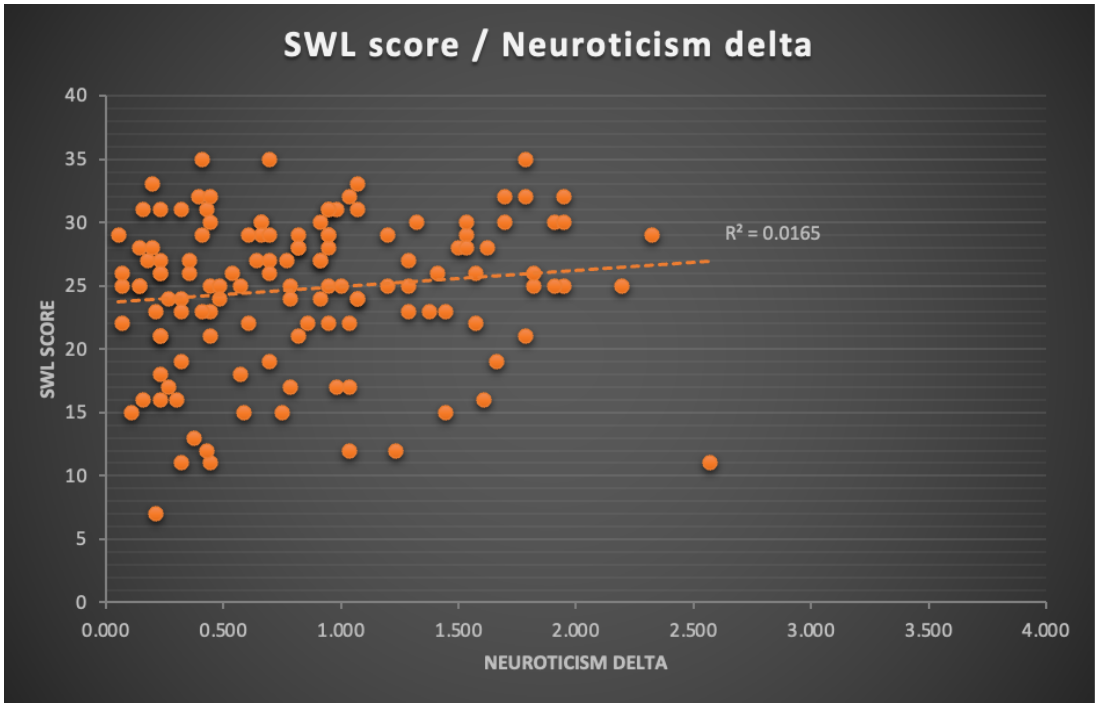


Figure 6

Scatterplot of SWL Score and Total delta Neuroticism



A Bonferroni adjustment was applied resulting in a value of $p = 0.008$ (i.e. 0.05/6) to reduce the chances of obtaining a type 1 error. After the Bonferroni adjustment was applied all variables had non-statistically significant correlations to SWL scores, as follows; Total delta ($rs(130) = -.017$, $p = .848$), Openness Delta ($rs(130) = .053$, $p = .547$), Conscientiousness Delta ($rs(130) = -.890$, $p = .312$), Extraversion Delta ($rs(130) = .029$, $p = .741$), Agreeableness delta ($rs(130) = -.195$, $p = .026$), Neuroticism Delta ($rs(130) = .150$, $p = .089$).

To summarise, there were no statistically significant correlations observed or found between SWL and self-awareness of Big 5 personality traits, either as a whole or by each respective trait. Therefore, self-awareness, as measured by the Big 5 Personality traits, does not significantly predict SWL directly.

Discussion

In the current study, it was attempted to find if an association existed between self-awareness, Big 5 personality traits and SWL. The current study sought to provide a greater understanding of SWL by examining how self awareness of the Big 5 personality traits may predict SWL. Prior findings have shown that in certain domains, higher levels of self-awareness resulted in higher levels of SWL as Stefanus, Sudana and Hambali (2021) found that that general self-awareness contributed over 55% to SWL scores and so self-awareness is classified as having a significant contribution to SWL. Other findings have shown that, similarly, certain Big 5 traits and combinations of Big 5 traits can predict satisfaction with life scores with Odacı and Cikrikci (2018) finding that the traits extraversion, agreeableness, conscientiousness and neuroticism emerged as significant predictors of life satisfaction. Based on findings such as these, it was hypothesised that there would be

a relationship between self awareness of Big 5 personality traits and SWL for the total aggregate of Big 5 traits and for there to be a relationship between self-awareness of each of the respective Big 5 personality traits and SWL.

However, the main and first hypothesis, that levels of higher or lower self-awareness of Big 5 traits in aggregate would predict higher or lower levels of SWL was not supported, with results showing that the aggregated delta score for self-awareness of Big 5 did not significantly predict or correlate with levels of SWL. Additionally, for all remaining hypotheses 2-6, that levels of higher or lower self-awareness of each respective Big 5 would predict higher or lower levels of life-satisfaction were also not supported, with results showing that the delta scores for each respective Big 5 trait did not significantly predict or correlate with levels of SWL. As such, findings were not directly consistent with the existing literature, although this may be in part due to the novel combination of self-awareness and Big 5 together and this may benefit future research into SWL as a guide for what may or may not be impactful or predictive to SWL.

One finding of interest that was not hypothesised was the overall level of delta scores (i.e. differences between perceived Big 5 traits and the actual scores on the Big 5 traits for participants). Of the 650 delta scores acquired via the Big 5 traits for each 130 participants, more than 99% of these produced a delta score, with the overall mean score across all traits being incorrect by 18.98%. This finding suggests that there is a general lack of knowledge of the Big 5 personality traits and/or a general lack of self-awareness of same amongst the participants.

Implications

The current study further demonstrates the importance of examining varied and different forms and directions of SWL scores and the factors that contribute to it, such as different forms of self-awareness, so as to narrow down the most effective way to measure and improve SWL scores. Whilst self-awareness of Big 5 personality traits did not prove to be predictive of SWL scores, other types of self-awareness may be more significant in predicting it and helpful to increasing SWL for individuals or the wider population as a whole. If so, finding ways of improving SWL and the proliferation of knowledge for this can be used to aide individuals or the general public.

Strengths and limitations

A strength of this research is that it aimed to expand upon previous research in a novel way. While self-awareness in others aspects has generally has been shown to improve life outcomes and SWL, as has certain combinations of Big 5 personality traits, the combination of the two did not yield a significant predictor for SWL, suggesting it would not be fruitful for future research to be continued here and that researchers can focus on other measures of self-awareness and/or SWL instead.

A possible limitation of this study is social desirability bias in the responses to the questionnaires, as some answers or traits can be more desirable by individuals which can affect responses. Additionally, as the entirety of the questionnaires were self-report based, a selection bias may have been present with participants, as while personality traits and life satisfaction are both stable over time, they are always subject to in the moment fluctuations with participants responding based on how they felt at the time of completion rather than how they view themselves over time.

A further possible limitation is the somewhat autological definitions used for the Big 5 trait questions, as these were sourced from the same material as the 44 Big 5 questions and so a participant could unwittingly have selected answers based on familiarity rather than doing so organically, as they were already exposed and responded to similar type questions. A method to ameliorate this limitation would be if a set of lifestyle-based questions were included in the overall questionnaire set, requiring participants to answer real-life questions on themselves relating to preferences such as hobbies, vocation etc in an attempt to associate these answers to specific traits that the participant wouldn't be aware of. However, this would also have its own issues such as delving further into personal information of the participant and increasing the size of the work-load required of the participant, reducing the likelihood of participation.

Another limitation of the study itself, when acquiring the self-awareness responses, is the potential for an acquiescent response style, which is the tendency of an individual to consistently agree or consistently disagree with questionnaire items, regardless of their content. To address this issue, the researchers who created the questionnaires to be used in this research aimed to construct a scale for the number of true/false responses on to counter this acquiescence (Soto & John, 2017).

Future research

Although no significant results were found within this study, a variation on the theme of this study may prove more beneficial. If a longitudinal element was added so that participants were tested at time-point A and after completion, their respective scores and delta scores where provided to them and explained (thereby increasing their self-awareness), they could then be tested at a later point in time (time-point B)

to see if the increase in self-awareness yielded an increase in SWL, when results of time-point B are compared to time-point A. If this did prove to be predictive, it would suggest that self-awareness of Big 5 could improve SWL on a relative scale rather than on an absolute scale (as per the current study failed to find). This could also be iteratively repeated ad-infinitum over time for participants to measure their arc of SWL over time and if their attempts to improve SWL by increasing relative self-awareness scores are successful.

Conclusion

This study expands the current understanding of SWL by examining self-awareness, via the Big 5 personality traits and found no significant predictive utility in its main hypotheses of self-awareness of Big 5 personality traits as whole being predictive of SWL, nor did it find any significant predictive utility in each of the respective Big 5 traits. Though existing research has demonstrated that general self-awareness measured in other ways can be predictive of positive outcomes for an individual, it has not been replicated with this study in relation to SWL scores. The current study attempted to provide a new perspective on how to identify ways to improve SWL and while this wasn't achieved we have however at least discovered a style of measuring that does not seem to predict SWL and therefore future research can be focussed and prioritized in other measures and areas. These findings highlight the importance of studying different forms self awareness

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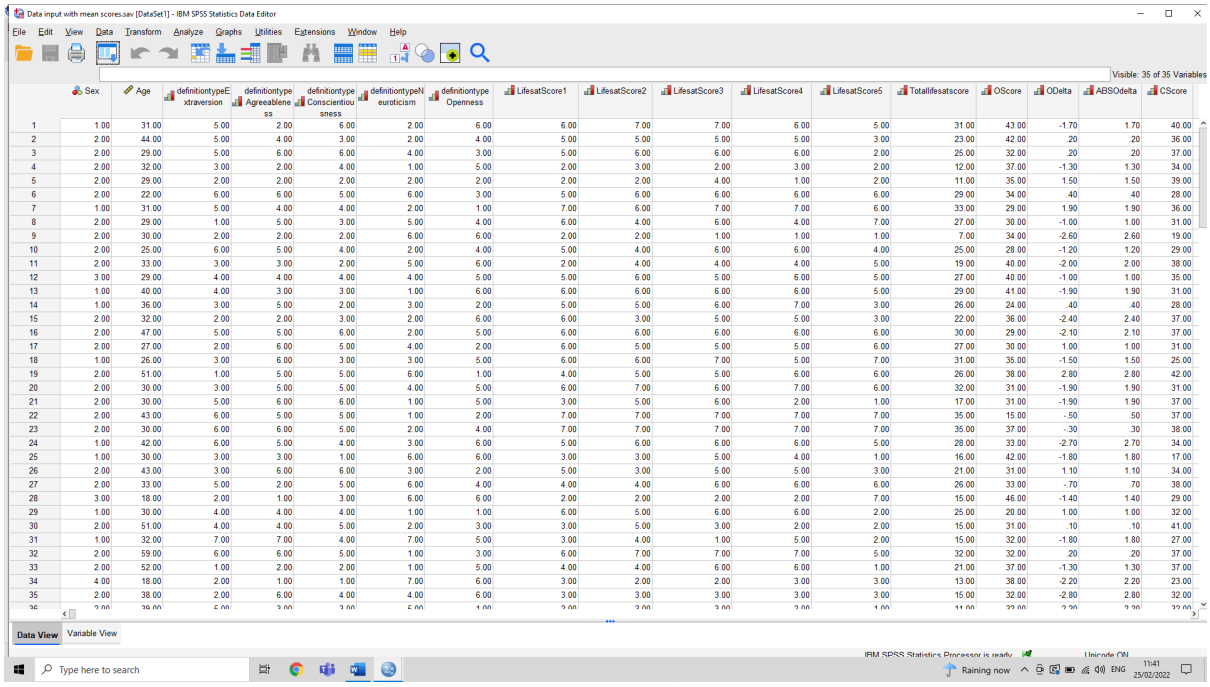
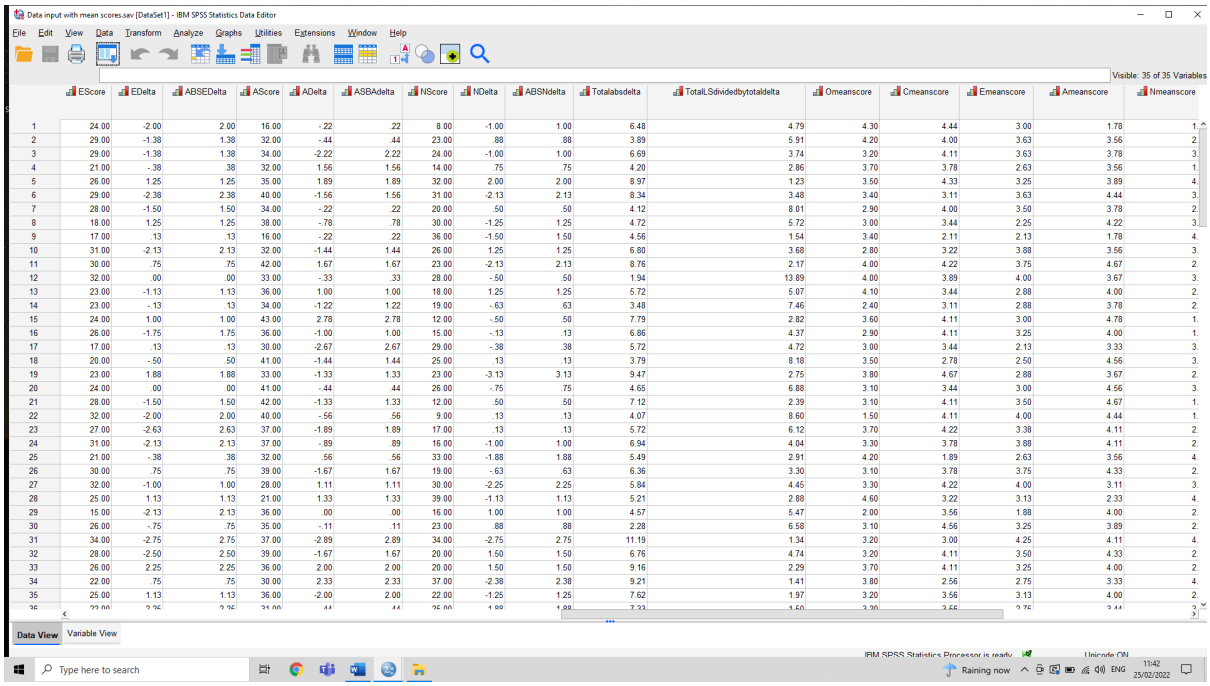
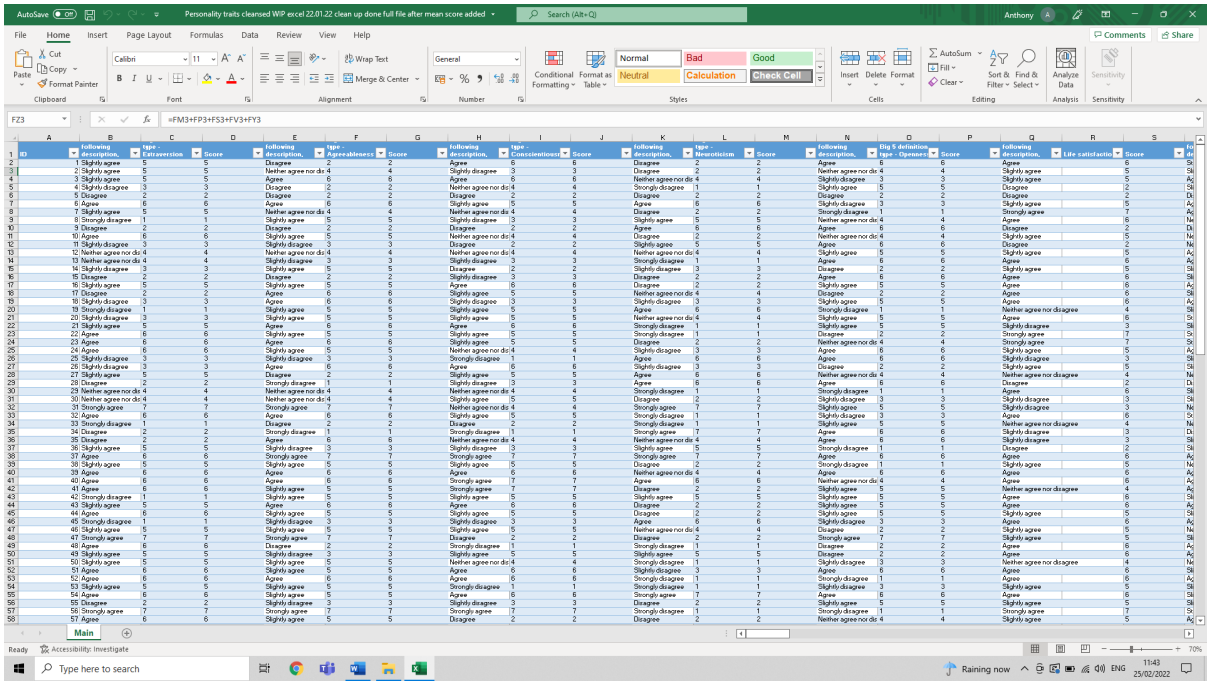
Appendices

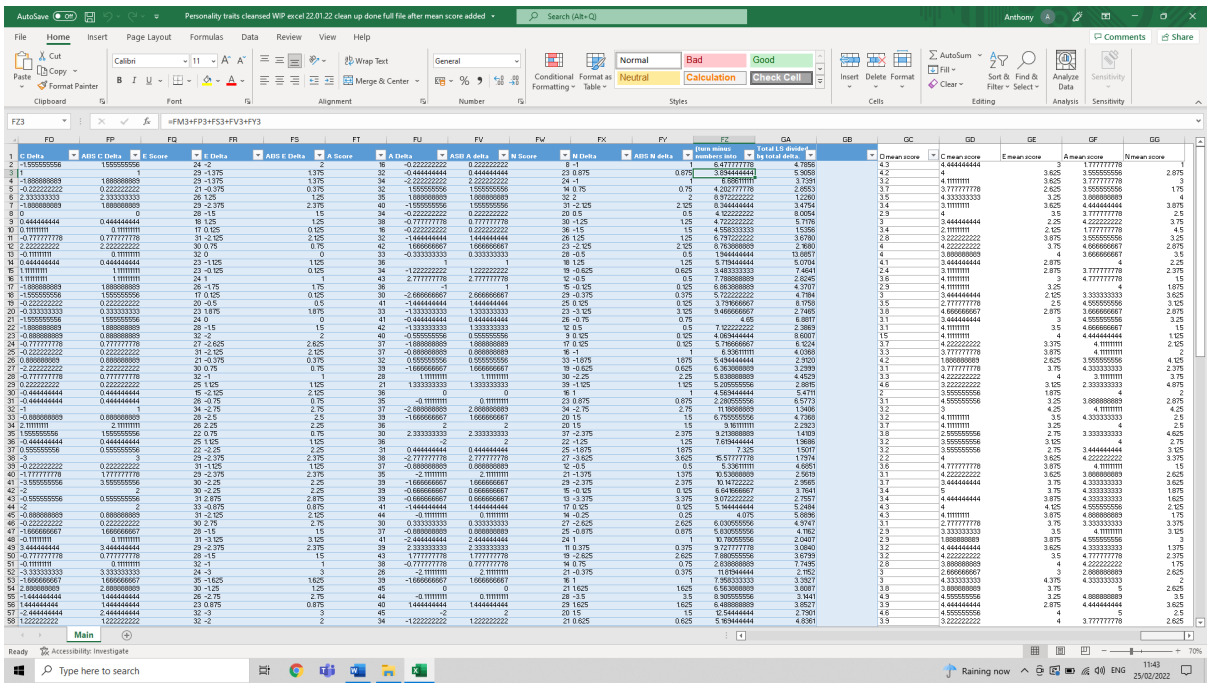
Appendix A:

Evidence of SPSS data and supporting excel workings









Appendix B:

Big 5 definition based questions sourced from The Big Five Inventory (BFI) by Oliver P. John & Christopher J. Soto. https://psytests.org/result?v=ipim_7-F5t

Based on the following description, please select the rating that most applies to you below:

Strongly disagree

Disagree

Slightly Disagree

Neither agree nor disagree

Slightly Agree

Agree

Strongly Agree

I tend to be talkative and energetic. I like being around people, and am comfortable asserting myself in a group. I tend to have more friends and dating partners, and am seen as more popular. I generally prefer, and am successful in, social and enterprising occupations. I am more likely to serve in community leadership roles, and to do volunteer work. I tend to prefer energetic music such as hip-hop, rock, and heavy metal, exercise more frequently, and am more likely to play a sport. I experience more frequent positive emotions, and react more strongly to positive events. I tend to be considerate and polite in social interactions, and enjoy cooperating. I find it easy to trust people, and feel compassion for those in need. I tend to be well liked by my peers, and establish satisfying and stable close

relationships. I generally prefer, and do better in, social occupations. I am more likely to be religious, to serve in community leadership roles, and to do volunteer work. I tend to prefer pop, country, and religious music. I tend to be organized and responsible. I work hard to achieve my goals, and see tasks through to completion. I tend to earn higher grades in school, and perform better in many occupations. I am more likely to be religious and hold conservative political attitudes. I tend to exercise more. I tend to be emotionally sensitive, and have up-and-down mood swings. I experience more frequent negative emotions, and react more strongly to negative events. I am generally open to new activities and new ideas. I tend to be creative, intellectually curious, and sensitive to art and beauty. I tend to prefer, and do better in, scientific and artistic occupations. I am more likely to hold liberal political attitudes, prefer classical, jazz, blues, and rock music, and engage in drug use.

Appendix C:

The Satisfaction with Life Scale (SWL) by Pavot, W., & Diener, E.

http://internal.psychology.illinois.edu/~ediener/SWLS.html

Based on the following description, please select the rating that most applies to you below: Strongly disagree

Disagree

Slightly Disagree

Neither agree nor disagree

Slightly Agree

Agree

Strongly Agree

Based on the following description, please select the rating that most applies to you below: In most ways my life is close to my ideal.Based on the following description, please select the rating that most applies to you below: The conditions of my life are excellent. Based on the following description, please select the rating that most applies to you below: I am satisfied with my life. Based on the following description, please select the rating that most applies to you below: So far I have gotten the important things I want in life. Based on the following description, please select the rating that most applies to you below: If I could live my life over, I would change almost nothing.

Appendix D:

44x questions sourced from The Big Five Inventory (BFI) by Oliver P. John & Christopher J. Soto. https://psytests.org/result?v=ipim_7-F5t

Based on the following description, please select the rating that most applies to you below:

Strongly disagree

Slightly Disagree

Neither agree nor disagree

Slightly Agree

Strongly Agree

I see myself as someone who… Is talkative. I see myself as someone who… Tends to find fault with others. I see myself as someone who… Does a thorough job. I see myself as someone who… Is depressed, blue. I see myself as someone who… Is original, comes up with new ideas. I see myself as someone who… Is reserved. I see myself as someone who… Is helpful and unselfish with others. I see myself as someone who… Can be somewhat careless. I see myself as someone who… Is relaxed, handles stress well. I see myself as someone who… Is curious about many different things. I see myself as someone who… Is full of energy. I see myself as someone who… Starts quarrels with others. I see myself as someone who… Is a reliable worker. I see myself as someone who… Can be tense. I see myself as someone who… Is ingenious, a deep thinker. I see myself as someone who… Generates a lot of enthusiasm. I see myself as someone who… Has a forgiving nature. I see myself as someone who… Tends to be disorganized. I see myself as someone

who… Worries a lot. I see myself as someone who… Has an active imagination. I see myself as someone who… Tends to be quiet. I see myself as someone who… Is generally trusting. I see myself as someone who… Tends to be lazy. I see myself as someone who… Is emotionally stable, not easily upset. I see myself as someone who… Is inventive. I see myself as someone who… Has an assertive personality. I see myself as someone who… Can be cold and aloof. I see myself as someone who… Perseveres until the task is finished. I see myself as someone who… Can be moody. I see myself as someone who… Values artistic, aesthetic experiences. I see myself as someone who… Is sometimes shy, inhibited. I see myself as someone who… Is considerate and kind to almost everyone. I see myself as someone who… Does things efficiently. I see myself as someone who… Remains calm in tense situations. I see myself as someone who… Prefers work that is routine. I see myself as someone who… Is outgoing, sociable. I see myself as someone who… Is sometimes rude to others. I see myself as someone who… Makes plans and follows through with them. I see myself as someone who… Gets nervous easily. I see myself as someone who… Likes to reflect, play with ideas. I see myself as someone who… Has few artistic interests. I see myself as someone who… Likes to cooperate with others. I see myself as someone who… Is easily distracted. I see myself as someone who… Is sophisticated in art, music, or literature.

Appendix E:

Participation and debriefing:

The purpose of this study is to examine personality traits. Data for this will be collected via a self-reported questionnaire relating to personality trait scores. No identifying data will be collected as part of this questionnaire, all responses are completely anonymised. No data other than your responses will be collected and only I and my supervisor will have access to this data. The questionnaire itself will take no longer than 8 minutes total. You can opt out of completing the questionnaire by closing the browser window. However, once your responses have been submitted it is no longer possible to opt out, due to responses being anonymised. Thank you for participating.

Appendix F:

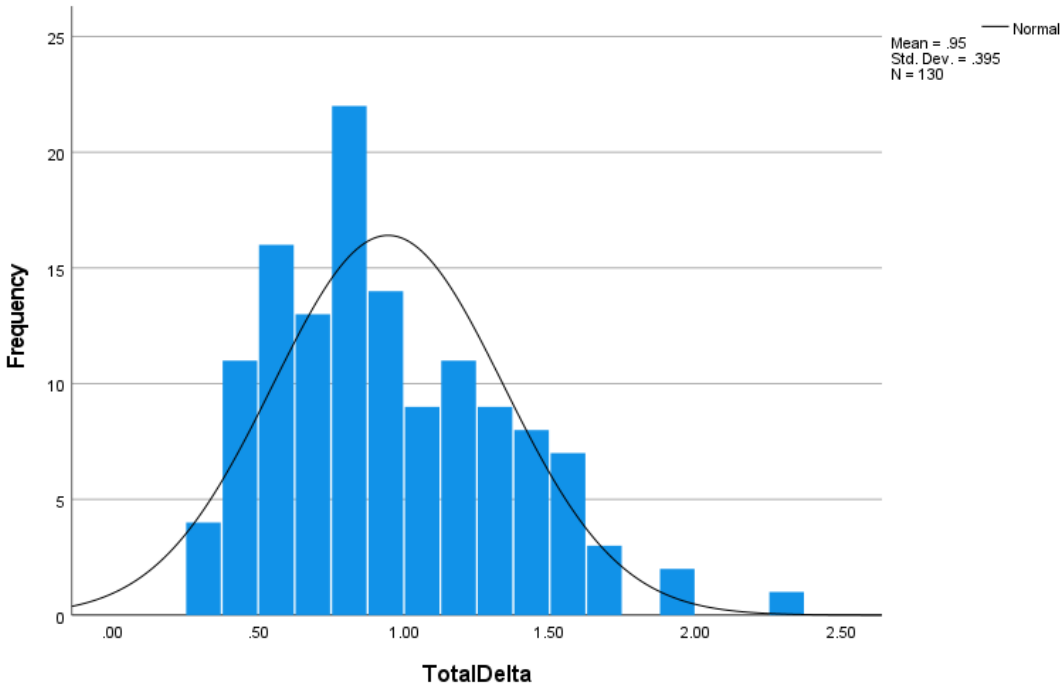
Consent form:

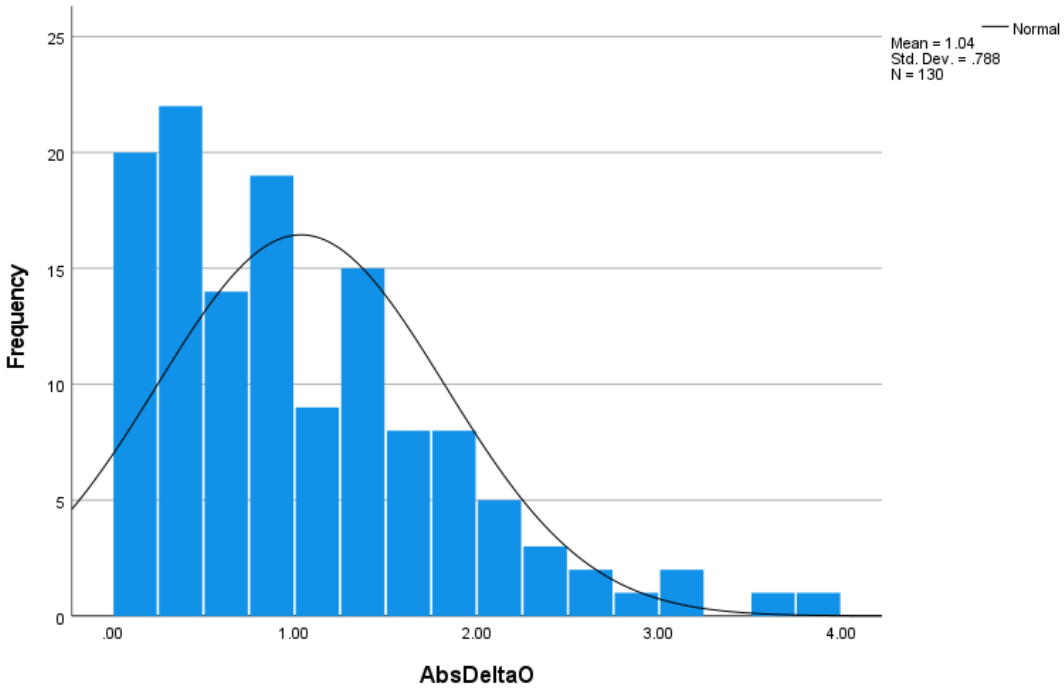
Summary: This study is to examine personality traits. Data for this will be collected via a self-reported questionnaire relating to personality trait scores. Your right to withdraw: Participation is entirely voluntary. Should you choose to withdraw prior to completing the questionnaire you can do so by closing the browser or leaving the site hosting the questionnaire and will not be penalised for doing same. Benefits and risks: There are no direct benefits to you for participating in this study, other than the contribution to my final year project. There are no negative outcomes or risks anticipated from participation in the study. This study has obtained ethical approval from the NCI ethics committee. If this study does produce any negative mental health side effects please contact the Samaritans support call on free phone 01 - 116123 or go to https://www.samaritans.org/ireland/samaritans-ireland/ . Time commitment: Participation in this study typically takes 6 to 8 minutes for completion. Guarantee of confidentiality: All responses submitted are entirely anonymous and no identifying data will be gathered, including IP addresses which will not be collected, so data or responses can't be tracked back to the individual that submitted. All data gathered from this study will be accessible only to the researcher and supervisor involved in the study. The anonymous data will be stored on the NCI Onedrive system and the NCI servers, which are password protected. GDPR: You maintain the right to withdraw from the study at any stage up to the point of data submission, at which point your data will be collated with that of other participants and can no longer be retracted. The anonymous data will be stored on the NCI OneDrive system and on the NCI server. The data will be stored for a maximum of 5 years in line with NCI research guidelines, after this time period all raw data will be deleted. The information you

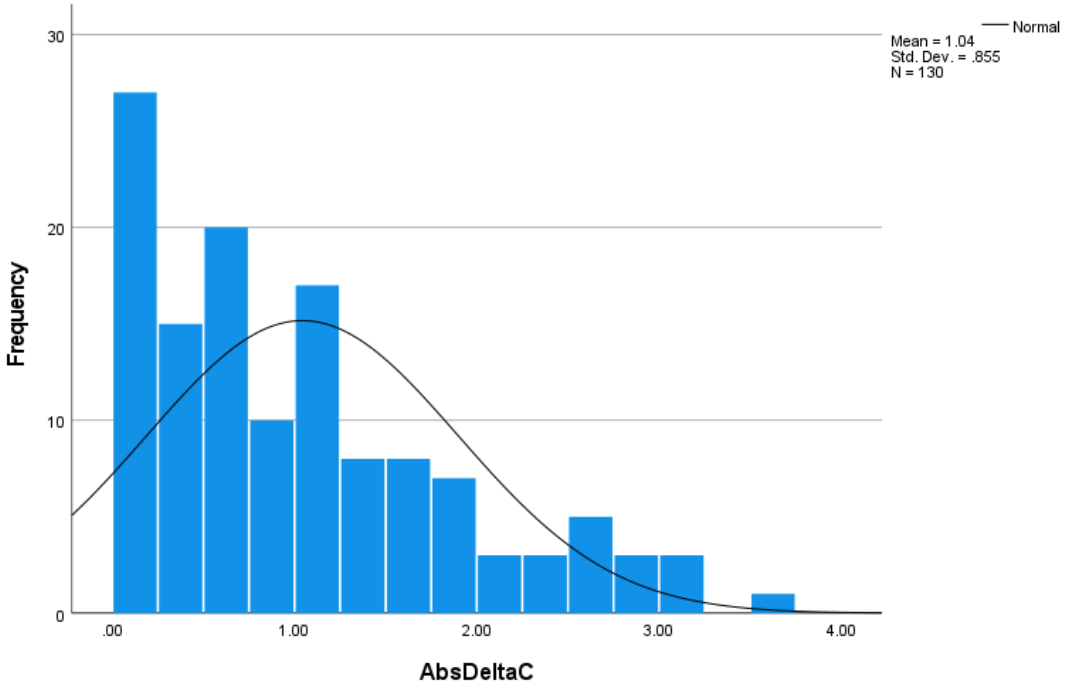
provide will be used to contribute to the primary researcher's final year project and may contribute to other research publications and/ or conference presentations. If you have a concern about how we have handled your personal data, you are entitled to raise this with the Data Protection Commission -https://www.dataprotection.ie/ Contact information: This research study is being conducted by Anthony Ormond, NCI student. The project supervisor is Dr. Gerard Loughnane, NCI. If you have questions or concerns about your participation in this study, or wish to obtain information regarding the outcome of the study, you may contact the researcher through NCI or at x18136044@student.ncirl.ie. Complaints: If you have a complaint about how this research was conducted, please contact in writing: The Ethics Committee, NCI, Mayor St. Lower. IFSC, Dublin

Appendix G:

Histograms:



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Std. Dev. = .855
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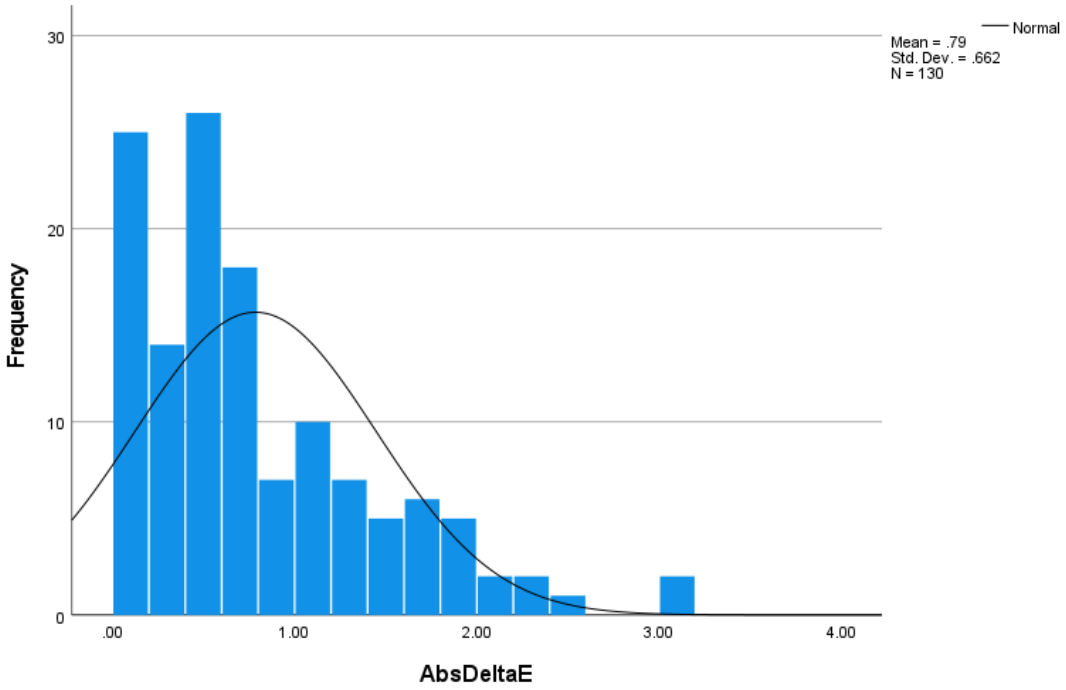
.00
1.00
2.00
3.00
4.00
AbsDeltaC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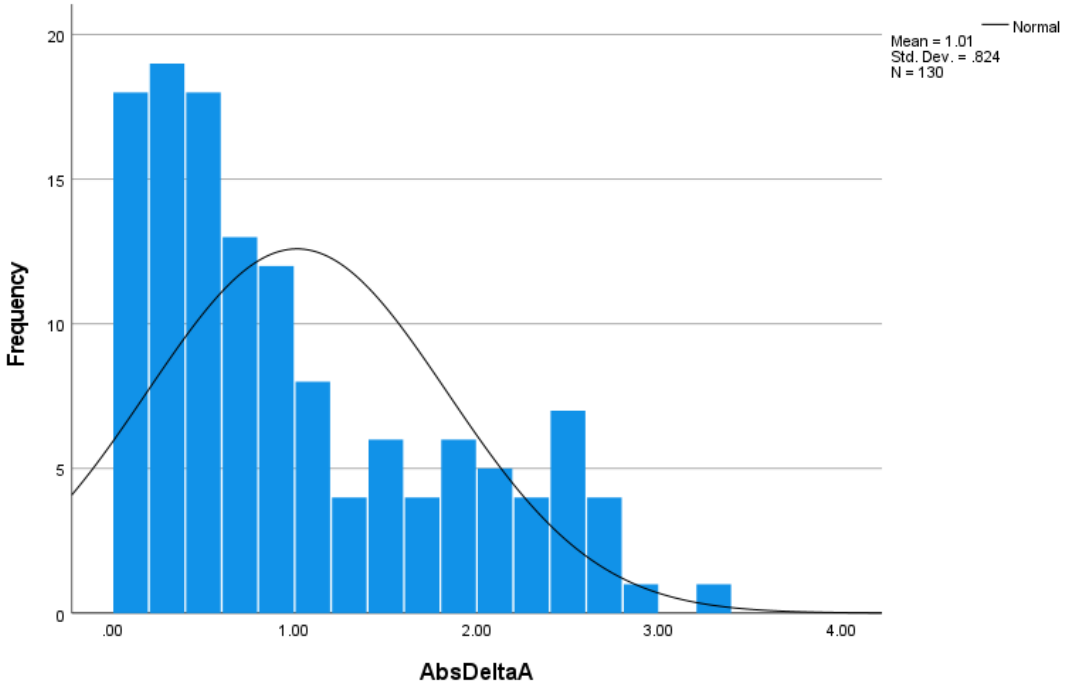
4.00
AbsDeltaE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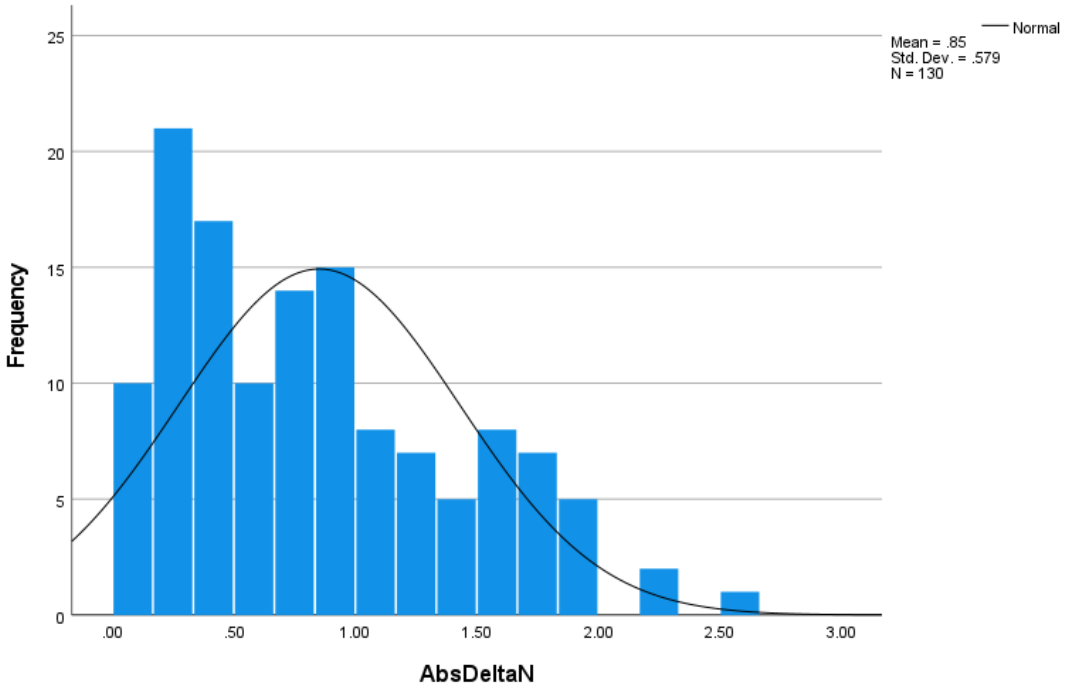
4.00
AbsDeltaA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Frequency
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15
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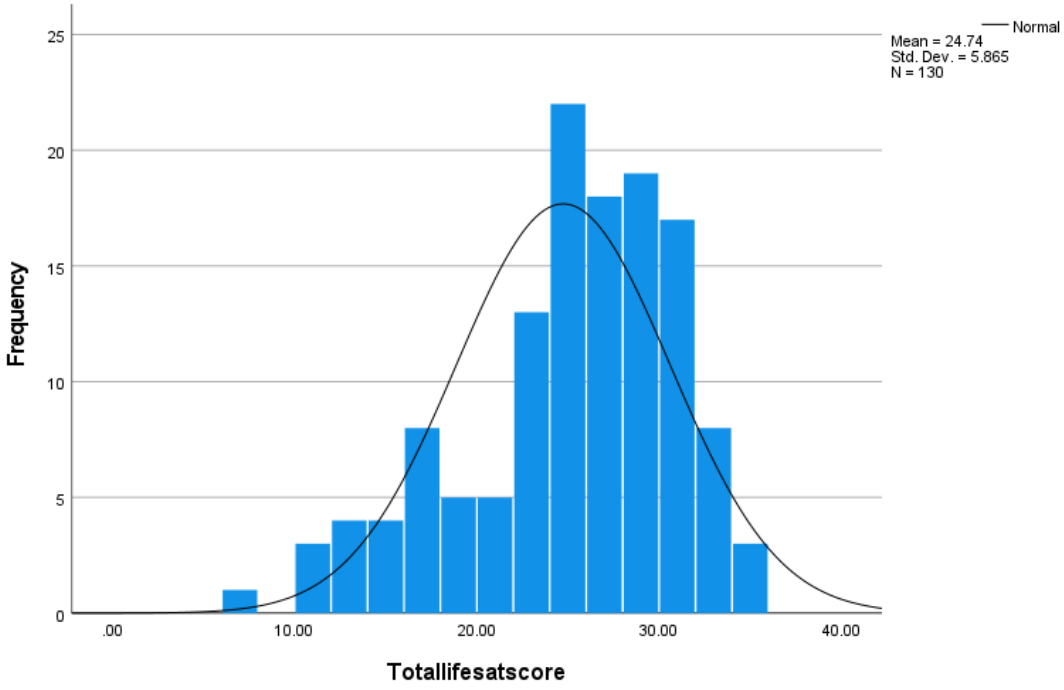
2.00
2.50
3.00
AbsDeltaN


Normal
Mean = 24.74
Std. Dev. = 5.865
N = 130
Frequency
25
20
15
10
5
0
.00
10.00
20.00
30.00
40.00
Totallifesatscore