

POSITIVE THINKING, HUMOUR STYLES, SUBJECTIVE HAPPINESS



THE INFLUENCE OF POSITIVE THINKING AND HUMOUR STYLES ON THE  
SUBJECTIVE HAPPINESS: GENDER DIFFERENCES AMONG YOUNG ADULTS IN  
MALAYSIA

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The Influence of Positive Thinking and Humour Styles  
on the Subjective Happiness: Gender Differences Among Young Adults in Malaysia

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This research project is submitted in partial fulfilment of the requirements for The Bachelor of Social Science (Hons) Psychology, Faculty of Arts and Social Science, Universiti Tunku Abdul Rahman. Submitted in April 2025.

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**APPROVAL FORM**

This research paper attached hereto, entitled “The Influence of Positive Thinking and Humour Styles on the Subjective Happiness: Gender Differences Among Young Adults in Malaysia” prepared and submitted by Cheryl Deleena Lionel and Chin Po Yan in partial fulfilment of the requirements for the Bachelor of Social Science (Hons) Psychology is hereby accepted.

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Date: 21 April 2025

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### **Abstract**

Amidst the lower happiness levels and rising mental health challenges, such as depression, stress and anxiety, among Malaysian young adults, this study delves into the potential of positive thinking and humour styles in influencing their subjective happiness while also exploring gender differences. This cross-sectional study with a sample of 120 young adults in Malaysia, aged 18 to 29, was recruited through non-probability sampling method for the Qualtrics online survey. Participants were required to respond the Positive Thinking Scale (PTS), Humour Styles Questionnaire (HSQ), and Subjective Happiness Scale (SHS). This study reveals that positive thinking and adaptive humour styles significantly and positively enhance subjective happiness in Malaysian young adults, while maladaptive humour styles show an insignificant negative trend. Meanwhile, significant gender differences were only observed in maladaptive humour styles. The study offers cross-cultural theoretical implications for Cognitive Behavioural Theory (CBT) and Broaden-and-Build Theory (BBT), concluding that positive thinking and adaptive humour styles play a vital role in enhancing subjective happiness. Both theories demonstrated the applicability and relevance of these Western-centric frameworks in understanding the interplay between cognitive processes, positive emotions, humour styles, and subjective happiness within a non-Western Malaysian sociocultural context. It also provides practical implications for educational, community, and policy initiatives for young adults in Malaysia. Future research should use stratified random sampling and investigate mediating and moderating factors to gain deeper psychological insights into subjective happiness.

*Keywords:* subjective happiness, positive thinking, adaptive humour styles, maladaptive humour styles


Subject area: H1-99, Social sciences (General)

### DECLARATION

We declare that the material contained in this paper is the end result of our own work and that due acknowledgements has been given in the bibliography and references to ALL source be they printed, electronic or personal.

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### **List of Abbreviations**

#### Abbreviations

1. AHS - Adaptive Humour Styles
2. BBT - Broaden-and-Build Theory
3. CBT - Cognitive Behavioural Theory
4. HBDQ - Humorous Behaviour Q-Sort Deck
5. HSQ - Humour Styles Questionnaire
6. MAHS - Maladaptive Humour Styles
7. PA - Positive Affect
8. PTS - Positive Thinking Scale
9. SERC - Scientific and Ethical Review Committee
10. SHS - Subjective Happiness Scale
11. SPSS - Statistical Package for the Social Sciences
12. QOL - Quality of Life

## **Chapter 1.0**

### **Introduction**

#### **1.1 Background of Study**

Subjective happiness is known as a multifaceted concept that accesses how individuals view their regular emotional experiences over a brief period (Katsumi et al., 2020; Otsuka et al., 2020). Based on Rogers et al. (2022), young adults are defined as those ranging in age from 18 to 29. Young adults have to maintain their happiness levels despite facing negative life events and stressors (Polatcı et al., 2023). According to Helliwell et al. (2023), Malaysia's youth ranked 64<sup>th</sup> out of 143 in global happiness, indicating an average happiness level. A study conducted in 2023 reported an increase in young Malaysians' happiness levels by 3% from 2022, although it remains 5% below the global average (Menon & Ipsos, 2023). Therefore, understanding factors contributing to subjective happiness is essential for fostering positive youth development (Demirtaş, 2020).

A strong and significant link has been identified between subjective happiness and the occurrence of sleep issues (Otsuka et al., 2020). Studies suggest that individuals with lower subjective happiness are more likely to experience sleep issues, such as insomnia and reduced sleep quality (Okamura et al., 2020; Otsuka et al., 2020). Additionally, there is a negative association between subjective happiness and hypertension, suggesting that individuals with lower subjective happiness are more likely to experience hypertension (Hayashi et al., 2023). This is because lower levels of subjective happiness are also linked to elevated stress, which may contribute to the development of hypertension (Hayashi et al., 2023). Moreover, individuals with low subjective happiness also tend to participate in fewer enjoyable activities, where low

engagement in pleasant activities has been shown to result in fewer positive goals, offering lesser opportunities for increased happiness (Takeda et al., 2019).

Positive thinking is a cognitive process that creates optimistic images by focusing on favourable aspects of reality (Almeida & Ifrim, 2023). Positive thinking was found to be positively associated with subjective happiness in past studies (Kim & Lee, 2024; Yu, 2021). This can be explained by the fact that people with positive thinking can better handle life's challenges by letting go negative thoughts and adopting positive ones (Taherkhani et al., 2023). Individuals with a positive self-view and a supportive outlook on the world also reported higher levels of subjective happiness (Kodaz et al., 2020). Additionally, happiness can increase when individuals reinterpret past experiences positively, suggesting that positive thinking plays a key role in boosting subjective happiness (An & Suh, 2023).

Humour is the ability to recognize or convey amusing elements in a situation (APA Dictionary of Psychology, n.d.). It can act as a defense and coping strategy by allowing people to view challenging events in a humorous way, helping them distance themselves from negativity and mitigating stress related to difficult experiences (Altan-Atalay & Boluvat, 2024). However, not all types of humour lead to positive outcomes, as humour can be categorized into adaptive and maladaptive styles, further divided into four distinct types (Altan-Atalay & Boluvat, 2024).

Amjad and Dasti (2020) described affiliative and self-enhancing humours as adaptive humour styles (AHS). Affiliative humour involves engaging in jokes or spontaneous witty exchanges to entertain, ease social tensions, and strengthen relationships (Chuang et al., 2021; Wang et al., 2022). Self-enhancing humour reflects a positive outlook on life, allowing one to find amusement in life's conflicts (Chuang et al., 2021; Wang et al., 2022). Maladaptive humour styles (MAHS) include self-defeating and aggressive humour (Amjad & Dasti, 2020).

Aggressive humour entails teasing, mocking, or disparaging others to assert influence or convey criticism at the expense of interpersonal relationships (Qodir et al., 2019; Wang et al., 2022).

Self-defeating humour involves making fun of one's own flaws to avoid stress or improve interpersonal relationships (Amjad & Dasti, 2020; Qodir et al., 2019; Wang et al., 2022).

A positive association has been found between AHS and subjective happiness (Amjad & Dasti, 2020; Kennison, 2022; Yağan & Kaya, 2022). AHS may enhance healthy communication, strengthen relationships, improve the quality of life (QOL), and foster positive emotions that promote subjective happiness (Kennison, 2022; Yağan & Kaya, 2022; Yaprak & Ayyildiz, 2018). People with AHS can find humour in challenging situations, enabling them to reframe difficulties and build effective coping skills (Yağan & Kaya, 2022; Yaprak & Ayyildiz, 2018). AHS are similarly recognized as traits that enhance resilience and overall well-being (Yağan & Kaya, 2022; Yaprak & Ayyildiz, 2018). For young adults with AHS, this approach helps them to better accept negative emotions better, which in turn can lead to greater happiness and resilience (Amjad & Dasti, 2020). Additionally, laughter can reduce the negative impacts of stress, helping to lessen the negative effects on mental well-being (Mabia et al., 2021). People with AHS are more likely to align with hedonistic perspective, which expresses that happiness stems from maximizing pleasure and minimizing pain (Mabia et al., 2021).

However, a negative association has been found between MAHS and subjective happiness (Amjad & Dasti, 2020; Kennison, 2022; Lu et al., 2023). MAHS may diminish happiness by reducing positive emotions and increasing negative ones, potentially leading to behaviours that harm their happiness level, such as arguments or conflicts in relationships (Kennison, 2022). Additionally, these styles can also alter how others perceive the individual, which may reduce social support and strain their relationships (Kennison, 2022). Research also

indicates that young adults who favour MAHS are less likely to accept their negative emotional states, which could lead to further decline in their overall happiness levels and hinder their ability to cope effectively with stress and adversity (Amjad & Dasti, 2020). From a hedonistic perspective, MAHS tend to amplify feelings of pain and reduce pleasure, ultimately lowering overall happiness (Amjad & Dasti, 2020).

## **1.2 Problem Statement**

A study revealed that the happiness levels of young Malaysians are 5% below the global average (Menon & Ipsos, 2023). Individuals with low levels of happiness are more likely to encounter negative outcomes, including depression and anxiety (Balushi et al., 2022; Seo et al., 2018). Based on the Institute for Youth Research Malaysia & UNICEF (2024), six in 10 Malaysian youth report mild to severe depressive symptoms, while three in 10 exhibit moderate to severe anxiety symptoms. The Healthy Mind Domain score for Malaysian youth is 66.10, indicating a moderate risk of emotional disturbances (Institute for Youth Research Malaysia & UNICEF, 2024). It was also reported that about 52.7% of youth experience mild anxiety, and 45.35% suffer from mild depression (Institute for Youth Research Malaysia & UNICEF, 2024). The prevalence of depression in Malaysian is reported to be 2.3%, and a staggering 89.5% of young adults experience extreme levels of stress (Basri et al., 2023; Menon & Ipsos, 2023). A study on Malaysian youth found that 17% exhibit one mental health symptom (e.g., depression, stress, anxiety), 20% exhibit two symptoms, and 20% present all three symptoms (Samsudin et al., 2024). Overall, past statistics suggest that Malaysian youth face a heightened risk of mental health challenges, which could potentially be driven by their subjective happiness levels.

Although there is increasing awareness of mental health and well-being among young adults in Malaysia, it is essential to explore how positive thinking and humour styles influence

their subjective happiness, as this aspect remains largely underexplored in the Malaysian context. Many researchers in Malaysia tend to concentrate on other independent variables, such as sense of belonging and loneliness, or fail to investigate the interactions of dependent variables and independent variables (Schermer et al., 2022; Sukor et al., 2019; Zulazli et al., 2024). Past studies have often looked at general ideas such as well-being, QOL or life satisfaction, without exploring the specific mechanisms where positive thinking and humour styles influence subjective happiness (Botor, 2019; Chuang et al., 2021; deCruz-Dixon, 2023; Hussain et al., 2021; Sany et al., 2021).

Moreover, contradicting studies were found, especially on MAHS and subjective happiness. Studies conducted by Chuang et al. (2021) and Jolly and Lokesh (2022) found that MAHS have non-significant and weak influence on subjective happiness, while other studies reported a significant influence of MAHS on subjective happiness (Amjad & Dasti, 2020; Kennison, 2022; Lu et al., 2023). Furthermore, gender differences in positive thinking, humour styles and subjective happiness have not been extensively researched. Although some research has indicated that positive thinking, humour styles and subjective happiness differ by gender, other studies have discovered contradictory findings (Falanga et al., 2020; Hussain et al., 2021; Martínez-Moreno et al., 2020; Schug et al., 2021; Zhang et al., 2024). Hence, this study aims to examine the influence of positive thinking and humour styles on subjective happiness, with the potential to boost well-being and mitigate negative mental health outcomes like depression. This study will also explore potential gender differences in these variables.

### **1.3 Research Objectives**

1. To identify the influence of positive thinking and humour styles on subjective happiness among Malaysian young adults.

2. To analyse whether there are any significant gender differences in positive thinking, humour styles and subjective happiness among Malaysian young adults.

#### **1.4 Research Questions**

- i. Does positive thinking significantly and positively influence subjective happiness among Malaysian young adults?
- ii. Do adaptive humour styles significantly and positively influence subjective happiness among Malaysian young adults?
- iii. Do maladaptive humour styles significantly and negatively influence subjective happiness among Malaysian young adults?
- iv. Are there any significant gender differences in positive thinking among Malaysian young adults?
- v. Are there any significant gender differences in adaptive humour styles among Malaysian young adults?
- vi. Are there any significant gender differences in maladaptive humour styles among Malaysian young adults?
- vii. Are there any significant gender differences in subjective happiness among Malaysian young adults?

#### **1.5 Research Hypotheses**

H1: Positive thinking has a significant positive influence on subjective happiness among Malaysian young adults.

H2: Adaptive humour styles have significant positive influence on subjective happiness among Malaysian young adults.

H3: Maladaptive humour styles have significant negative influence on subjective happiness among Malaysian young adults.

H4: There are significant gender differences in positive thinking among Malaysian young adults.

H5: There are significant gender differences in adaptive humour styles among Malaysian young adults.

H6: There are significant gender differences in maladaptive humour styles among Malaysian young adults.

H7: There are significant gender differences in subjective happiness among Malaysian young adults.

### **1.6 Significance of Study**

Three out of 10 Malaysian youths express moderate to severe anxiety symptoms, while six out of 10 report mild to severe depressive symptoms, as reported by the Institute for Youth Research Malaysia & UNICEF (2024). The rising incidence of mental health issues, especially anxiety and depression, among young adults in Malaysia highlights the critical need for studies to identify and promote the factors that enhance mental health. By investigating how positive thinking and humour styles affect young adults' subjective happiness in Malaysia, this study aims to add to the expanding corpus of research in this area.

Fundamentally, this study aims to fill a significant gap in the literature by examining how positive thinking and humour styles jointly affect the subjective happiness of young adults in Malaysia. As there is inadequate literature on this subject, particularly among young adults and in the Malaysian setting, the current study may serve as a foundation for additional research in this area. For instance, the results of this study may potentially help other Malaysian scholars conduct similar studies in the future.



This study may encourage young adults to take proactive measures to enhance their subjective happiness and mental health by emphasising the value of positive thinking and AHS. Writing down thoughts, feelings, and experiences may help young adults think positively. When combined with their expression, this helps to promote mental health, reduce distress, and strengthen character (Taherkhani et al., 2023). They may also use AHS in their everyday lives to boost their morale, alleviate stress, and solidify interpersonal relationships (Yağan & Kaya, 2022).

Additionally, through the understanding of the beneficial effects of positive thinking and AHS, this research can aid in the development of evidence-based programs and interventions meant to improve mental health. A study conducted by An and Suh (2023) showed that cognitive interventions that help young adults view their life experiences positively can be beneficial in enhancing their mental health and general well-being. The results of this study can guide the development of public health initiatives and policies that support young adults' mental health and general well-being.

Overall, this study intends to improve understanding of positive thinking and humour styles in influencing subjective happiness and offer insightful information for fostering good mental health among Malaysian young adults.

## **1.7 Conceptual Definitions**

### ***1.7.1 Positive Thinking***

Positive thinking is a cognitive process that generates hopeful imagery by emphasising the positive aspects of reality (Almeida & Ifrim, 2023). It is a way of thinking that is defined by optimism, self-assurance in one's capacity to overcome obstacles, and the application of effective coping mechanisms (Almeida & Ifrim, 2023).

### ***1.7.2 Humour Styles***

Humour is the ability to recognise or convey the amusing elements of a situation (APA Dictionary of Psychology, n.d.). Martin et al. (2003) suggested that humour can be divided into two categories which are adaptive humour and maladaptive humour with four styles. According to Amjad and Dasti (2020), affiliative and self-enhancing humour are part of the AHS. The tendency to joke or participate in impromptu witty banter to provide entertainment, reduce interpersonal conflict, and strengthen bonds is known as affiliative humour (Amjad & Dasti, 2020). Self-enhancing humour is a tendency to laugh at life's conflicts (Amjad & Dasti, 2020). Self-defeating and aggressive humour are MAHS (Amjad & Dasti, 2020). The tendency to enjoy oneself at the expense of others—teasing, mocking, sneering, and disparaging—to influence or criticise others is known as aggressive humour (Amjad & Dasti, 2020). The tendency to make fun of oneself or one's own shortcomings to make others laugh is known as self-defeating humour (Amjad & Dasti, 2020).

### ***1.7.3 Subjective Happiness***

Happiness is characterised by feelings of delight, contentment, joy, and well-being (APA Dictionary of Psychology, n.d.). Subjective happiness is a multifaceted concept which measures how people perceive their regular emotional experiences during a given short time (Katsumi et al., 2020; Otsuka et al., 2020).

## **1.8 Operational Definitions**

### ***1.8.1 Positive Thinking***

The Positive Thinking Scale (PTS) by Diener et al. (2009) can be used to measure positive thinking. PTS consists of 22 items which utilises dichotomous scoring of a yes-no format with positive and negative items. “Yes” responses for each positive item score 1 point, while “No”

responses for each negative item score 1 point. A total score between 0 and 22 will be calculated. A high score signifies a higher level of positive thinking. Moreover, the Life Orientation Test, developed by Scheier & Carver (1985), contains 12 items. A 5-point Likert scale is used to record the ranging from 0 (*I disagree a lot*) to 4 (*I agree a lot*). High life orientation is shown through high scores. The PTS will be used in this study.

### ***1.8.2 Humour Styles***

Humour styles will be measured using the Humour Styles Questionnaire (HSQ) developed by Martin et al. (2003). HSQ consists of 32 items measuring four dimensions of humour styles which are Affiliative, Self-enhancing, Aggressive and Self-defeating, where each dimensions have 8 items. The 7-point Likert scale will be used to rate the responses from 1 (*totally disagree*) to 7 (*totally agree*). A total score of each dimension will be calculated ranging from 1 to 56. Higher scores signify a greater degree of that particular humour style. The Humorous Behaviour Q-Sort Deck (HBDQ) was designed by Craik et al. (1996) to give a thorough picture of people's humour styles and to measure how similar two people are to one another in terms of humour. Each of the 100 cards in the HBQD represents a distinct aspect of hilarious behaviour, and when combined, they reflect five distinct style aspects. Individuals assess their sorting based on the five stylistic dimensions after sorting the cards on a nine-point scale from 1 (*least characteristic*) to 9 (*most characteristic*). The HSQ will be utilised in this study.

### ***1.8.3 Subjective Happiness***

Subjective happiness can be measured using the Subjective Happiness Scale (SHS) developed by Lyubomirsky and Lepper (1999). SHS consists of 4 items recorded on a 7-point Likert scale ranging from 1 (*not a very happy person*) to 7 (*a very happy person*) and 1 (*not at all*) to 7 (*a great deal*). Item 4 is a reversed item, and a total score of 1 to 28 will be calculated.

The higher the score, the happier the individual is. Additionally, the Oxford Happiness Questionnaire Short Form, created by Hills and Argyle (2002), consists of 8 items. Responses to the items are measured using a 6-point Likert scale, ranging from 1 (*strongly disagree*) to 6 (*strongly agree*). Higher overall scores indicate higher subjective well-being and happiness (Barattucci et al., 2023). The SHS will be employed for this study.

## **Chapter 2.0**

### **Literature Review**

#### **2.1 Positive Thinking**

Positive thinking is a mental attitude that expects favourable outcomes (Chang et al., 2019). In addition to promoting personal development, it can also enhance one's mindset, beliefs, and success goals (Chang et al., 2019). Positive thinking is also sometimes referred to as optimistic perspective which emphasises the positive aspects of a situation (Alshammari & Alboliteeh, 2022). It refers to the idea that, despite hardship, things will turn out better with time.

According to D'Souza et al. (2020), there are three components of positive thinking which are hope, optimism, and generalised self-efficacy. Despite being theoretically distinct, these components have a strong correlation (D'Souza et al., 2020). In general, self-efficacy, optimism, and hope are stable cognitive traits associated with positive future expectations (D'Souza et al., 2020). Additionally, "positive thinking" was termed to describe positivity (Kodaz et al., 2020).

Taherkhani et al. (2023) mentioned that individual thought patterns are crucial as people who think positively can overcome obstacles, while those who think negatively can cause larger problems. As a result, people can overcome life's challenges and occurrences by giving up negative thoughts and substituting them with positive ones (Taherkhani et al., 2023). Hence, the core principle of positive thinking states that one should approach every area of life with the expectation that everything will turn out well (Yang & Wu, 2021).

#### **2.2 Humour Styles**

The term "humour style" describes the different ways people use humour to express themselves and deal with everyday stress by two core dimensions (Martin et al., 2003).

According to Čekrljica et al. (2022), one dimension represents the intrapersonal (i.e., enhancing oneself) versus interpersonal function (i.e., enhancing relationships with others). The second-dimension deals with the use of humour, whether it is beneficial or harmful. Affiliative, self-enhancing, combative, and self-defeating are the four humour styles that result from combining these two dimensions (Čekrljica et al., 2022).

Affiliative humour involves using constructive humour aimed towards other people to build rapport, promote camaraderie, and ease tensions (García et al., 2024; Wang et al., 2022). Meanwhile, self-enhancing humour is characterized by the ability to maintain a humorous perspective about stressful situations, enabling individuals to cope with challenges without succumbing to negative emotions (García et al., 2024; Wang et al., 2022). Adaptive humour styles (AHS) include self-enhancing and affiliative humour (García et al., 2024; Wang et al., 2022).

On the contrary, the aggressive humour style involves using humour as a tool for manipulation, mocking, sarcasm, irony, and mockery in order to do harm to other people (García et al., 2024; Wang et al., 2022). The self-defeating humour style assesses the use of self-deprecating humour, which includes jokes directed at oneself in an effort to win others' acceptance and relieve tension (García et al., 2024; Wang et al., 2022). It has been suggested that aggressive and self-defeating humour styles are considered maladaptive humour styles (MAHS) (García et al., 2024; Wang et al., 2022).

Based on past research, AHS have been linked to resilience, optimism, and social support (Wang et al., 2022). Meanwhile, MAHS, particularly self-defeating humour, has been connected in studies to higher levels of sadness and suicide thoughts (Wang et al., 2022).

### **2.3 Subjective Happiness**

Subjective happiness is a measure of a person's feelings regarding their QOL and offers information about their general wellbeing (Saunders et al., 2023). As it is a subjective assessment, a person may consider themselves happy even if they are not wealthy, lack love, or face challenges in their life, or they may consider themselves miserable even if they lead a comfortable and advantageous life (Freire & Ferreira, 2019). Satici and Satici (2022) stated that it has been proposed that one's perception and assessment of life's experiences determine one's level of happiness rather than the actual occurrences themselves. Subjective happiness, as used in literature, is the idea that a person perceives oneself to be either happy or unhappy.

According to Muthuri et al. (2020), happiness in mental health encompasses positive feelings including joy, peacefulness, a sense of engagement, and excitement for life. It is a general term that refers to anything positive and is commonly used to describe concepts such as "QOL" and "well-being" (Dhingra & Dhingra, 2021).

Based on Mahipalan and S (2019), numerous positive outcomes that impact people's personal, professional, and social lives are linked to happiness, corresponding to the growing body of research in this area. This is because an individual with high subjective happiness is better able to handle crises due to how they are more capable of shielding oneself from the detrimental impacts of unpleasant emotions on their ability to focus, be creative, and perform other tasks (Kim et al., 2021).

### **2.4 Positive Thinking and Subjective Happiness**

Multiple quantitative studies were conducted to examine the correlation between positive thinking and subjective happiness across different countries.

In South Korea, a study by Kim and Lee (2024) recruited 244 nursing students using stratified sampling method to analyse this relationship. The PTS by Kim et al. (2006) consists of 18 items was used to evaluate positive thinking, while the SHS that evaluated subjective happiness consisted of 29 items. The findings demonstrated a significant positive correlation between positive thinking and subjective happiness (Kim & Lee, 2024). Similarly, another study conducted by Yu (2021) in South Korea recruited 140 nursing students using the convenience sampling method to explore this relationship and found that positive thinking is significantly positively correlated to subjective happiness.

A study conducted by Freire and Ferreira (2019) in Portugal examined the relationship between 910 adolescents' subjective happiness and positive thinking. Although Freire and Ferreira (2019) did not assess "positive thinking" directly, they evaluated life satisfaction and self-esteem, which are positive psychological variables related to positive thinking. Convenience sampling method was utilised in this research. SHS was used to measure subjective happiness, while the Self-Esteem Rosenberg Scale measures self-esteem and the 7-item Students' Life Satisfaction Scale measures their overall life satisfaction. Based on their findings, subjective happiness is significantly positively correlated with life satisfaction and self-esteem (Freire & Ferreira, 2019). This suggests that adolescents' overall well-being is related to their positive self-perception and life satisfaction.

Demirtaş (2020) examined the relationship between happiness, optimism, and adjustment to university life in a sample of 386 undergraduate students from Turkey. Convenience sampling was used in the study, and questionnaires measuring happiness (Oxford Happiness Questionnaire Short Form), and optimism (Life Orientation Test) were used. Optimism was found to have a significant positive association with happiness according to the results (Demirtaş, 2020). These



findings indicate the potential significance of optimism in aiding a smoother transition to university life and increasing student well-being.

Another study performed in South Korea by An and Suh (2023) investigated the factors behind the association between gratitude and subjective happiness in 389 young adults. The sampling method employed in this study was convenience sampling. The SHS was used to evaluate participants' happiness in early adulthood, the Gratitude Questionnaire-6 was used to measure their disposition towards gratitude, and the Positive Interpretation Questionnaire assessed their propensity to view life events in a positive light. The findings showed that positive thinking, social support, and gratitude are all significantly and positively correlated to happiness (An & Suh, 2023). An increased positive outlook on life can result from individuals who practise gratitude as they typically have greater social ties; this positive mentality can heighten subjective happiness (An & Suh, 2023).

Kodaz et al. (2020) investigated the predictive role of positivity towards subjective happiness in Turkey where 798 university students were recruited through convenience sampling. The SHS was utilised to measure subjective happiness, while the Positivity Scale was used to measure positivity levels of individuals. The analysis's findings showed that subjective well-being is significantly predicted by positivity (Kodaz et al., 2020).

In Philippines, Botor (2019) studied whether levels of life satisfaction are predicted by hope and its components, which are pathway and agency. A total of 170 adolescents in school were purposefully chosen to take part in an adolescent development activity held in a university at Laguna, Philippines. The 12-item Trait Hope Scale was used to measure hope, and the Personal Well-Being Index-School Children/Adolescents, an eight-item questionnaire, was used to measure general happiness with life and personal well-being. Regression analysis revealed

that overall hope significantly predicts general happiness (Botor, 2019). Additionally, it showed that agency component of hope was the most important favourable indicator of overall happiness (Botor, 2019). Nguyen and McDermott (2023) conducted a similar study in the United States involving 82 children to examine the influence of hope, a form of positive thinking, on children's happiness. The children's happiness was significantly predicted by their agency thinking and pathways thinking (Nguyen & McDermott, 2023).

A study in Iran examined the role of optimism in predicting the QOL of university students (Sany et al., 2021). A total of 632 university students were recruited through multi-stage sampling design, followed by a simple random sampling method. Life orientation Test-Revised (LOT-R) questionnaire comprising 11 items was employed to measure optimism, while the Quality of Life Questionnaire (SF-12) was employed to measure QOL. The results found that optimism significantly and positively predicted 50% of QOL variance (Sany et al., 2021). Similarly, in the study conducted by Demirtaş (2020) in Turkey, it was found that optimism significantly and positively predicts happiness among undergraduates.

Although numerous studies have established a significant correlation between positive thinking and subjective happiness, several key research gaps remain. One major limitation is the lack of longitudinal investigations exploring the durability of this association over time, as well as the potential of interventions aimed at promoting positive thinking to enhance long-term well-being. Additionally, much of the existing research focuses on specific populations, such as college students or adolescents, limiting the generalisability of findings across diverse cultural and demographic groups. Further research is also needed to uncover the underlying mechanisms through which positive thinking influences subjective happiness. For example, how specific techniques like mindfulness or gratitude practices affect neural pathways and psychological

processes is still largely unknown. Addressing these gaps will contribute to a deeper, more universal understanding of how cultural, contextual, and psychological factors shape the relationship between positive thinking and subjective happiness.

## **2.5 Adaptive Humour Styles and Subjective Happiness**

A series of quantitative studies conducted across various countries examined the link between AHS and subjective happiness.

In Pakistan, Mubeen et al. (2022) used purposive sampling to recruit 200 medical officers aged 25 to 40, aiming to explore this relationship. The HSQ, comprising 32 items across four subscales, was used to measure humour styles, while the Oxford Happiness Inventory, with 29 items, assessed subjective happiness. Results indicated a significant positive relationship between AHS and subjective happiness (Mubeen et al., 2022). Similarly, a U.S. study involving 204 undergraduates found the same results, and they explained that specific behaviours may enhance happiness by promoting positive emotions, thoughts, and behaviours (Kennison, 2022). A comparable study in Indonesia with 156 adolescents yielded consistent results too (Qodir et al., 2019).

In Turkey, a quantitative study by Yağan and Kaya (2022) with 613 teachers used convenience sampling also found a positive and significant correlation between adaptive humour and happiness. Yağan and Kaya (2022) suggested that adaptive humour aids in developing skills like healthy relationships and positive emotions, and individuals with positive humour styles tend to utilise effective coping strategies, enhancing their happiness. A study in China by Lu et al. (2023) involving 4,775 undergraduates used convenience sampling to focus on the affiliative humour style, representing adaptive humour, and its association with subjective happiness. Results showed affiliative humour had a significant and positive association with subjective

happiness, as this style fosters relationship-building, social appeal, and interpersonal competence (Lu et al., 2023).

A separate study in Pakistan with 350 university students which used convenience sampling found that AHS significantly and positively correlated with subjective well-being, suggesting that these styles may enhance positive affect, particularly during stress, such as academic challenges (Amjad & Dasti, 2020). In Taiwan, a study by Chuang et al. (2021) with 382 adults reported a weak but significant positive correlation between AHS and life satisfaction, along with significant positive correlation with positive mental health. Affiliative humour was noted for reducing social tension, while self-enhancing humour involved a cheerful outlook, which correlated positively with emotional well-being and negatively with symptoms of depression and anxiety (Chuang et al., 2021).

Lastly, a U.S. study by deCruz-Dixon (2023) with 237 undergraduates, which used purposive and snowball sampling, found AHS to be significantly and positively associated with psychological well-being. It was explained that self-enhancing humour, being self-directed, supported personal motivation and competence, while affiliative humour, directed toward others, promoted interpersonal relationships and positive emotions within those connections (deCruz-Dixon, 2023). Likewise, a study in Pakistan used convenience sampling with 132 participants aged 16 to 27 found that AHS have significant positive correlation and influence with psychological well-being (Hussain et al., 2021).

A quantitative study in Nigeria by Mabilia et al. (2021) which used purposive and incidental sampling recruited 226 undergraduate students aged 18 to 40 and explored AHS as predictors of subjective happiness. The HSQ assessed participants' humour styles, while the SHS measured their subjective happiness. Results indicated that AHS significantly and positively

predicted subjective happiness (Mabia et al., 2021). Mabia et al. (2021) explained that affiliative humour, such as laughter, can alleviate stress and help individuals forget challenging situations that might impede their happiness. Meanwhile, self-enhancing humour helps to reduce negative effects of stress, potentially improving happiness by reducing health issues caused by stress (Mabia et al., 2021). The researchers explained that this aligns with the hedonism theory, which emphasizes maximizing pleasure and minimizing pain to boost happiness (Mabia et al., 2021). Another study, with 43 participants aged 20 to 61, concluded that adaptive humour style significantly predicted various facets of psychological well-being, including a sense of purpose in life (Cristea & Rizeanu, 2020).

Contrastingly, a study in India by Jolly and Lokesh (2022) with 150 adolescents revealed that AHS positively predicted subjective happiness. Self-enhancing humour was significantly correlated with subjective happiness, but affiliative humour showed no significant correlation with subjective happiness. It was also concluded that adaptive humour showed a more general positive relationship with subjective happiness (Jolly & Lokesh, 2022).

Although substantial evidence supports a significant positive relationship between AHS and subjective happiness, several research gaps remain. One major limitation lies in the inconsistent findings across cultural contexts. For instance, while the Nigerian study by Mabia et al. (2021) found both affiliative and self-enhancing humour to be significant predictors of happiness, the Indian study by Jolly and Lokesh (2022) reported significance only for self-enhancing humour. These discrepancies highlight the need to explore how cultural or contextual factors may shape this relationship. Furthermore, limited attention has been given to potential moderating or mediating variables such as self-esteem or emotional intelligence, which may influence the impact of AHS on subjective happiness. In addition, much of the current research

focuses on general or homogenous populations, with small sample sizes or narrow demographic scopes, such as in Cristea and Rizeanu (2020)'s study, thus limiting the generalisability of findings. Future research that investigates these variables across broader and more diverse samples could deepen our understanding of how AHS contribute to subjective happiness in various settings.

## **2.6 Maladaptive Humour Styles and Subjective Happiness**

Several quantitative studies across different countries have examined the relationship between MAHS and subjective happiness.

In Pakistan, a study by Mubeen et al. (2022) recruited 200 medical officers aged 25 to 40 using purposive sampling to investigate this relationship. The HSQ was used to assess humour styles across 32 items and four subscales, while the Oxford Happiness Inventory, with 29 items, measured subjective happiness. Results revealed a significant negative relationship between subjective happiness and both self-defeating and aggressive humour styles (Mubeen et al., 2022). Similarly, a U.S. study by Kennison (2022) involving 204 undergraduates also found that negative humour styles were associated with lower happiness, possibly by reducing positive emotions and increasing negative ones. Frequent use of negative humour might lead to conflicts, reduced social support, and lower self-esteem, especially when self-defeating humour reinforces beliefs in one's own flaws (Kennison, 2022).

In China, a large-scale study by Lu et al. (2023) with 4,775 undergraduates which used convenience sampling focused on aggressive humour as a representation of MAHS. The HSQ assessed humour styles, while the SHS measured subjective happiness. Results indicated that aggressive humour was significantly negatively correlated with subjective happiness, as it often leads to negative responses and associations with traits like hostility, psychopathy, and

narcissism (Lu et al., 2023). While aggressive humour can sometimes enhance group cohesion through friendly teasing that diminishes its negative outcomes, its association with negative traits and externalizing behaviours like bullying often contributes to lower mental well-being (Lu et al., 2023).

In Pakistan, a study by Amjad and Dasti (2020) with 350 university students aged 18 to 24 which used convenience sampling found MAHS to be significantly and negatively associated with subjective well-being. Amjad and Dasti (2020) explained that aggressive humour can strain relationships, especially in collectivistic cultures where sarcasm is poorly received. Self-defeating humour may provide temporary social approval in young adulthood, but over time it can harm self-esteem and mental health, increasing negative affect (Amjad & Dasti, 2020). Similarly, a U.S. study by deCruz-Dixon (2023) with 237 undergraduates which used purposive and snowball sampling found the same results. It was explained that aggressive humour, such as sarcasm, can impair interpersonal relationships by creating a distance with others, and self-defeating humour undermines psychological well-being by reinforcing low self-worth and belonging, often resulting in a self-fulfilling cycle of poor mental health (deCruz-Dixon, 2023). A similar study in Pakistan with 132 participants aged 16 to 27 also identified a significant negative predictive relationship between MAHS and psychological well-being (Hussain et al., 2021).

A quantitative study by Jolly and Lokesh (2022) with 150 adolescents in India used the HSQ and the SHS to assess humour styles and subjective happiness respectively. It was found that MAHS showed a negative correlation with happiness (Jolly & Lokesh, 2022). A significant predictive relationship between aggressive humour and subjective happiness was found, while an

insignificant predictive relationship between self-defeating humour and subjective happiness was found (Jolly & Lokesh, 2022).

Besides that, a study with 43 participants aged 20 to 61 found that both MAHS negatively predicted psychological well-being facets such as personal growth and life purpose, suggesting these negative humour styles may reduce life satisfaction and emotional health (Cristea & Rizeanu, 2020).

In contrast, another study in Indonesia with 156 adolescents found self-defeating humour to have a significant negative relationship with subjective happiness, while aggressive humour was found to have an insignificant negative relationship with subjective happiness (Qodir et al., 2019). However, a Turkish study by Yaprak et al. (2018) with 211 students reported mixed results. Aggressive humour showed a non-significant negative relationship with happiness, while self-defeating humour unexpectedly showed a non-significant positive association (Yaprak et al., 2018).

A quantitative study by Mabilia et al. (2021) in Nigeria used purposive and incidental sampling to examine MAHS as predictors of subjective happiness in 226 undergraduate students aged 18 to 40. The HSQ was used to assess humour styles, while the SHS measured subjective happiness levels. Results showed that MAHS insignificantly and negatively predicted subjective happiness, possibly due to challenges in fully capturing aggressive humour on the HSQ scale (Mabilia et al., 2021).

Despite numerous studies highlighting a significant negative relationship between MAHS and subjective happiness, the literature presents notable inconsistencies that seek further investigation. For instance, while some studies, such as those by Jolly and Lokesh (2022) and Hussain et al. (2021), identified self-defeating humour as a significant negative predictor of



subjective happiness, while others, like Mabia et al. (2021) and Yaprak et al. (2018), reported either insignificant or unexpectedly positive associations. Similarly, research conducted in India (Jolly & Lokesh, 2022) and Indonesia (Qodir et al., 2019) has shown conflicting results regarding the roles of aggressive and self-defeating humour. These inconsistencies may be due to methodological differences, sample characteristics, or cultural influences, all of which remain underexplored.

A particularly important gap lies in understanding how cultural dynamics shape the perception and impact of MAHS. For example, collectivistic cultures that value social harmony may interpret self-defeating or aggressive humour more negatively than individualistic cultures, which often emphasize self-expression. Cultural attitudes toward sarcasm, self-deprecation, and emotional expression likely influence how maladaptive humour affects individual well-being. Additionally, much of the existing research lacks demographic diversity and relies on narrow population samples, limiting the generalisability of the findings. Addressing these gaps through culturally sensitive and methodologically robust research could deepen our understanding of the complex ways in which MAHS affect subjective happiness across different societal contexts.

## **2.7 Gender Differences in Positive Thinking**

In order to examine the differences in optimism between genders, Bjuggren and Elert (2019) conducted a longitudinal study design. They utilised information from the National Institute of Economic Research (NIER), a Swedish government organisation, which conducts a monthly survey called Konjunkturbarmetern. Respondents were questioned about their opinions of their own financial status both now and in the future, as well as Sweden's economic status in terms of unemployment, inflation, and overall economic conditions. The dataset spanned from

1996 to 2018 and included 309,344 respondents. Results observed significant gender differences where men were found to be more optimistic than women (Bjuggren & Elert, 2019).

Correspondingly, Dawson (2023) performed a longitudinal research design to investigate how optimism varies by gender in the United Kingdom. The British Household Panel Survey (BHPS) from 1991 to 2008 provided the data in the analysis. The BHPS was a long-term survey that included around 12,000 people from about 5000 households. The original BHPS sample, which included Great Britain, was the only sample used in this study. The study discovered significant gender differences where males were more optimistic than females (Dawson, 2023).

Martínez-Moreno et al. (2020) studied gender differences in optimism among older adults. 381 older adults from Spain were recruited for this cross-sectional study. Convenience sampling was used in selecting participants, with the researchers approaching people at places, notably social clubs and senior centers. The results showed significant gender differences, and the male participants exhibited greater optimism than its female counterparts in line with previous research (Martínez-Moreno et al., 2020). Overall, several factors may contribute to male's higher levels of optimism, such as their greater sense of self-esteem, decreased self-doubt, social norms that promote confidence and assertiveness, and a decreased propensity for negative self-talk (Icekson et al., 2019). These elements can promote a more optimistic view of life and a stronger sense of self-worth.

Contrastingly, gender differences in optimism were found to be non-significant in the study conducted by Magee and Upenieks (2019). The Midlife Development in the United States (MIDUS) research, a longitudinal survey that tracked a large number of American adults throughout time, provided the data used in this investigation. The second and third phases of MIDUS survey, which were carried out in 2004–2006 and 2013–2014, respectively, provided the

data used in this analysis. Likewise, the study conducted by Schug et al. (2021) in Germany found that general optimism did not have significant gender differences. Both males and females are encouraged to be optimistic and independent in their individualistic cultures, which may contribute to the non-significant gender differences in optimism in the United States and Germany (Komatsu et al., 2019).

A significant study gap is the inconsistent results across various cultural and socioeconomic circumstances, even though gender differences in optimism have been the subject of numerous studies. Men tend to be more optimistic than women, according to a few studies (Bjuggren & Elert, 2019; Dawson, 2023; Martínez-Moreno et al., 2020), but other studies have revealed no significant gender difference (Magee & Upenieks, 2019; Schug et al., 2021). It was roughly explained that the discrepancy could be due to numerous factors, such as personal experiences, societal expectations, and cultural standards. However, less has been done to deeply explore the underlying mechanisms that drive these distinctions, such as social factors. For example, the role of socialisation, education, and socioeconomic level in influencing gender disparities in optimism is still unknown. Future studies could address these research gaps to offer a clearer understanding of the interactions between gender, social factors, and positive thinking.

## **2.8 Gender Differences in Adaptive Humour Styles**

A quantitative study conducted by Yaprak et al. (2018) in Turkey with 211 students examined gender differences in AHS while using the HSQ to assess humour styles. The study found that women scored higher in AHS, and significant gender differences were noted specifically for affiliative humour styles (Yaprak et al., 2018). A study by Evans (2023) further found that women tend to use AHS more frequently than men, using humour to facilitate interpersonal connections. Evans (2023) explained that women with AHS often receive more

positive evaluations, whereas men with adaptive styles tend to be evaluated less favourably. A systematic review of 158 articles supported these findings, with women reporting more frequent use of AHS, which aligns with socially desirable traits commonly associated with women (Hofmann et al., 2020).

In contrast, a Pakistani study by Hussain et al. (2021) with 132 participants aged 16 to 27, used convenience sampling, found no significant gender differences in AHS. Many male participants scored high in affiliative humour, suggesting that gender may not influence humour styles significantly in cultures where gender differences are less profound (Hussain et al., 2021). Similarly, an Italian study of 582 adolescents aged 14 to 27 found no significant gender differences for affiliative humour, but did find significant gender differences in self-enhancing humour (Falanga et al., 2020).

Despite growing research on gender differences in AHS, several gaps persist. One significant issue is the inconsistent findings across different contexts. For instance, Yaprak et al. (2018) found significant gender differences in affiliative humour, whereas studies like Hussain et al. (2021) and Mubeen et al. (2022) reported either insignificant or no gender differences in AHS. These discrepancies highlight the need to explore how cultural norms and societal expectations surrounding gender shape the use of AHS. Additionally, while studies such as Evans (2023) and Hofmann et al. (2020) suggest that women are more likely to use AHS due to its alignment with socially desirable traits, limited research has explored how these differences vary across different age groups and cultural settings. Addressing these gaps with more inclusive and diverse research could provide deeper insights into gender differences in AHS.

## **2.9 Gender Differences in Maladaptive Humour Styles**

A quantitative study in Turkey by Yaprak et al. (2018) with 211 students explored gender differences in MAHS. Using the HSQ, results showed that men scored significantly higher in MAHS compared to women (Yaprak et al., 2018). Similarly, a study in Pakistan with 200 medical officers, recruited through purposive sampling, found that men scored significantly higher in MAHS than women (Mubeen et al., 2022).

Another study by Evans (2023) highlighted men's greater tendency to use all types of humour, particularly MAHS. Evans (2023) explained that humour made by men is often perceived as funnier and that men may use humour for status competition. Moreover, Evans (2023) explained that MAHS are seen as more masculine, potentially offering men higher social support. However, women who use MAHS often receive lower evaluations of leader effectiveness and reduced social support (Evans, 2023). A systematic review by Hofmann et al. (2020) with 158 studies supported this result, showing men scored higher in aggressive humour. It noted that women reported higher rates of depressed mood when using aggressive humour, while no such effect was observed in men which may encourage men to use aggressive humour more (Hofmann et al., 2020).

An Italian study with 582 adolescents aged 14 to 27 found no significant gender differences for self-defeating humour, but did find significant gender differences for aggressive humour (Falanga et al., 2020). In contrast, a Pakistani study with 132 participants aged 16 to 27 found no significant gender differences in MAHS, reporting that women scored higher in maladaptive rather than AHS, possibly due to cultural influences that minimize gender differences (Hussain et al., 2021).

Despite growing studies on gender differences in MAHS, several research gaps remain. One significant gap is the lack of consistency in findings across different studies. For instance, while studies like Mubeen et al. (2022) and Yaprak et al. (2018) found that men exhibited higher levels of MAHS, other research, such as Hussain et al. (2021), found no significant gender differences. This inconsistency suggests that cultural and societal factors influence how men and women use maladaptive humour, but these factors are not yet fully understood. Additionally, although studies (Evans, 2023; Hofmann et al., 2020) suggest that men may be more likely to engage in maladaptive humour due to its alignment with masculine traits, little research has explored how these patterns differ across cultural contexts or age groups. Further exploration of these cultural and demographic differences is necessary to provide a more comprehensive understanding of gender differences in MAHS across various populations.

### **2.10 Gender Differences in Subjective Happiness**

A study conducted in Iran by Namazi (2022) examined 2,000 university students' subjective happiness using the Oxford Happiness Questionnaire. It found significant gender differences in subjective happiness, with women scoring higher than men (Namazi, 2022). This was attributed to women's greater likelihood of expressing emotions in social relationships (Namazi, 2022). Additionally, the sources of happiness appear to differ between genders. Men's happiness is more influenced by personal achievements, work, and economic satisfaction, whereas women derive more happiness from factors such as their children and family health (Namazi, 2022). It was further suggested that gender differences may stem from distinct thinking styles and behaviours, which plays a role in shaping overall happiness levels (Namazi, 2022). Similarly, Salavera and Usán (2021) conducted a study in Spain with 243 students recruited through convenience sampling. Using SHS, they also found that women reported significantly

higher subjective levels than men (Salavera & Usán 2021). Consistent results were also reported by Jiang et al. (2021) in China, where a study of 1,512 students showed significant gender differences, with women scoring higher on subjective happiness than men.

In contrast, some studies have found insignificant gender differences in subjective happiness. A study by Mubeen et al. (2022) in Pakistan involving 200 medical officers through purposive sampling found women reported slightly higher, though insignificant, levels of subjective happiness than men. This result was attributed to the subjective and complex nature of positive experiences that contributes to happiness, which vary by personal and societal interpretation (Mubeen et al., 2022). Similarly, a study by Zhang et al. (2024) examined 951 collegiate sport athletes in Asia using SHS and found no significant gender differences in subjective happiness, despite women scored slightly higher than men. Another study by Freire and Ferreira (2019) in Portugal, involving 910 students and using the SHS, found no significant gender differences in subjective happiness.

Although numerous studies have explored gender differences in subjective happiness, their findings are inconsistent, which leaves a gap in the literature. Research from countries such as Iran, Spain, and China have consistently shown that women reported significantly higher levels of subjective happiness than men. These findings have been attributed to differences in emotional expression, sources of happiness, and thinking styles between genders. However, studies conducted in Pakistan, Asia, and Portugal found no significant gender differences, suggesting that cultural, societal, and contextual factors may play a critical role in shaping these outcomes. This inconsistency underscores the need for further investigation into the mechanisms and cultural influences underlying these mixed results, such as gender role expectations and media exposure. Furthermore, many studies have focused on specific populations, such as

students or professionals, which limits the generalizability of their conclusions. Expanding research to include more diverse populations and cultural contexts is essential to better understand gender differences in subjective happiness.

### **2.11 Research Gap**

Although the relationship between humour styles, positive thinking, and subjective happiness has been explored in countless studies, there are still numerous significant research gaps.

Firstly, discrepancies in results between past studies emphasise the need for further study. For instance, the Indian study by Jolly and Lokesh (2022) revealed that only self-enhancing humour was a significant predictor of subjective happiness, while the Nigerian study by Mabilia et al. (2021) indicated that both affiliative and self-enhancing humour were significant predictors of subjective happiness. Multiple factors, such as sample characteristics, methodological variances, and cultural differences, could be the source of these discrepancies. Furthermore, a notable research gap is that many studies have used non-random sampling methods, such as convenience or purposive sampling, which restricts the generalizability of their findings (Chen et al., 2021). Convenience samples often lack diversity, making it difficult to capture the broader population's characteristics and potentially impacting the external validity of results (Chen et al., 2021).

Thirdly, many of the past studies focus on specific populations such as university students and adolescents which limits the generalizability of their findings. To address this, future research should include diverse samples and explore cultural and contextual factors to better understand the relationship between positive thinking, humour styles, and subjective happiness across different populations. Additionally, a more thorough comprehension of the underlying mediators and moderators influencing the connection between positive thinking,



humour styles, and subjective happiness is required. Although associations have been found, further analysis is required to pinpoint the precise neurological, emotional, and cognitive processes at play. For instance, understanding how certain positive thinking techniques, such as mindfulness or gratitude exercises, affect behaviour and brain chemistry to increase happiness.

As demonstrated by research from Cristea and Rizeanu (2020), the use of small or narrowly defined samples restricts the findings' generalisability to larger populations. More thorough and varied research could help close these gaps and offer a better understanding of how AHS affect subjective happiness in a range of contexts and demographics. Moreover, a significant research gap exists in understanding how cultural and contextual factors influence the relationship between positive thinking, humour styles, and subjective happiness. To illustrate, cultural factors, such as collectivism and individualism, can influence the perception and impact of MAHS on subjective happiness. Future research should explore these factors across diverse cultures and demographic groups to gain a more nuanced understanding.

Last but not least, while the relationship between positive thinking, humour styles, and subjective happiness has been explored in various contexts, there is a significant lack of research in the Malaysian context. Further study is needed to investigate how cultural, religious, and socioeconomic factors influence these relationships among Malaysians. Longitudinal studies could offer meaningful insights into the lasting impact of positive thinking and humour styles on Malaysians. By addressing these research gaps, a greater comprehension of the factors contributing to subjective happiness in Malaysia could be achieved and effective interventions to promote well-being could be developed as well.

## **2.12 Theoretical Framework**

### ***2.12.1 Cognitive Behavioural Theory***

Cognitive Behavioural Theory (CBT) provides a framework for comprehending the association between positive thinking and subjective happiness. Based on Zaiden & Mahfar (2024), through the use of cognitive and behavioural concepts and strategies in its therapy, CBT highlights the interplay between affective, behavioural, and cognitive components. It also suggests that an individual's psychological perspective on the world determines their behaviour and emotions (Zaiden & Mahfar, 2024). Examples of negative thought patterns are catastrophising and all-or-nothing thinking that can lead to unpleasant feelings and a decline in subjective happiness. Therefore, the idea behind "positive thinking" is that individuals should maintain a consistent focus on positive thoughts while avoiding negative ones to achieve success and pursue happiness (Andrade, 2019). By reframing negative thoughts and adopting a more positive perspective, individuals can enhance their emotional well-being and increase their subjective happiness (Pourdavaran et al., 2024). Hence, CBT offers a thorough foundation for enhancing mental health and general life satisfaction by addressing both behavioural and cognitive aspects.

### ***2.12.2 Broaden-and-Build Theory***

Broaden-and-Build Theory (BBT) by Barbara Fredrickson centers on the idea that experience of positive emotions can be extended and broadened by building lasting emotional and social resources, which enhances subjective happiness (Cao et al., 2023; Paramita et al., 2022). Based on BBT, AHS generate positive emotions from others that broaden resources that such as positive social interactions, emotion regulation, and stronger support networks (Amjad & Dasti, 2020; deCruz-Dixon, 2023). Over time, these resources provide individuals with tools to

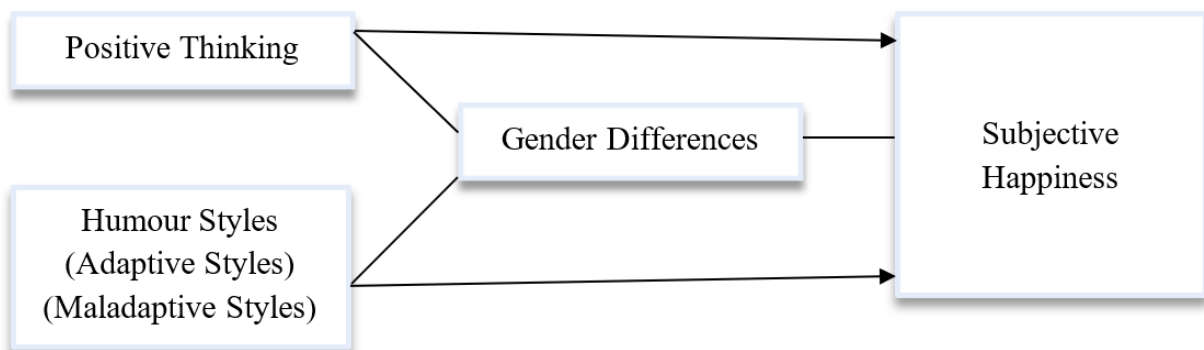
face challenges as they have broader perspectives and greater creativity, so they are more likely to experience lasting positive emotions which contributes to greater subjective happiness (Cao et al., 2023; Paramita et al., 2022).

In contrast, MAHS lead to negative emotional responses from others, creating conflicts in relationships and social interaction, which narrow an individual's resources for coping and resilience (deCruz-Dixon, 2023; Lu et al., 2023). Individuals with narrow resources are less likely to experience the “building” process in BBT that contributes to happiness, leading to lower subjective happiness over time.

### 2.13 Conceptual Framework

**Figure 2.1**

*Proposed Conceptual Framework*



The conceptual framework is proposed to illustrate the relationships based on the three theories, which are CBT, BBT, and hedonistic theory of happiness. Positive thinking and humour styles are the two independent variables, while subjective happiness is the dependent variable. This study aims to examine the correlation between the two independent variables and the dependent variable, and to explore the predictive relationship between the two independent variables and the dependent variable. Additionally, gender differences will also be examined in relation to positive thinking, humour styles, and subjective happiness.

## **Chapter 3.0**

### **Methodology**

#### **3.1 Research Design**

The cross-sectional study design gathers information at a single point in time and allows for the simultaneous examination of several variables (Wang & Cheng, 2020). This study examined two independent variables and one dependent variable. Moreover, the sample was selected from a single population—young adults in Malaysia—at a single point in time, which is why this research strategy was chosen. Furthermore, as quantitative data has become more readily available due to the growth of the Internet and computing power, this study is quantitative in nature and used Qualtrics to run an online survey. Ahmad et al. (2019) describes quantitative research as a methodology approach that relies on mathematical, statistical, computational, and computational techniques to describe the relationship between two variables. Internet-based surveys are preferred because they allow for the rapid and inexpensive collection of vast amounts of data. This is because the Internet is accessible around-the-clock, making online surveys faster than traditional methods.

#### **3.2 Sampling Method**

Online sampling method and snowball sampling constituted the non-random sampling technique that was used in the survey, and social media platforms (i.e., Facebook, Instagram, LinkedIn, Xiaohongshu, and WhatsApp) were used as channels to reach potential respondents. Non-probability sampling method was chosen since the Internet has become a widely used communication tool, and this study can be carried out online with ease and efficiency (Bacher et al., 2019). It is also a cost-effective, flexible and practical way to recruit participants (Bacher et al., 2019). Nonetheless, it is crucial to recognise potential biases connected to the online

sampling method. The survey has been carefully crafted to minimise these biases where accessibility is enhanced by using English with clear instructions to ensure that participants understand the questions and provide accurate responses. Meanwhile, the outcome variable's scale was placed at the beginning of the survey to mitigate the potential order effects such as fatigue effects by ensuring focused attention on the core concept. Survey fatigue is a significant disadvantage of questionnaire-based designs which leads to careless responses, undesirable responses, and a decline in survey responsiveness (Ghafourifard, 2024). Plus, various social media platforms were employed which helps increase diversity of sample, and the response pattern was tracked to identify potential response bias such as rushed or straightlining responses. Besides that, existing participants were asked to recommend any individual who met the requirements to be a sample to complete the survey for sufficient response rate.

### **3.3 Participants and Sample Size**

This research's target population is young adults in Malaysia. Based on two inclusion criteria, the sample was selected from the population: (1) being between the ages of 18 and 29; and (2) currently residing in Malaysia. The G\*Power 3.1.9.7 software program was used to calculate the sample size for the current study. Using the  $f^2 = \frac{r^2}{1-r^2}$  formula, the study's effect size was determined. Based on Cohen's criteria, the study's overall effect size of 0.534 indicates a medium effect size (refer to Appendix A). According to the power analysis, the power level is 0.95, indicating a 95% likelihood that the result will be significant. For this research, the margin of error is 0.05.

The essential sample size calculated for this research was 35 participants (refer to Appendix B). However, to avoid a low response rate, 20% extra participants were added to the

original target sample size, considering the possibility that some surveys may be incomplete.

Therefore, the final target sample size is 42 participants.

### **3.4 Ethical Clearance Approval**

Research proposal submission and approval was handled by this study's supervisor, Ms. Sanggari A/P Krishnan. Ethical clearance approval was obtained by University Tunku Abdul Rahman's (UTAR) Scientific and Ethical Review Committee (SERC) with the code of Re: U/SERC/78-426/2025 (refer to Appendix D). The data collection procedures were initiated after receiving the necessary authority's ethical clearance approval in order to guarantee the ethical conduct of the current study.

### **3.5 Instruments**

The questionnaire was divided into six sections: Section A included the Personal Data Protection form, Section B collected participants' demographic information, Section C included the Subjective Happiness Scale (SHS), Section D included the Positive Thinking Scale (PTS), Section E included the attention checker item, and Section F included the Humour Styles Questionnaire (HSQ).

#### ***3.5.1 Demographic Information***

Demographic information was collected in the survey to provide valuable insights into the characteristics of respondents and to help interpret the results in context. This information enhanced the analysis by enabling segmentation of data across different groups, providing a clearer understanding of trends and patterns within the studied population. Common demographic data was collected such as age, gender identity, race, and educational level.

### ***3.5.2 Positive Thinking Scale***

The PTS developed by Diener et al. (2009) was used to assess levels of positive thinking. The scale comprised 22 dichotomously scored items in a yes-no format, including 11 positive items (i.e., "I believe in the good qualities of other people") and 11 negative items (i.e., "When I see others prosper, it makes me feel bad about myself"). For positive items, a "yes" response scored 1 point, while for negative items, a "no" response scored 1 point. The total score ranged from 0 to 22, with higher scores indicating greater positive thinking. The scale showed adequate internal reliability, that is Cronbach's alpha of 0.745 (Chui & Chan, 2020). High validity was also established based on content validity and factor analysis results (Na'imah et al., 2023).

### ***3.5.3 Humour Styles Questionnaire***

The Humour Styles Questionnaire (HSQ), constructed by Martin et al. (2003), was employed to evaluate humour styles across four dimensions: affiliative, self-enhancing, aggressive, and self-defeating, each represented by 8 items. The affiliative humour dimension included items 1, 5, 9, 13, 17, 21, 25, and 29, with items 1, 9, 17, 25, and 29 being reverse-scored (i.e., "I don't have to work very hard at making other people laugh—I seem to be a naturally humorous person"). The self-enhancing humour dimension comprised items 2, 6, 10, 14, 18, 22, 26, and 30, with item 22 being reverse scored (i.e., "If I am feeling depressed, I can usually cheer myself up with humour"). The aggressive humour dimension included items 3, 7, 11, 15, 19, 23, 27, and 31, with items 7, 15, 23, and 31 being reverse scored (i.e., "If someone makes a mistake, I will often tease them about it"). Lastly, the self-defeating humour dimension consisted of items 4, 8, 12, 16, 20, 24, 28, and 32, with item 16 being reverse scored (i.e., "I let people laugh at me or make fun at my expense more than I should"). Responses were measured on a 7-point Likert scale with range from 1 (*totally disagree*) to 7 (*totally agree*), where total scores for each

dimension range from 8 to 56. Higher scores indicate a greater degree of the respective humour style. The HSQ displayed good reliability, with values ranging from 0.77 to 0.79 for the Cronbach's alpha (Amjad & Dasti, 2020). Strong construct validity was also found in HSQ based on a factor analysis (Leñero-Cirujano et al., 2022).

#### ***3.5.4 Subjective Happiness Scale***

Lyubomirsky and Lepper (1999) developed the Subjective Happiness Scale (SHS) which was used to measure subjective happiness. The scale comprised 4 items rated on a 7-point Likert scale, with response options ranging from 1 (*not a very happy person*) to 7 (*a very happy person*) or 1 (*not at all*) to 7 (*a great deal*) (i.e., "In general, I consider myself:"). Item 4 is reverse-coded. Scores were summed to range from 1 to 28, with higher scores indicating greater levels of happiness. The SHS demonstrated fair internal reliability, with a Cronbach's alpha of 0.75 (Lu et al., 2023). Strong validity was found in SHS based on construct and content validity tests (Alquwez et al., 2021).

### **3.6 Data Analysis**

In this study, the collected data was processed to data analysis. The data analysis was exported into Statistical Package for the Social Science (SPSS) data file. IBM SPSS was used to conduct the data analysis of the study. At the initial stage, the normality test was conducted to examine the normal distribution of population through histogram, Q-Q plot, skewness, kurtosis, as well as the Kolmogorov-Smirnov test. Additionally, Multiple Linear Regression (MLR) was applied to assess the influence of the independent variables (positive thinking, AHS, and MAHS) on subjective happiness. An independent t-test was used to assess the gender differences in positive thinking, AHS, MAHS, and subjective happiness.



### **3.7 Pilot Study**

A pilot test was carried out in Malaysia before the actual data assess the study's feasibility. A pilot test is a smaller version of the actual study that is done to test whether the actual study can be accomplished (Sundram & Romli, 2023). 40 Malaysian participants who were aged 18 to 29 years old were recruited through social media applications such as Instagram and WhatsApp. Responses were collected from 3<sup>rd</sup> January 2025 to 7<sup>th</sup> January 2025. After screening out the exclusion criteria, 30 datasets were used to examine the reliability of the scales utilised in this study. The reliability of the scales ranged from 0.741 to 0.948 which indicated high reliability with sufficient internal consistency (refer to Appendix F).

### **3.8 Actual Study**

After ethical approval was obtained, data collection for actual study was proceeded. 145 respondents participated in the actual study, while our target sample size based on G\*Power is 42. The data collection period for the actual study was from 16<sup>th</sup> January 2025 to 16<sup>th</sup> February 2025.

### **3.9 Reliability of Pilot Study and Actual Study**

A reliability test was conducted for the pilot (N=30) and actual study (N=120). Nunnally (1978) indicated Cronbach's alpha value of  $\geq 0.70$  is typically acceptable in basic research, reflecting adequate internal consistency. The reliability of the scales ranged from 0.705 to 0.793 which indicated high reliability with sufficient internal consistency (refer to Appendix F & G).

**Table 3.1**

*Cronbach's Alpha Coefficient for PTS, HSQ, and SHS in Pilot Study (N=30) and Actual Study (N=120)*

Variables	Number of Items	Pilot Study (N=30)	Actual Study (N=120)
Positive Thinking Scale (Diener et al., 2009)	22	0.805	0.793
Humour Styles Questionnaire (Martin et al., 2003)	32	0.741	0.776
Subjective Happiness Scale (Lyubomirsky & Lepper, 1999)	4	0.948	0.705

### 3.10 Data Collection Procedure

Qualtrics was used as a survey platform for this study, and the questionnaire was presented in English. Ethical approval was obtained from the SERC of Universiti Tunku Abdul Rahman (refer to Appendix D). To effectively target young adults aged 18 to 29 in Malaysia, the online survey was distributed through a shared link or QR code across multiple social media applications, including Facebook, Instagram, LinkedIn, Xiaohongshu, and WhatsApp. The following inclusion criteria: (1) aged 18 to 29; and (2) currently residing in Malaysia had to be met by participants. Only those who met these criteria were eligible to participate, and data from

those who did not meet these requirements were excluded as invalid. The study's exclusion criteria included: (1) refusal to consent; and (2) incomplete responses. The data collection period for the actual study was from 16<sup>th</sup> January 2025 to 16<sup>th</sup> February 2025. 50 participants in the actual study were offered a voluntary RM10 lucky draw, with a total budget of RM500. Winners were randomly selected and informed through WhatsApp for prize disbursement via Touch N Go.

## Chapter 4.0

### Results

#### 4.1 Data Cleaning

A total of 145 responses were collected in this study. There were 20 missing data removed due to incomplete responses. Besides that, five data were removed due to disagreement about personal data to be processed. Overall, 25 data were removed from 145 responses, leaving 120 finalised and utilised data in this research after data cleaning.

#### 4.2 Normality

##### 4.2.1 Histogram

The histograms of PTS, adaptive humour styles (AHS), maladaptive humour styles (MAHS), and SHS show normal distribution with one mode and are roughly symmetrical (Hair et al., 2010; refer to Appendix H).

##### 4.2.2 Q-Q Plots

The Q-Q plots of PTS, AHS, MAHS, and SHS are all closely gathered along the diagonal line, showing no violation of normal distribution (Hair et al., 2010; refer to Appendix I).

##### 4.2.3 Skewness and Kurtosis

The skewness of PTS, AHS, and MAHS show that the distributions are right-skewed while SHS show that the distribution is left-skewed. The kurtoses of PTS, AHS and SHS show that the distributions are more light-tailed compared to normal distribution while MAHS show that the distribution is more heavy-tailed compared to the normal distribution (refer to Table 4.1). Generally, all values are in the range of  $-1.96$  to  $+1.96$  which show no violations of skewness and kurtosis (Hair et al., 2010).

**Table 4.1***Skewness and Kurtosis*

Scale	Skewness	Kurtosis
SHS	-.548	-.145
PTS	.056	-.777
HSQ		
AHS	.092	-.238
MAHS	.261	1.049

**4.2.4 Kolmogorov-Smirnov Test**

There are two violations of Kolmogorov-Smirnov (K-S) test, where PTS and SHS show significant values. PTS shows  $D(120)=.099$ ,  $p=.006$ , while SHS shows  $D(120)=.104$ ,  $p=.003$ , which results in significant values to reject the null hypothesis that the sample data is not different from the population. Whereas AHS and MAHS do not violate the K-S test as the values are non-significance values which failed to reject the null hypothesis. AHS shows  $D(120)=.046$ ,  $p=.200$  and MAHS shows  $D(120)=.039$ ,  $p=.200$  (refer to Table 4.2).

**Table 4.2***Kolmogorov-Smirnov Test*

Scale	<i>p-value</i>
SHS*	.003
PTS*	.006
HSQ	
AHS	.200
MAHS	.200

\*Violate K-S test

**4.2.5 Summary of Normality Test**

Overall, AHS and MAHS show no violation of normality, as indicated by the histogram, Q-Q plot, skewness and kurtosis values, and Kolmogorov-Smirnov (K-S) test. Although PTS and SHS show violations for the K-S test, all variables have no violations in at least three of the normality tests. In conclusion, the normality assumptions are met.

**4.3 Assumptions of Multiple Linear Regression****4.3.1 Independence of Errors**

The assumption is met as the Durbin-Watson test value of 1.666 falls within the acceptable range of 1 and 3 (Durbin & Watson, 1951). No violation is found (refer to Table 4.3).

**Table 4.3***Independence of Error Test*

Model	Durbin-Watson
1	1.666

### 4.3.2 Multicollinearity

No violations are found in tolerance, as all values exceed 0.10, and no issues are detected in the variance inflation factor (VIF), as all values are below 10 (Hair et al., 2010; Pallant, 2010). Therefore, multicollinearity is not present in the data, confirming that this assumption is met (refer to Table 4.4).

**Table 4.4**

#### *Multicollinearity*

Scale	Tolerance	VIF
PTS	.761	1.314
AHS	.755	1.324
MAHS	.932	1.073

*Note.* Dependent variable: SHS

### 4.3.3 Normality of Residual, Linearity and Homoscedasticity

Residuals are randomly and evenly distributed along the zero line, forming an oval shape. The three assumptions which are homoscedasticity, linearity and normality distributed of errors are met (Berry, 1993; refer to Appendix L5).

### 4.3.4 Multivariate Outliers and Influential Cases

No cases have undue influence on the model as all the case values are <15 and the conservative cut-off point in the Mahalanobis distance is 15 (Hair et al., 2010). Cook's distance cut-off value is 1 which shows that no cases have undue influence on the model as all the case values are <1 (Cook & Weisberg, 1986). The calculated cut-off point for Leverage is 0.099 as shown below in the calculation (Ellis & Morgenthaler, 1992; refer to Appendix L4).

$$\begin{aligned}
 Leverage &= \frac{(3+1)}{120} \\
 &= \frac{4}{120} \\
 &= 0.033 \\
 0.033 \times 3 &= 0.099
 \end{aligned}$$

#### 4.4 Descriptive Statistics

The sample was drawn from the population based on two inclusion criteria: (1) being between the ages of 18 and 29 and (2) currently residing in Malaysia. In total, 145 responses were collected. Out of the 145 responses, 25 were excluded, yielding a final sample of 120 responses. The sample consisted of 55 males (45.8%) and 65 females (54.2%) (refer to Table 4.5). Participants' ages ranged from 18 to 29 years (refer to Table 4.5). The distribution of participants' ethnic backgrounds was as follows: 89 Chinese participants (74.2%), 18 Malay participants (15.0%), nine Indian participants (7.5%), and four Others (3.3%) (refer Table 4.5).



**Table 4.5***Demographic Information of Research Sample (n=120)*

	<i>n</i>	%	<i>M</i>	<i>SD</i>
<b>Gender</b>				
Male	55	45.8		
Female	65	54.2		
<b>Age</b>			22.45	2.24
<b>Race</b>				
Malay	18	15.0		
Chinese	89	74.2		
Indian	9	7.5		
Others	4	3.3		

*Note.* *n* = number of participants; % = percentage; *M* = mean; *SD* = standard deviation

#### 4.5 Multiple Linear Regression Analysis

A multiple linear regression analysis was employed to assess the contribution of PTS, AHS, and MAHS to subjective happiness. Preliminary analyses were conducted to confirm that the assumptions of normality of residuals, linearity of variables, multicollinearity, homoscedasticity, residual independence, and the absence of multivariate outliers were not violated. The model is found to be statistically significant,  $F(3,116)=23.380$ ,  $p<.001$  and accounts for 37.7% of the variances (refer to Table 4.6 & Table 4.7). It is found that positive thinking ( $\beta=.503$ ,  $p<.001$ ) and AHS ( $\beta=.190$ ,  $p=.026$ ) are significant predictors of subjective happiness (refer to Table 4.8). However, MAHS ( $\beta=-.014$ ,  $p=.849$ ) is not found to be a

significant predictor (refer to Table 4.8). The results show that positive thinking has the strongest contribution to subjective happiness.

**Table 4.6**

*ANOVA Table for Regression Model*

Model		Sum of Squares	<i>df</i>	Mean Square	<i>F</i>	<i>p-value</i>
1	Regression	763.560	3	254.520	23.380	.000
	Residual	1262.807	116	10.886		
	Total	2026.367	119			

**Table 4.7**

*Model Summary for Regression Model*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.614	.377	.361	3.299

**Table 4.8***Coefficients of Predictors*

Model		Unstandardised		Standardised	<i>t</i>	<i>p-value</i>
		Coefficients		Coefficients		
		B	Std. Error	Beta		
1	(Constant)	6.863	2.227		3.082	.003
	PTS	.477	.080	.503	5.991	.000
	AHS	.065	.029	.190	2.255	.026
	MAHS	-.004	.024	-.014	-.190	.849

**4.6 Independent T-Test**

A t-test analysis was performed to examine the differences between two independent groups. Among the three types of t-tests, the independent t-test was selected for this study. This test type was chosen as the two independent groups in the study represented gender differences, consisting of male and female respondents. These groups originated from the same study, had data collected simultaneously, and were mutually exclusive.

**4.6.1 Independent T-Test of Positive Thinking**

There is no significant gender difference in the score for PTS,  $t(118) = -.117, p = .907$ . The mean of PTS scores for males ( $M = 30.69, SD = 4.329$ ) is slightly lower than the mean for females ( $M = 30.78, SD = 4.414$ ) (refer to Table 4.8).

#### ***4.6.2 Independent T-Test of Adaptive Humour Styles***

There is no significant gender difference in the score for AHS,  $t(118) = -.601, p = .549$ .

The mean of AHS for males ( $M = 73.69, SD = 12.471$ ) is slightly lower than the mean for females ( $M = 75.02, SD = 11.626$ ) (refer to Table 4.8).

#### ***4.6.3 Independent T-Test of Maladaptive Humour Styles***

There is a significant gender difference in the score for MAHS,  $t(118) = 2.340, p < .05$ .

The mean of MAHS for males ( $M = 63.51, SD = 13.940$ ) is higher than the mean for females ( $M = 57.92, SD = 12.208$ ) (refer to Table 4.8). The p-value below .05 suggests that the observed difference in MAHS between the male and female participants is unlikely to be a random occurrence within the broader population from which the sample was drawn.

#### ***4.6.4 Independent T-Test of Subjective Happiness***

There is no significant gender difference in the score for subjective happiness,  $t(118) = -1.115, p = .267$ . The mean of subjective happiness for males ( $M = 17.33, SD = 4.060$ ) is slightly lower than the mean for females ( $M = 18.17, SD = 4.174$ ) (refer to Table 4.8).

**Table 4.9***Independent T-test*

	Gender	Mean	Std. Deviation	<i>df</i>	<i>t-value</i>	<i>p-value</i>
SHS	Male	17.33	4.060	118	-1.115	.267
	Female	18.17	4.174			
PTS	Male	30.69	4.329	118	-.177	.907
	Female	30.78	4.414			
AHS	Male	73.69	12.471	118	-.601	.549
	Female	75.02	11.626			
MAHS	Male	63.51	13.940	118	2.340	.021
	Female	57.92	12.208			

#### 4.7 Summary of Results

**Table 4.10**

*Summary of Results*

Hypotheses	Outcome
H1: Positive thinking has a significant positive influence on subjective happiness among Malaysian young adults.	The hypothesis is accepted.
H2: Adaptive humour styles have significant positive influence on subjective happiness among Malaysian young adults.	The hypothesis is accepted.
H3: Maladaptive humour styles have significant negative influence on subjective happiness among Malaysian young adults.	The hypothesis is rejected.
H4: There are significant gender differences in positive thinking among Malaysian young adults.	The hypothesis is rejected.
H5: There are significant gender differences in adaptive humour styles among Malaysian young adults.	The hypothesis is rejected.
H6: There are significant gender differences in maladaptive humour styles among Malaysian young adults.	The hypothesis is accepted.
H7: There are significant gender differences in subjective happiness among Malaysian young adults.	The hypothesis is rejected.

## Chapter 5.0

### Discussion and Conclusion

#### 5.1 Introduction

The current study aimed to examine the influence of positive thinking and humour styles on the subjective happiness of Malaysian young adults while looking into potential gender differences. The subsequent sections will explore the findings of this study, examining how positive thinking and adaptive humour styles (AHS) predict greater subjective happiness, and conversely, why maladaptive humour styles (MAHS) do not significantly predict lower subjective happiness within this specific demographic. Furthermore, this discussion will analyse the findings of the significant and insignificant gender differences in subjective happiness, positive thinking, and humour styles considering the unique sociocultural context of Malaysia. By interpreting these results in light of the CBT and BBT theories, and cultural nuances, this chapter seeks to offer an in-depth exploration of the factors influencing the subjective happiness of Malaysian young adults.

#### 5.2 Discussion of the Findings

##### *5.2.1 Positive Thinking and Subjective Happiness*

This study investigated the predictive role of positive thinking on the subjective happiness of Malaysian young adults. The findings revealed that positive thinking significantly and positively predicted subjective happiness within this population, supporting Hypothesis 1. This result aligns with existing literature demonstrating a consistent positive relationship between positive thinking and subjective happiness (Botor, 2019; Demirtaş, 2020; Kodaz et al., 2020; Nguyen & McDermott, 2023; Sany et al., 2021).

The results can be explained by examining the effects of positive thinking on individual subjective happiness, particularly within the Malaysian sociocultural context. Demirtaş's (2020) research, which highlights the link between optimism, happiness, stability, and physical health, resonates within Malaysia, where the maintenance of harmony and well-being are highly valued. The emphasis on a healthy lifestyle, facilitated by optimism, aligns with cultural norms surrounding balance and self-care. Similarly, Majid et al. (2019) observed that positive thinking enhances self-esteem, and personal worth are pertinent to Malaysian young adults. A robust sense of self-worth, cultivated through positive cognition, empowers individuals to navigate the transitions and expectations of young adulthood within the Malaysian social framework. This positive disposition contributes to a favourable self-assessment of capabilities, which is crucial for academic and professional success, both highly valued in Malaysian society.

The contribution of positive environments, facilitated by positive thinking, to subjective happiness is particularly significant in Malaysia, where community cohesion and social harmony are emphasised (Kodaz et al., 2020). When Malaysian young adults perceive their peers and friends as respectful, successful, and optimistic, it fosters a sense of belonging and collective well-being (Majid et al., 2019). The cultural emphasis on politeness and respect in Malaysia underscore the importance of perceived respect from peers in creating a positive social environment. For example, witnessing the success of friends can serve as a source of motivation and community pride, while a positive social circle provides a supportive and encouraging atmosphere. A strong belief in one's future potential is also vital for young adults as they navigate their education, careers, and personal lives within the Malaysian context, where aspirations for a prosperous future are often deeply ingrained. Hence, positive thinking plays a



crucial role in cultivating these positive perceptions and experiences within the Malaysian sociocultural framework.

### ***5.2.2 Adaptive Humour Styles and Subjective Happiness***

This study examined how Malaysian young adults' subjective happiness is influenced by AHS as well. It was shown in the results that AHS have a significant and positive influence towards the subjective happiness of Malaysian young adults. Therefore, Hypothesis 2 is accepted. This result aligns with similar previous research conducted (Cristea & Rizeanu, 2020; Hussain et al., 2021; Jolly & Lokesh, 2022; Mabia et al., 2021).

The observed connection between AHS and subjective happiness in Malaysian young adults arises from a blend of psychological mechanisms and cultural nuances. These AHS cultivate social bonds, bolster resilience, and foster a positive mindset. Specifically, affiliative humour plays a crucial role. Acting as a social lubricant, it strengthens interpersonal relationships by using constructive humour to build rapport and reduce tension (García et al., 2024; Wang et al., 2022). In the collectivist culture of Malaysia, where group harmony is highly valued, this form of humour is particularly significant. This is as it facilitates smooth social interactions, reinforces group identity, and helps navigate social hierarchies, ultimately fostering a strong sense of belonging and support. This style of humour promotes social cohesiveness and works on an interpersonal level as mentioned by Richards and Kruger (2017).

Likewise, self-enhancing humour facilitates coping with adversity by maintaining a humorous perspective, thereby mitigating negative emotional responses (García et al., 2024; Wang et al., 2022). This humour style in turn promotes psychological resilience, which is essential for adapting to the challenges of young adulthood. Martin (2007) credited the psychological aspects of self-enhancing humour as a crucial coping strategy and means of

improving acceptance of life's circumstances. It allows for cognitive reframing, the development of an internal locus of control, and the cultivation of self-compassion citation. In the context of Malaysian young adults, who often face pressures related to education, career, and social expectations, self-enhancing humour serves as an inner fortress, enabling them to navigate life's complexities with greater emotional stability.

### ***5.2.3 Maladaptive Humour Styles and Subjective Happiness***

This study further investigated how Malaysian young adults' subjective happiness is influenced by MAHS. The results displayed that MAHS have an insignificant negative influence on the subjective happiness among Malaysian young adults. This suggests that within this sample of Malaysian young adults, MAHS did not significantly contribute to a reduction in subjective happiness. Therefore, Hypothesis 3 is rejected.

A potential explanation for this result lies within the sociocultural context of Malaysia, characterised by strong collectivist values. Malaysian society, as noted by Sumari et al. (2019), emphasises collaboration, interdependence, and the maintenance of harmonious interpersonal relationships, particularly from an early age. This cultural emphasis on social cohesion may weaken the negative impact of maladaptive humour. Specifically, the cultural norm to minimise conflict and prioritise group harmony may lead to a greater tolerance or acceptance of maladaptive humour expressions. For example, rather than confronting an individual employing aggressive humour, such as negative remarks about another's physical appearance, peers or family members might respond with laughter or dismissiveness. Although this response seems passive, it could effectively mitigate the potential for significant adverse effects on subjective happiness. This suggests that the cultural norms within a collectivist society may buffer individuals from the typical negative consequences associated with MAHS.

Besides that, resilience helps explain these results as well by acting as a psychological buffer against the negative effects of MAHS. Malaysian young adults with higher resilience may reframe negative humour positively, interpreting self-deprecating or aggressive humour as harmless rather than personally damaging. Their ability to regulate emotions effectively allows them to manage any distress caused by maladaptive humour, preventing it from significantly lowering their well-being. Additionally, Yildirim and Tanrıverdi (2020) mentioned in their study that resilient individuals tend to rely on strong social support, seeking encouragement from friends and family. This helps counterbalance any negativity that the individual faces. Their sense of self-worth remains intact, meaning they do not internalise maladaptive humour as a true reflection of their abilities or value. As a result, resilience enables individuals to navigate the potential negativity of MAHS without experiencing a significant decline in subjective happiness.

#### ***5.2.4 Gender Differences in Positive Thinking***

The results showed that there are no significant gender differences in positive thinking among Malaysian young adults. Hence, Hypothesis 4 is rejected. Past studies had reported similar results (Komatsu et al., 2019; Magee & Upenieks, 2019; Schug et al., 2021).

This can be firstly explained by using the nations deeply ingrained cultural values among Malaysian young adults. Malaysian culture actively cultivates a positive mindset by emphasising the maintenance of a positive outlook, the avoidance of conflict, and the promotion of collective social well-being. This has been actively reinforced through Malaysian education system where it focuses on moral education, which fosters character development and the cultivation of positive values applicable to both men and women. For example, the Malaysian Chinese community's adherence to 'Dizi Gui' reinforces values such as compassion, moral integrity, and collective well-being, shaping a positive outlook shared by both men and women (Yao & Wong,

2020). This shared cultural foundation eliminates many of the gender specific differences that can lead to variances in positive thinking.

Beyond these cultural influences, the increasing accessibility of tertiary education and exposure to media and technology have also significantly contributed to the equalisation of positive thinking across genders (Abdullah et al., 2022; Moussa et al., 2022). Both young men and women are increasingly pursuing higher education, expanding their perspectives and opportunities (Moussa et al., 2022). Moreover, the pervasive influence of media and technology exposes young adults to diverse viewpoints and global trends, potentially shaping their emotional expression and fostering a shared understanding of positive thinking that transcends gender boundaries (Abdullah et al., 2022). The impact of globalisation further contributes to this convergence, as young adults are exposed to a wider range of perspectives and experiences (Abdullah et al., 2022). Finally, fostering positive relationships within communities and positive reactions to different cultures creates unity and reduces conflict, that can contribute to positive thinking regardless of gender (Lino & Hashim, 2020).

### ***5.2.5 Gender Differences in Adaptive Humour Styles***

The results showed that there are no significant gender differences in AHS among Malaysian young adults. Thus, Hypothesis 5 is rejected. Similar result was found in past studies (Falanga et al., 2020; Hussain et al., 2021).

Previous studies explained that gender may not play a huge role on influencing humour styles in cultures where gender differences are less profound (Hussain et al., 2021). This phenomenon is further reinforced by the widespread use of social media, which fosters a shared humour landscape between genders, allowing for the dissemination and consumption of similar

comedic content regardless of sex (Abdullah et al., 2022). This could foster common understanding and appreciation of AHS, diminishing potential gender-based variations.

Moreover, Malaysia's collectivist cultural orientation, which values harmony and group cohesion, likely contributes to the prevalence of affiliative humour styles among both young men and women (Jiang et al., 2019). In collectivist societies, individuals tend to prioritise social bonds and maintain positive relationships, making affiliative humour, which promotes connection and reduces tension, a preferred mode of expression (Jiang et al., 2019). This shared cultural emphasis on social humour and connection could result in both genders adopting and utilising AHS in similar ways, thereby minimising gender-based disparities (Jiang et al., 2019).

Furthermore, studies have shown that AHS, particularly affiliative humour, are associated with a sense of belonging among Malaysian young adults (Sukor et al., 2019). This suggests that both genders actively utilise AHS to foster social connections and enhance their sense of belonging within their communities. Overall, the shared functions of humour could influence the use of AHS no matter the gender.

### ***5.2.6 Gender Differences in Maladaptive Humour Styles***

The results showed that there are significant gender differences in MAHS among Malaysian young adults. Hence, Hypothesis 6 is supported. This result aligned with past studies (Evans, 2023; Hofmann et al., 2020; Yaprak et al., 2018).

This can be explained that humour from men is generally considered funnier and may be used as a tool for status competition (Evans, 2023). Additionally, MAHS are often associated with masculinity and may provide men with greater social support (Evans, 2023). Hence, men are encouraged to use MAHS more often.

In contrast, women who use maladaptive humour tend to receive lower ratings for leadership effectiveness and less social support (Evans, 2023). Consequently, women are discouraged to use MAHS. Furthermore, women reported experiencing higher levels of depressed mood when using aggressive humour, whereas men did not show the same effect, which may lead to men using aggressive humour more frequently (Hofmann et al., 2020). Hence, the advantages typically associated with men and the disadvantages often faced by women when using MAHS may contribute to the significant gender difference.

### ***5.2.7 Gender Differences in Subjective Happiness***

The results showed that there are no significant gender differences in subjective happiness among Malaysian young adults. Thus, Hypothesis 7 is rejected. The current result is aligned with findings of several past studies (Freire & Ferreira, 2019; Mubeen et al., 2022; Zhang et al., 2024).

The absence of significant gender differences in subjective happiness among Malaysian young adults could be deeply rooted in the nation's collectivist culture. Collectivistic cultural, which places a high emphasis on group harmony and interdependence, fosters a shared experience of well-being that transcends traditional gender boundaries. In collectivist societies like Malaysia, happiness is less about individual achievement and more about the strength of social connections and the collective well-being of the community (Jiang et al., 2019). Therefore, both young men and women derive satisfaction from fulfilling their roles within these social networks, leading to a convergence in subjective happiness.

Furthermore, the democratisation of Malaysian tertiary education has significantly supported to the equalisation of subjective happiness across genders. As both young men and women increasingly gain access to tertiary education, they share similar opportunities for

personal and professional growth (Moussa et al., 2022). This shared educational experience not only enhances their economic prospects but also broadens their perspectives and fosters a sense of empowerment, both of which are critical determinants of subjective happiness (Zaremohzzabieh et al., 2019). Moreover, the social and familial environment also contribute to the happiness of young adults, and these are typically shared experiences (Zaremohzzabieh et al., 2019).

The equitable distribution of social support systems among Malaysian university students further reinforces the lack of gender disparities in subjective happiness (Lim et al., 2020). These support systems act as crucial buffers against stress and adversity, contributing to overall well-being (Zaremohzzabieh et al., 2019). The absence of significant gender differences in these support networks ensure that both genders have access to the resources necessary for maintaining subjective happiness.

### **5.3 Implication of the Study**

#### ***5.3.1 Theoretical Implication***

This study offers significant and meaningful theoretical implications within the frameworks of Cognitive Behavioural Theory (CBT) and Broaden-and-Build Theory (BBT).

The findings support the core principles of CBT, as described by Zaiden & Mahfar (2024), by demonstrating that positive thinking is positively associated with subjective happiness within Malaysian young adults' context. This reinforces the theory's assertion that an individual's psychological cognitive perspective directly shapes their emotional well-being. By showing that positive thinking, a key concept within CBT contributes to increased subjective happiness in this population, the study validates CBT's applicability beyond Western contexts

(Andrade, 2019; Pourdavarani et al., 2024). This highlights the universal relevance of cognitive processes in influencing emotional states across cultures.

Similarly, the study validates the key components of BBT, as outlined by Cao et al. (2023) and Paramita et al. (2022), by demonstrating that AHS positively contribute to subjective happiness. This finding supports the theory's claim that positive emotions, generated by AHS lead to the accumulation of lasting emotional and social resources, which in turn enhances well-being (Amjad & Dasti, 2020; deCruz-Dixon, 2023). Conversely, the study's findings align with the theory's prediction that MAHS, which elicit negative responses of others (deCruz-Dixon, 2023; Lu et al., 2023), are associated with lower subjective happiness due to the narrowing of coping resources.

The successful application of both CBT and BBT within the Malaysian sociocultural context demonstrates the cross-cultural relevance of both theories. These findings indicate that the mechanisms described by CBT and BBT, regarding the influence of cognitive patterns and humour styles on subjective happiness, are not culturally bound. Overall, this study contributes to a broader understanding of how these factors influence subjective happiness in young adults across diverse populations, refining and expanding the applicability of CBT and BBT within a non-Western cultural landscape.

### ***5.3.2 Practical Implication for Programs and Policies***

Primarily, educational programs should incorporate targeted modules that actively teach positive thinking techniques and AHS. This involves practical exercises in cognitive reframing, such as challenging negative thoughts and substituting them with positive affirmations, alongside structured gratitude practices like daily gratitude journaling (Fekete & Deichert, 2022; Santos et al., 2024). Workshops should explicitly demonstrate the benefits of affiliative humour (e.g.,



using humour to build connections and reduce tension) and self-enhancing humour (e.g., using humour to cope with stress). For example, role-playing scenarios could be used to practice these humour styles in various social contexts (Wijewardena et al., 2024). Furthermore, integrating emotional expression exercises, like guided journaling and expressive art therapy, directly into the curriculum will reinforce the link between emotional release and mental well-being (Taherkhani et al., 2023; Upadhyay & Pal, 2024).

Comprehensive Social-Emotional Learning (SEL) programs should be designed to include specific skill-building activities in emotional regulation, conflict resolution, and empathy, ensuring these programs are universally accessible to all young adults, regardless of gender (Bergin et al., 2024; Chowkase, 2023). SEL programs can be implemented starting from primary school through specific SEL course or integrated into academic subjects (Bergin et al., 2024; Chowkase, 2023). For instance, implement SEL concepts through group projects where it would emphasise teamwork, communication, and conflict resolution.

At the community level, initiatives should focus on creating accessible and diverse social support networks as social support has been associated with increased positive emotions and reduced anxiety and depression (Acoba, 2024). This could involve establishing community centres that offer structured activities like laughter yoga and peer support groups specifically for young adults (Alan et al., 2024; Devoe et al., 2024). For instance, laughter yoga has been found to relieve stress for young adults (Alan et al., 2024). Recreational activities should be designed to foster positive social interactions and connections, such as community sports with a focus on teamwork and fun, rather than competition (Petersen et al., 2021).

Public mental health awareness campaigns should utilise targeted messaging and diverse media platforms to reach young adults, including social media influencers and social media sites

(Tam et al., 2024). It would foster positive shifts in how people act, think, and feel, for example, by lessening the stigma of mental health support and promoting help-seeking behaviour (Tam et al., 2024; Young et al., 2022). Online communities should be moderated to ensure a safe and supportive environment, with regular online events and discussions promoting positive thinking and AHS, such as meme-making contests with positive themes or online comedy showcases featuring local young adult talent (Li & Zhou, 2024).

Policy recommendations must advocate for a significant increase in funding for accessible and affordable mental health services, including telehealth options and youth-specific counselling centres in every district, as it would reduce the financial and environmental barrier to receive mental health support which improve mental well-being of young adults (Andary et al., 2023; Okoli, 2023). Continued promotion of gender equality should extend beyond legal frameworks to include targeted initiatives that address specific challenges faced by young adults (Wolff, 2024). This could be such as providing mentorship programs for young women in STEM fields to empower women with female role models (Lindner & Makarova, 2024).

Given the absence of significant gender differences in most variables, all programs and policies should be designed with a universal approach, ensuring equitable access and benefits for all young adults in Malaysia, with a focus on outreach to marginalized communities. Continuous monitoring and evaluation, utilising both quantitative and qualitative methods, are essential to adapt and refine these initiatives, ensuring they effectively promote subjective happiness and address the evolving needs of Malaysian young adults (Yates, 2023).

#### **5.4 Limitations of Study**

The present study is constrained by numerous limitations that impact the scope and generalisability of its findings. Firstly, the current study employed non-random sampling which

were online sampling method and snowball sampling. This sampling method is considered unreliable primarily because they introduce selection bias, which undermines the ability to generalise findings to the broader population (Kim, 2022). Moreover, these methods inherently favour individuals with internet access and those within existing social networks, potentially excluding a substantial portion of the diverse Malaysian young adult population. Consequently, the sample may not accurately reflect the population's demographic, socioeconomic, or cultural diversity, thereby limiting the study's external validity and raising questions about the generalisability of the observed relationships.

Secondly, an uneven distribution of participants across the racial groups may have influenced the generalisability of results to the Malaysian young adult population. Our study consists predominantly of Chinese young adults (74.2%), followed by Malay (15.0%), Indian (7.5%), and other ethnic groups (3.3%), which does not reflect Malaysia's actual demographic composition—69.4% Bumiputera, 23.2% Chinese, 6.7% Indian, and 0.7% from other ethnic groups (Department of Statistics Malaysia, n.d.). While the current study focuses on gender differences rather than racial or ethnic factors, cultural backgrounds can subtly influence positive thinking, humour styles, and subjective happiness. Different ethnic groups in Malaysia may have distinct attitudes toward these traits, shaped by societal norms, language, and upbringing. As Malay, Indian, and other ethnic groups are underrepresented in the sample, their experiences may not be adequately captured, making it misleading to generalise the findings to all young adults in Malaysia. Besides, this imbalance means that the study's results will be heavily influenced by the experiences and perspectives of Chinese young adults which restricts its ability to provide a holistic and representative view of Malaysian young adults. Hence, the findings may primarily

reflect the experiences of the overrepresented group, rather than offering insights applicable to the diverse Malaysian population.

Next, while this study identified associations between positive thinking, humour styles, and subjective happiness, it did not thoroughly explore the underlying mediating and moderating factors. This lack of in-depth understanding restricts the study's explanatory power. Without delving into the specific psychological and neurological processes involved, such as how specific positive thinking techniques or cultural values influence the observed relationships, the study's conclusions remain somewhat superficial.

Besides that, the cross-sectional nature of the research design limits the generalisability of the findings. The one-time data collection prevents the determination of causal relationships between variables (Setia, 2016). It's impossible to discern whether changes in humour styles or positive thinking led to changes in subjective happiness, or vice versa. This limitation hinders the study's ability to provide insights into the long-term dynamics of these relationships and restricts the conclusions to describing associations rather than establishing causality.

Lastly, the study's exclusive reliance on quantitative methods restricts its ability to capture the subjective and nuanced experiences of participants. While quantitative approaches offer valuable statistical insights into the relationships between variables, they often fail to capture the nuanced and subjective experiences of participants. By focusing solely on numerical data and standardised measures, the study overlooks the contextual factors, personal narratives, and cultural influences that shape the interplay between positive thinking, humour styles, and subjective happiness. For instance, quantitative surveys may reveal correlations, but they cannot elucidate why certain humour styles are perceived as more effective in specific cultural contexts,

or how individual interpretations of positive thinking practices vary across diverse demographics.

### **5.5 Recommendations for Future Research**

To enhance the generalisability of findings, future research should focus on improving sampling methods. The use of random sampling or stratified sampling would ensure that the sample is more representative of Malaysian young adults, reducing the biases associated with convenience sampling (Ahmed, 2024). A larger and more diverse sample, including participants from different states, ethnic groups, and socioeconomic statuses, would help improve the external validity of the study, making the results more applicable to the broader Malaysian young adult population (Burchett et al., 2020; Desjardins et al., 2021).

Additionally, future research should explore how cultural norms shape the relationships between humour styles and positive thinking on subjective happiness. Given Malaysia's multicultural society, it is important to examine how each ethnic group (e.g., Malay, Chinese, Indian, and Indigenous communities) perceives and experiences these variables, particularly subjective happiness, due to potential difference in interpretation among ethnic groups (Rajkumar, 2023; Jiang et al., 2019; Ji et al., 2021). Understanding these cultural distinctions could provide deeper insights into how humour styles and positive thinking contribute to subjective happiness in different sociocultural contexts.

Furthermore, future studies could investigate mediating and moderating factors that shape the relationship between humour styles and positive thinking on subjective happiness. For instance, self-esteem, stress levels, and emotional regulation may act as mediators, explaining the process of how these relationships occur (Gonzalez & MacKinnon, 2020). Meanwhile, personality traits and cultural background could serve as moderators, influencing the strength of

these relationships (Hair et al., 2021). Recognising these factors would provide a deeper insight into the underlying psychological processes involved.

Since this study and many previous similar studies rely on cross-sectional data, future research should adopt a longitudinal approach. Longitudinal studies would allow researchers to track changes in humour styles, positive thinking, and subjective happiness over time, providing insights into long-term effects rather than a certain point of time (Bala, 2020). This approach would be valuable in understanding whether developing certain humour styles or engaging in positive thinking leads to lasting changes in subjective happiness.

Future research should also incorporate qualitative studies to provide a detailed understanding of the relationships between humour styles and positive thinking on subjective happiness. While quantitative methods provide valuable statistical insights, qualitative approaches (e.g., interviews and focus groups) can delve deeper into personal experiences, cultural influences, and psychological processes that shape these relationships (Busetto et al., 2020). A mixed-methods research, integrating quantitative and qualitative methods, would provide more comprehensive insights compared to relying on a single method and improve the validity of findings (Dawadi et al., 2021).

By exploring these aspects, future studies can generate more robust and culturally relevant findings, leading to a deeper understanding of subjective happiness among Malaysian young adults and offering valuable insights into the role of humour styles and positive thinking in subjective happiness.

## **5.6 Conclusion**

This study examined how positive thinking and humour styles influence subjective happiness among young adults in Malaysia, while also examining the gender differences among

all variables. Using Multiple Linear Regression (MLR) analysis, the results demonstrated that positive thinking and AHS significantly and positively predict subjective happiness, while MAHS are found to insignificantly and negatively predict subjective happiness. Among these predictors, positive thinking was the most influential predictor of subjective happiness. Using an independent t-test to examine gender differences, the results demonstrated that positive thinking, AHS, and subjective happiness have no significant gender difference, while MAHS were found to have significant gender difference.

The findings on the predictive relationship of positive thinking on subjective happiness align with Cognitive Behavioural Theory (CBT), emphasising how cognitive, behavioural, and affective components could interplay with each other. Besides, the findings on the predictive relationship of humour styles on subjective happiness also align with the Broaden-and-Build Theory (BBT), emphasising that positive emotions from AHS can enhance subjective happiness, by extending and broadening emotional and social resources.

The study had several limitations. Selection bias, due to the non-random sampling method, and the uneven demographic distribution, specifically the overrepresentation of Malaysian Chinese young adults, may limit the generalisability of results to the population. Additionally, this study lacks exploring the underlying mediating and moderating factors, which could restrict the study's explanatory power. Therefore, future research should aim to address these gaps by employing stratified random sampling to ensure a more representative sample of the population, and exploring mediating and moderating factors to give deeper insight on the underlying psychological mechanisms involved in subjective happiness.

Overall, this research underscores the importance of positive thinking and AHS to improve subjective happiness. These findings provide valuable and actionable implications for

educational programs, community initiatives, and policies, empowering all gender to cultivate AHS and positive thinking, thereby producing enhancements in subjective happiness.



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## Appendices

### Appendix A

#### Effect Size Calculation

#### Positive Thinking

Table 4. Relationship of social support, positive thinking and subjective happiness

(N=140)

Variables	Social Support	Positive Thinking	Subjective Happiness
	r(p)	r(p)	r(p)
Social Support	1		
Positive Thinking	.48(<.001)	1	
Subjective Happiness	.49(<.001)	.69(<.001)	1

$$f^2 = \frac{r^2}{1 - r^2}$$

$$f^2 = \frac{0.69^2}{1 - (0.69)^2}$$

$$f^2 = 0.909$$

Yu, M. O. (2021). The relationship between social support, positive thinking and subjective happiness of nursing college students. *Journal of the Korea Academia-Industrial Cooperation Society*, 22(3), 110–117. <https://doi.org/10.5762/kais.2021.22.3.110>

## Humour Styles

Table 1. Inter correlation of sense of humor, hardiness and subjective happiness among medical officers (N=200).

Variables	1	2	3	4	5	6	7
1. Sense of Humor	-	.91*	.42**	-.44**	-.49**	.70**	.37*
2. Affiliative Style Humor		-	.40**	-.27*	-.47**	.64**	.38*
3. Self Enhancing Style Humor			-	-.63*	-0.69	.61**	.37*
4. Aggressive Style Humor				-	0.4	-.35*	-.37**
5. Self-Defeating Style Humor					-	-.62*	-.57*
6. Hardiness						-	.39**
7. Subjective Happiness							-

Note: \* $p < 0.05$ , \*\* $p < 0.01$ , \*\*\* $p < 0.001$

$$f^2 = \frac{r^2}{1 - r^2}$$

$$f^2 = \frac{0.37^2}{1 - (0.37)^2}$$

$$f^2 = 0.159$$

Mubeen, B., Kanwal, S., Kha, S., & Butt, T. A. (2022). Relationship of sense of humor on subjective happiness: Mediating role of workplace hardiness among medical officers.

*ASEAN Journal of Psychiatry*, 23(08). <https://doi.org/10.54615/22317805.47273>

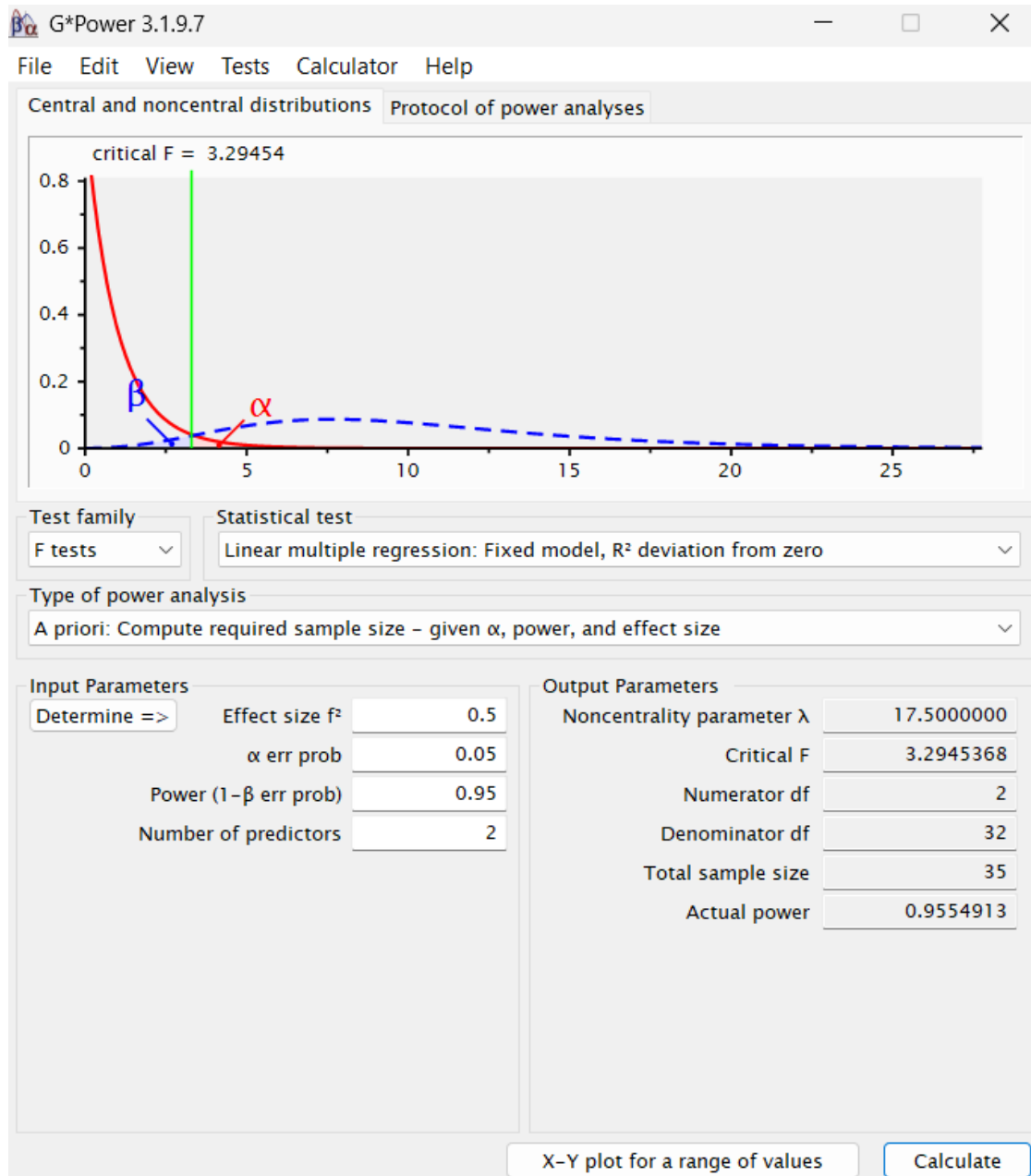
## Effect Size of Current Study

$$f^2 = \frac{0.909 + 0.159}{2}$$

$$f^2 = 0.534$$

## Appendix B

## G\*Power Sample Size Calculation



## Appendix C

### Ethical Approval for Research Project



**UNIVERSITI TUNKU ABDUL RAHMAN** DU012(A)  
Wholly owned by UTAR Education Foundation Co. No. 578227-M

Re: U/SERC/78-426/2025

7 January 2025

Dr Lee Wan Ying  
Head, Department of Psychology and Counselling  
Faculty of Arts and Social Science  
Universiti Tunku Abdul Rahman  
Jalan Universiti, Bandar Baru Barat  
31900 Kampar, Perak.

Dear Dr Lee,

#### Ethical Approval For Research Project/Protocol

We refer to the application for ethical approval for your students' research project from Bachelor of Social Science (Honours) Psychology programme enrolled in course UAPZ3023. We are pleased to inform you that the application has been approved under Expedited Review.

The details of the research projects are as follows:

No	Research Title	Student's Name	Supervisor's Name	Approval Validity
1.	The Influence of Positive Thinking and Humour Styles on the Subjective Happiness: Gender Differences Among Young Adults in Malaysia	1. Cheryl Deleena Lionel 2. Chin Po Yan	Ms Sanggari a/p Krishnan	7 January 2025 – 6 January 2026

The conduct of this research is subject to the following:

- (1) The participants' informed consent be obtained prior to the commencement of the research;
- (2) Confidentiality of participants' personal data must be maintained; and
- (3) Compliance with procedures set out in related policies of UTAR such as the UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies/guidelines.
- (4) Written consent be obtained from the institution(s)/company(ies) in which the physical or/and online survey will be carried out, prior to the commencement of the research.





Should the students collect personal data of participants in their studies, please have the participants sign the attached Personal Data Protection Statement for records.

Thank you.

Yours sincerely,



**Professor Ts Dr Faidz bin Abd Rahman**  
Chairman  
UTAR Scientific and Ethical Review Committee

c.c     Dean, Faculty of Arts and Social Science  
           Director, Institute of Postgraduate Studies and Research

**Appendix D****Questionnaire**

UNIVERSITI TUNKU ABDUL RAHMAN  
FACULTY OF ARTS AND SOCIAL SCIENCE  
BACHELOR OF SOCIAL SCIENCE (HONS) PSYCHOLOGY  
UAPZ3023 Final Year Project II Year 3 Trimester 3  
(202501)

**Introduction**

This research is being conducted as the requirement for the subject UAPZ3023 FINAL YEAR PROJECT II. The topic of this research is “The Influence of Positive Thinking and Humour Styles on the Subjective Happiness: Gender Differences among Young Adults in Malaysia”. In order to collect the required information, your participation is needed for our research study.

**Procedures**

This online survey consists of 6 sections. You are required to complete all the questions in the 4 sections. Section A is the personal data protection form and consent form, Section B is the demographic information of respondents, Section C is the Subjective Happiness Scale (SHS), Section D is the Positive Thinking Scale (PTS), Section E is the Attention Checking, and Section F is the Humour Styles Questionnaire (HSQ). This online survey consists of 58 items and will take approximately 10 – 20 minutes to complete the survey.

**Confidentiality**

All information provided by respondents will remain private and confidential. The information given will only be reported as group data with no identifying information and only use for academic purposes. All information will be kept securely where only the research team members will have the access to it. Participation in this research is completely voluntary.

Respondents have the right to quit or refuse to participate at any point of time.

**Contact information**

For any inquiry regarding this online survey, kindly contact the research team at 2103143@lutar.my (Cheryl Deleena Lionel) and sashachinpy@lutar.my (Chin Po Yan)

**Section A: Personal Data Protection Form**  
**PERSONAL DATA PROTECTION NOTICE**

Please be informed that in accordance with Personal Data Protection Act 2010 (“PDPA”) which came into force on 15 November 2013, Universiti Tunku Abdul Rahman (“UTAR”) is hereby bound to make notice and require consent in relation to collection, recording, storage, usage and retention of personal information.

1. Personal data refers to any information which may directly or indirectly identify a person which could include sensitive personal data and expression of opinion. Among others it includes:

- a) Name
- b) Identity card
- c) Place of Birth
- d) Address
- e) Education History
- f) Employment History
- g) Medical History
- h) Blood type
- i) Race
- j) Religion
- k) Photo
- l) Personal Information and Associated Research Data

2. The purposes for which your personal data may be used are inclusive but not limited to:

- a) For assessment of any application to UTAR
- b) For processing any benefits and services
- c) For communication purposes
- d) For advertorial and news
- e) For general administration and record purposes
- f) For enhancing the value of education
- g) For educational and related purposes consequential to UTAR
- h) For replying any responds to complaints and enquiries
- i) For the purpose of our corporate governance
- j) For the purposes of conducting research/ collaboration

3. Your personal data may be transferred and/or disclosed to third party and/or UTAR collaborative partners including but not limited to the respective and appointed outsourcing agents for purpose of fulfilling our obligations to you in respect of the purposes and all such other purposes that are related to the purposes and also in

providing integrated services, maintaining and storing records. Your data may be shared when required by laws and when disclosure is necessary to comply with applicable laws.

4. Any personal information retained by UTAR shall be destroyed and/or deleted in accordance with our retention policy applicable for us in the event such information is no longer required.

5. UTAR is committed in ensuring the confidentiality, protection, security and accuracy of your personal information made available to us, and it has been our ongoing strict policy to ensure that your personal information is accurate, complete, not misleading and updated. UTAR would also ensure that your personal data shall not be used for political and commercial purposes.

**Consent:**

6. By submitting or providing your personal data to UTAR, you had consented and agreed for your personal data to be used in accordance to the terms and conditions in the Notice and our relevant policy.

7. If you do not consent or subsequently withdraw your consent to the processing and disclosure of your personal data, UTAR will not be able to fulfil our obligations or to contact you or to assist you in respect of the purposes and/or for any other purposes related to the purpose.

8. You may access and update your personal data by writing to us at:

Cheryl Deleena Lionel, 2103143@lutar.my  
Chin Po Yan, sashachinpy@lutar.my

By proceeding with this form, I declare that I am:

- a) aged between 18 to 29 years old
- b) currently residing in Malaysia

**Acknowledgment of Notice**

- ☐ I have been notified and that I hereby understood, consented and agreed per UTAR above notice.
- ☐ I disagree, my personal data will not be processed.

**Section B: Demographic Information**

Kindly complete the following questions regarding your general demographic. It will be kept strictly confidential.

Age (e.g., 21) : \_\_\_\_\_

Gender

☐ Man

☐ Woman

Race

☐ Malay

☐ Chinese

☐ Indian

☐ Others (please specify): \_\_\_\_\_

Nationality

☐ Malaysian

☐ Others (please specify): \_\_\_\_\_

**Section C: Subjective Happiness Scale**

Instructions: For each of the following statements and/or questions, please choose the scale that you feel is most appropriate in describing you.

1. In general, I consider myself:

1	2	3	4	5	6	7
Not a very						A very
happy						happy
person						person

2. Compared to most of my peers, I consider myself:

1	2	3	4	5	6	7
Less happy						More
						happy

3. Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you?

1	2	3	4	5	6	7
Not at all						A great
						deal

4. Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you?

1	2	3	4	5	6	7
Not at all						A great
						deal

**Section D: Positive Thinking Scale**

Instructions: The following items are to be answered “Yes” or “No”. Select an answer to each item to indicate your response.

	Yes	No
1. I see my community as a place full of problems.	<input type="checkbox"/>	<input type="checkbox"/>
2. I see much beauty around me.	<input type="checkbox"/>	<input type="checkbox"/>
3. I see the good in most people.	<input type="checkbox"/>	<input type="checkbox"/>
4. When I think of myself, I think of many shortcomings	<input type="checkbox"/>	<input type="checkbox"/>
5. I think of myself as a person with many strengths.	<input type="checkbox"/>	<input type="checkbox"/>
6. I am optimistic about my future.	<input type="checkbox"/>	<input type="checkbox"/>
7. When somebody does something for me, I usually wonder if they have an ulterior motive.	<input type="checkbox"/>	<input type="checkbox"/>
8. When something bad happens, I often see a “silver lining,” something good in the bad event.	<input type="checkbox"/>	<input type="checkbox"/>
9. I sometimes think about how fortunate I have been in life.	<input type="checkbox"/>	<input type="checkbox"/>
10. When good things happen, I wonder if they might have been even better.	<input type="checkbox"/>	<input type="checkbox"/>
11. I frequently compare myself to others.	<input type="checkbox"/>	<input type="checkbox"/>
12. I think frequently about opportunities that I missed.	<input type="checkbox"/>	<input type="checkbox"/>
13. When I think of the past, the happy times are most salient to me.	<input type="checkbox"/>	<input type="checkbox"/>
14. I savour memories of pleasant past times.	<input type="checkbox"/>	<input type="checkbox"/>
15. I regret many things from my past.	<input type="checkbox"/>	<input type="checkbox"/>
16. When I see others prosper, even strangers, I am happy for them.	<input type="checkbox"/>	<input type="checkbox"/>
17. When I think of the past, for some reason the bad things stand out.	<input type="checkbox"/>	<input type="checkbox"/>
18. I know the world has problems, but it seems like a wonderful place anyway.	<input type="checkbox"/>	<input type="checkbox"/>
19. When something bad happens, I ruminate on it for a long time.	<input type="checkbox"/>	<input type="checkbox"/>
20. When good things happen, I wonder if they will soon turn sour.	<input type="checkbox"/>	<input type="checkbox"/>
21. When I see others prosper, it makes me feel bad about myself.	<input type="checkbox"/>	<input type="checkbox"/>
22. I believe in the good qualities of other people.	<input type="checkbox"/>	<input type="checkbox"/>

**Section E: Attention Checking**

Instruction: Select ‘**Agree**’ as your response to this item.

<input type="checkbox"/>	Strongly Disagree
<input type="checkbox"/>	Neither Disagree nor Agree
<input type="checkbox"/>	Agree
<input type="checkbox"/>	Strongly Agree
<input type="checkbox"/>	Disagree



**Section F: Humour Styles Questionnaire**

Instructions: People experience and express humour in many different ways. Below is a list of statements describing different ways in which humour might be experienced. Please read each statement carefully and indicate the degree to which you agree or disagree with it. Please respond as honestly and objectively as you can.

1	2	3	4	5	6	7
Totally	Moderately	Slightly	Neither	Slightly	Moderately	Totally
Disagree	Disagree	Disagree	Agree	Agree	Agree	Agree
			nor			
			Disagree			

	1	2	3	4	5	6	7
1. I usually don't laugh or joke around much with other people.							
2. If I am feeling depressed, I can usually cheer myself up with humour.							
3. If someone makes a mistake, I will often tease them about it.							
4. I let people laugh at me or make fun at my expense more than I should.							
5. I don't have to work very hard at making other people laugh -- I seem to be a naturally humorous person.							
6. Even when I'm by myself, I'm often amused by the absurdities of life.							
7. People are never offended or hurt by my sense of humour.							
8. I will often get carried away in putting myself down if it makes my family or friends laugh.							
9. I rarely make other people laugh by telling funny stories about myself.							
10. If I am feeling upset or unhappy I usually try to think of something funny about the situation to make myself feel better.							
11. When telling jokes or saying funny things, I am usually not very concerned about how other people are taking it.							
12. I often try to make people like or accept me more by saying something funny about my own weaknesses, blunders, or faults.							
13. I laugh and joke a lot with my friends.							

14. My humorous outlook on life keeps me from getting overly upset or depressed about things.							
15. I do not like it when people use humour as a way of criticizing or putting someone down.							
16. I don't often say funny things to put myself down.							
17. I usually don't like to tell jokes or amuse people.							
18. If I'm by myself and I'm feeling unhappy, I make an effort to think of something funny to cheer myself up.							
19. Sometimes I think of something that is so funny that I can't stop myself from saying it, even if it is not appropriate for the situation.							
20. I often go overboard in putting myself down when I am making jokes or trying to be funny.							
21. I enjoy making people laugh.							
22. If I am feeling sad or upset, I usually lose my sense of humour.							
23. I never participate in laughing at others even if all my friends are doing it.							
24. When I am with friends or family, I often seem to be the one that other people make fun of or joke about.							
25. I don't often joke around with my friends.							
26. It is my experience that thinking about some amusing aspect of a situation is often a very effective way of coping with problems.							
27. If I don't like someone, I often use humour or teasing to put them down.							
28. If I am having problems or feeling unhappy, I often cover it up by joking around, so that even my closest friends don't know how I really feel.							
29. I usually can't think of witty things to say when I'm with other people.							
30. I don't need to be with other people to feel amused -- I can usually find things to laugh about even when I'm by myself.							
31. Even if something is really funny to me, I will not laugh or joke about it if someone will be offended.							
32. Letting others laugh at me is my way of keeping my friends and family in good spirits.							

**Appendix E1****Gender of Participants****Gender**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	55	45.8	45.8	45.8
	Female	65	54.2	54.2	100.0
	Total	120	100.0	100.0	

**Appendix E2****Age of Participants****Age (e.g., 21)**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18.00	2	1.7	1.7	1.7
	19.00	9	7.5	7.5	9.2
	20.00	5	4.2	4.2	13.3
	21.00	24	20.0	20.0	33.3
	22.00	33	27.5	27.5	60.8
	23.00	16	13.3	13.3	74.2
	24.00	12	10.0	10.0	84.2
	25.00	8	6.7	6.7	90.8
	26.00	3	2.5	2.5	93.3
	27.00	3	2.5	2.5	95.8
	28.00	3	2.5	2.5	98.3
	29.00	2	1.7	1.7	100.0
	Total	120	100.0	100.0	

**Appendix E3****Ethnicity of Participants****Race - Selected Choice**

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	18	15.0	15.0	15.0
	Chinese	89	74.2	74.2	89.2
	Indian	9	7.5	7.5	96.7
	Others (please specify)	4	3.3	3.3	100.0
	Total	120	100.0	100.0	

**Appendix F****Pilot Study: Reliability Statistics**

## Positive Thinking Scale

**Reliability Statistics**

Cronbach's Alpha	N of Items
.805	22

## Humour Styles Questionnaire

**Reliability Statistics**

Cronbach's Alpha	N of Items
.741	32

## Subjective Happiness Questionnaire

**Reliability Statistics**

Cronbach's Alpha	N of Items
.948	4

**Appendix G****Actual Study: Reliability Statistics**

## Positive Thinking Scale

**Reliability Statistics**

Cronbach's Alpha	N of Items
.793	22

## Humour Styles Questionnaire

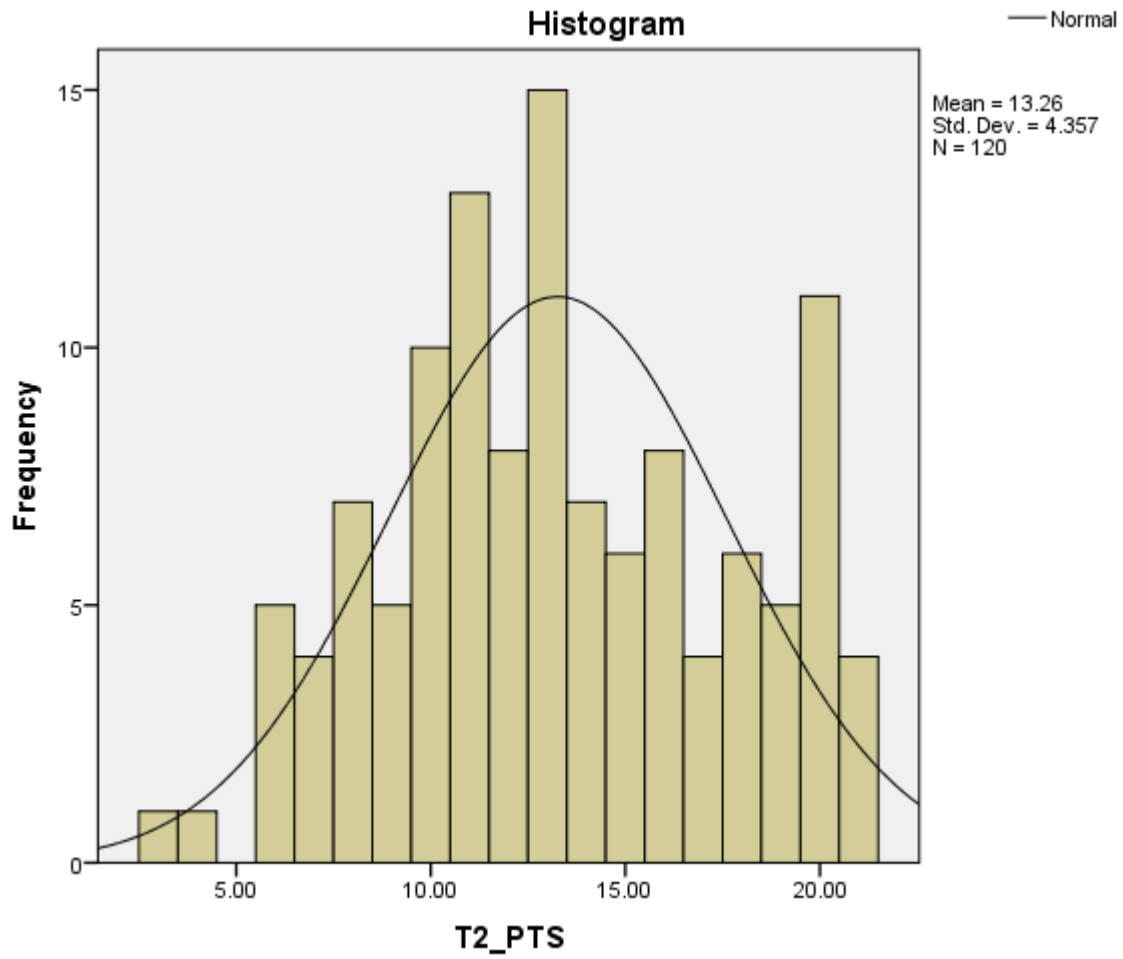
**Reliability Statistics**

Cronbach's Alpha	N of Items
.776	32

## Subjective Happiness Questionnaire

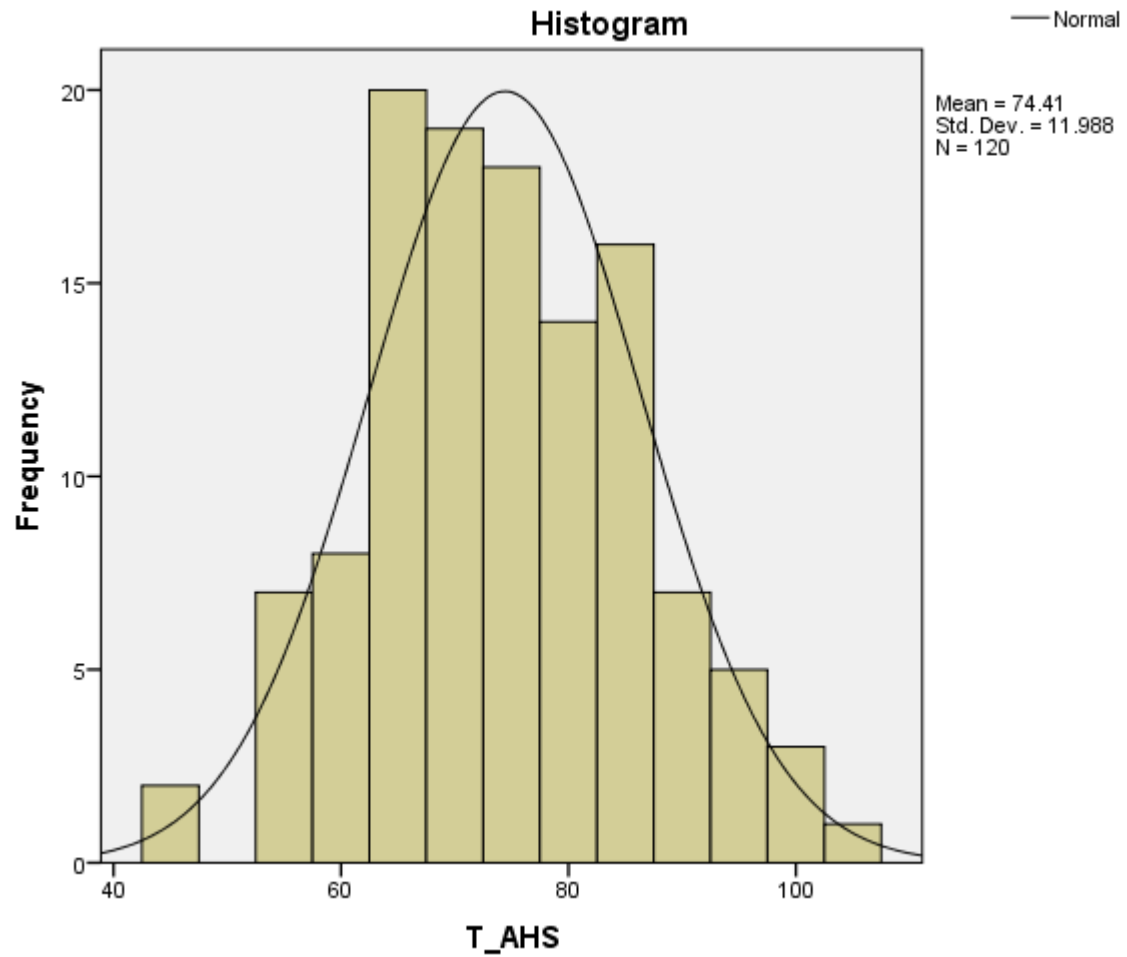
**Reliability Statistics**

Cronbach's Alpha	N of Items
.705	4

**Appendix H1****Histogram of Positive Thinking**

Appendix H2

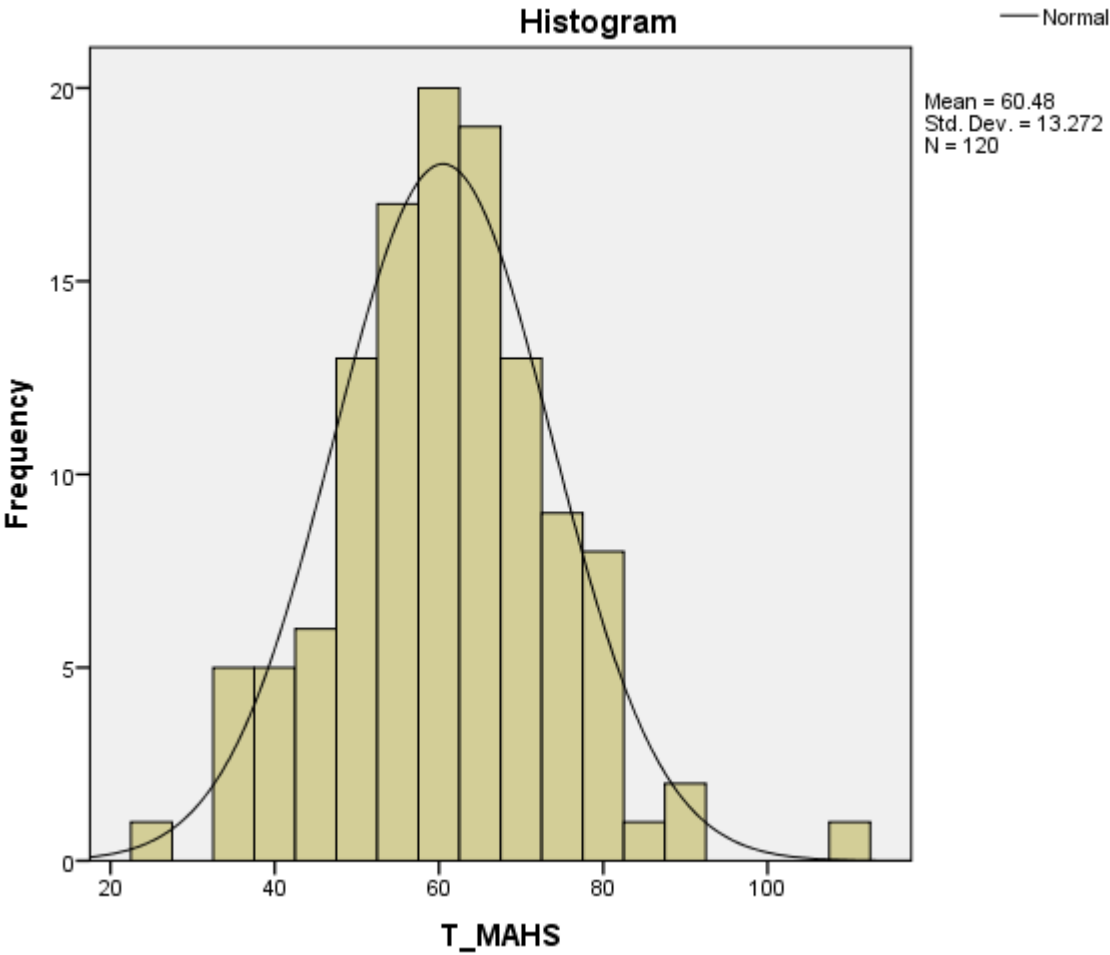
Histogram of Adaptive Humour Style





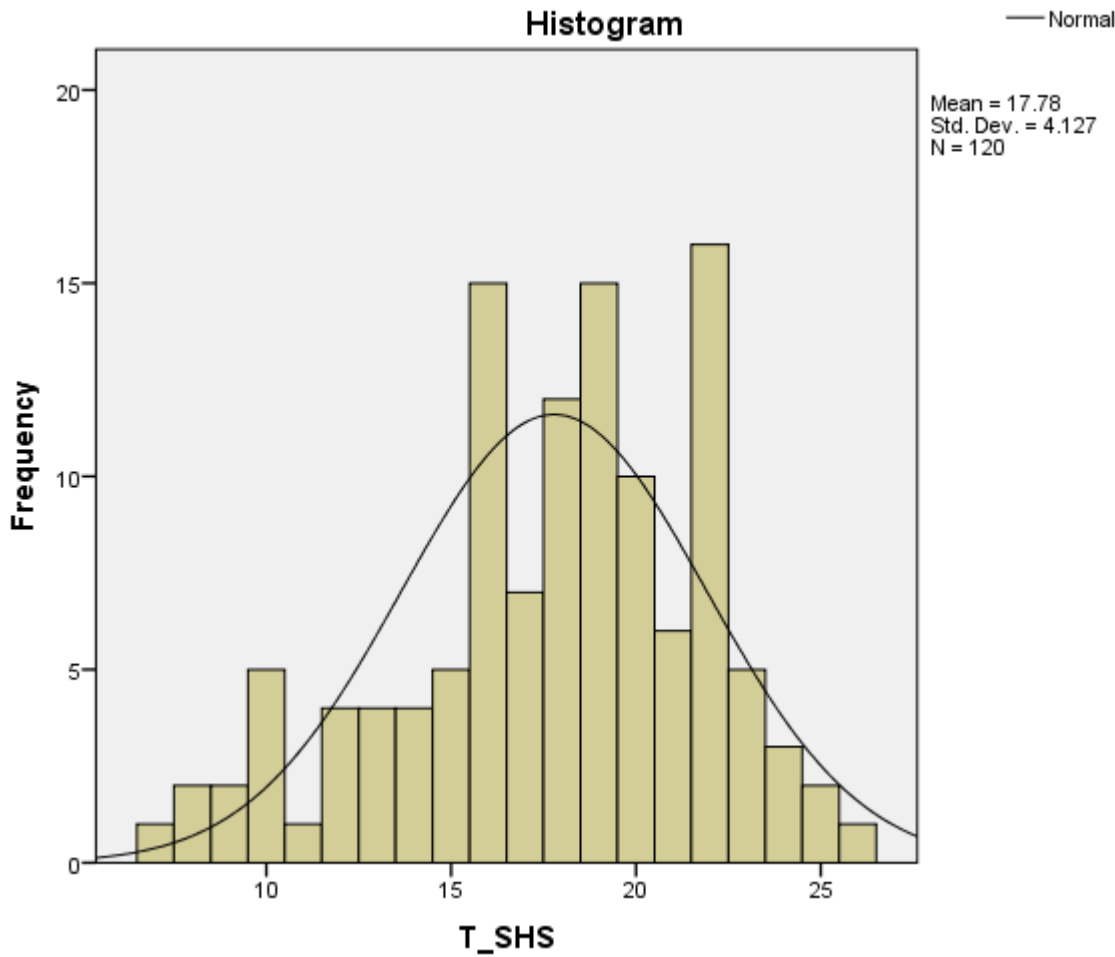
Appendix H3

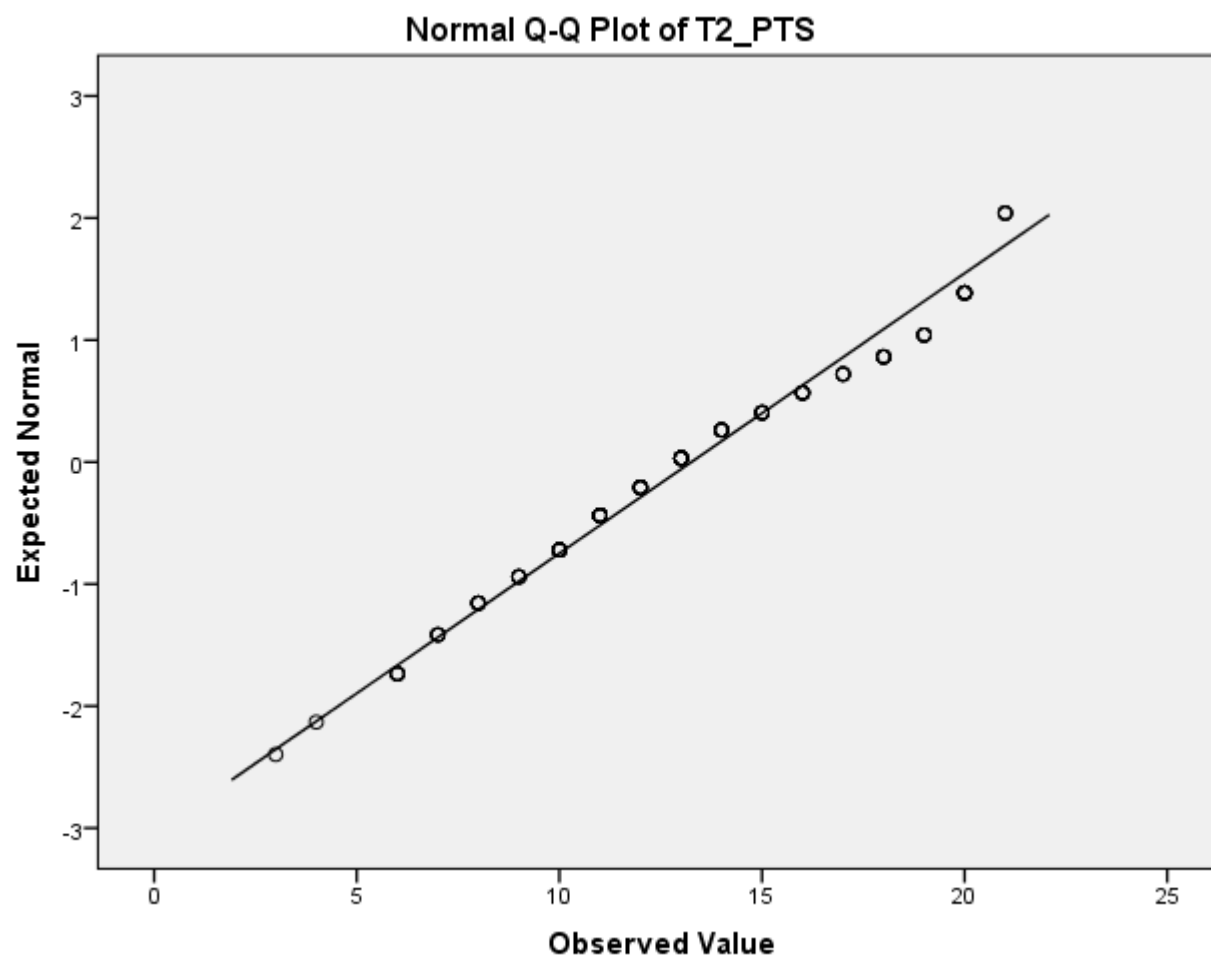
Histogram of Maladaptive Humour Style



Appendix H4

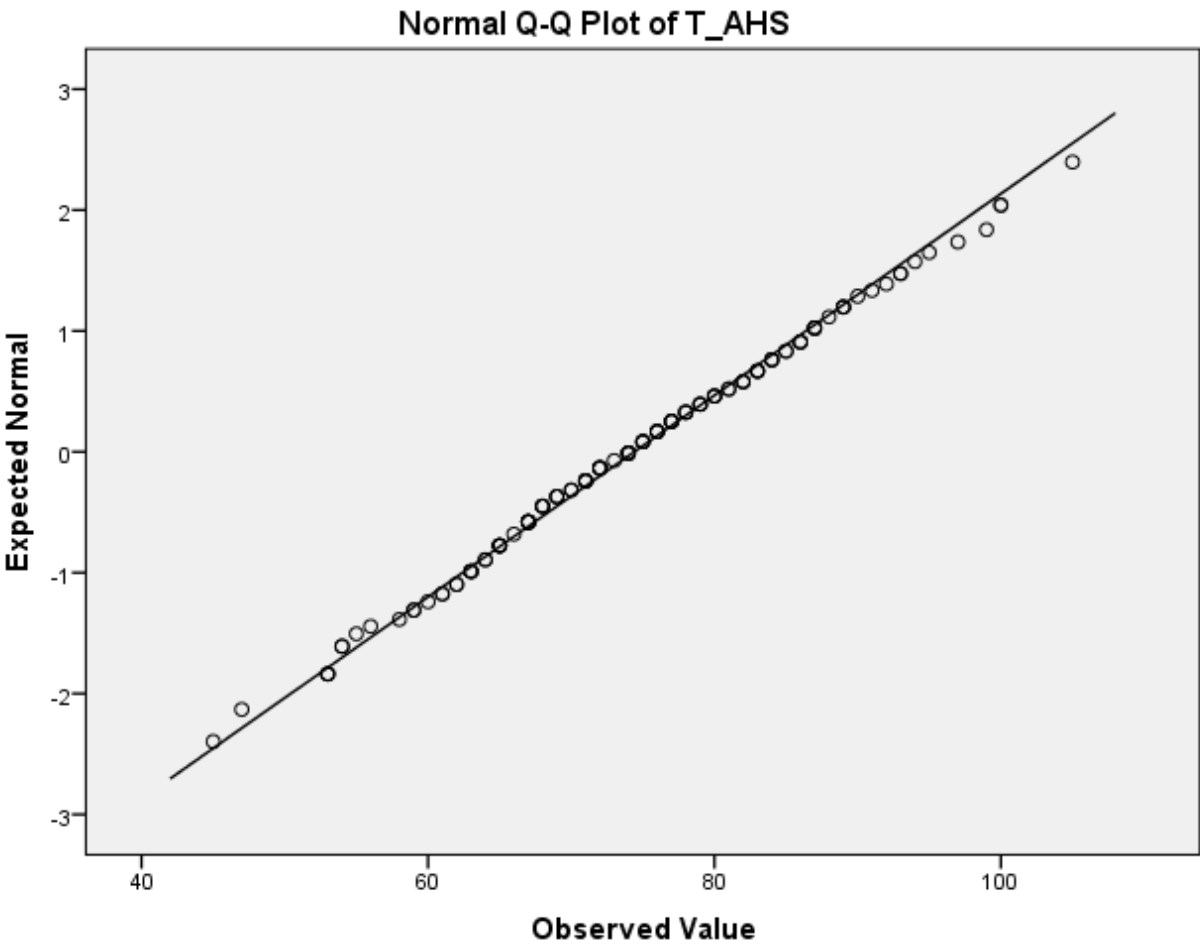
Histogram of Subjective Happiness



**Appendix I1****Q-Q Plot of Positive Thinking**

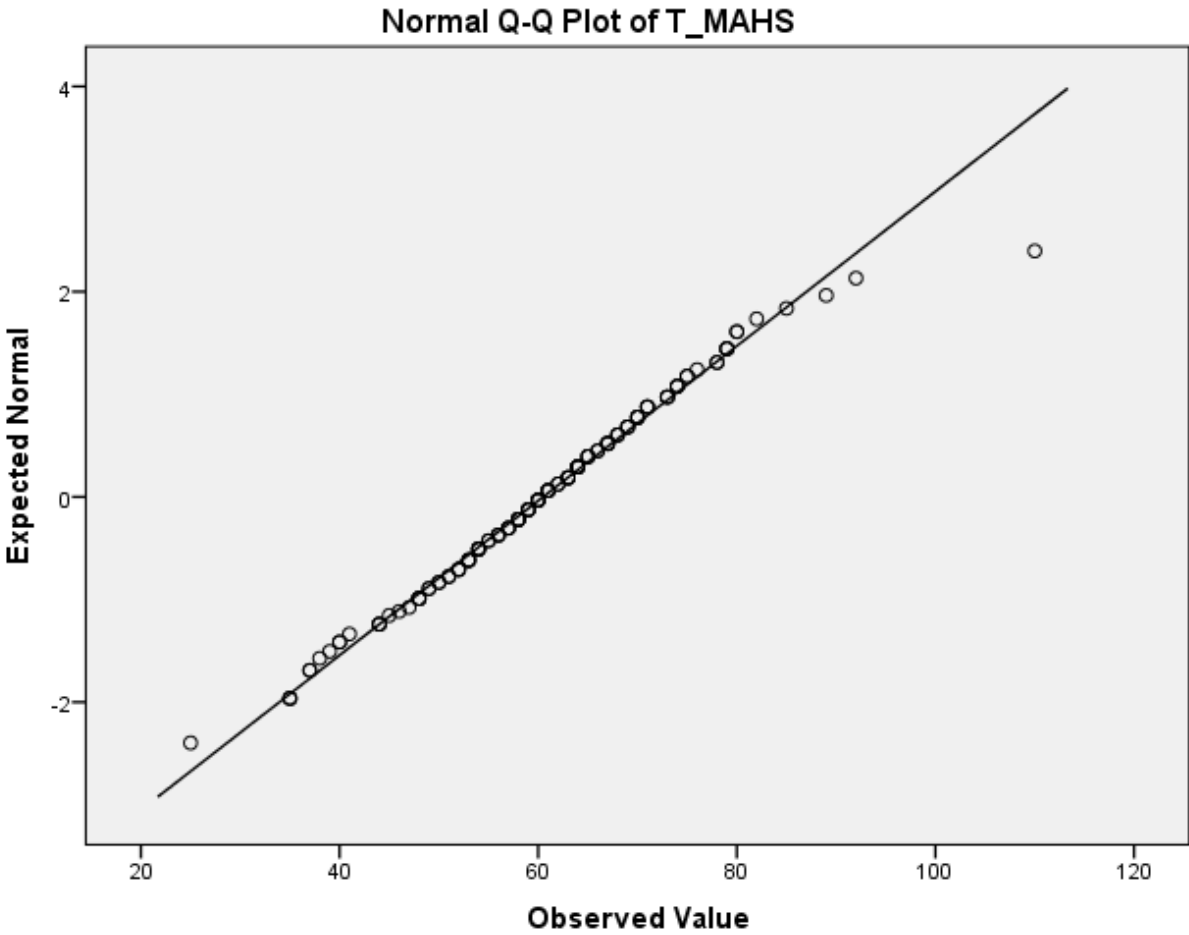
Appendix I2

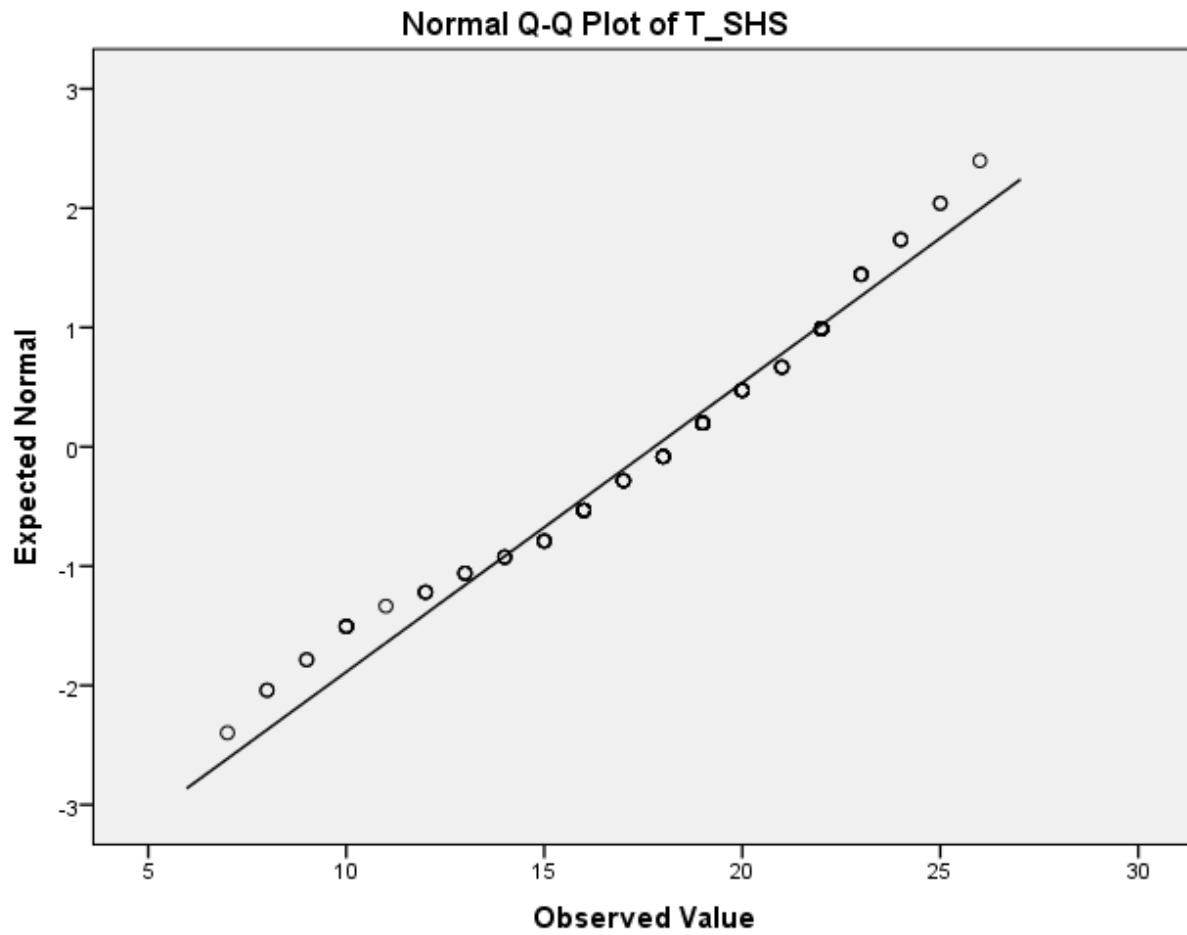
Q-Q Plot of Adaptive Humour Styles



Appendix I3

Q-Q Plot of Maladaptive Humour Styles



**Appendix I4****Q-Q Plot of Subjective Happiness**

**Appendix J****Skewness and Kurtosis Values**

			Statistic	Std. Error
T_SHS	Mean		17.78	.377
	95% Confidence Interval for Mean	Lower Bound	17.04	
		Upper Bound	18.53	
	5% Trimmed Mean		17.92	
	Median		18.00	
	Variance		17.028	
	Std. Deviation		4.127	
	Minimum		7	
	Maximum		26	
	Range		19	
	Interquartile Range		5	
	Skewness		-.548	.221
	Kurtosis		-.145	.438
T2_PTS	Mean		13.2583	.39773
	95% Confidence Interval for Mean	Lower Bound	12.4708	
		Upper Bound	14.0459	
	5% Trimmed Mean		13.2963	
	Median		13.0000	
	Variance		18.983	
	Std. Deviation		4.35696	
	Minimum		3.00	
	Maximum		21.00	
	Range		18.00	
	Interquartile Range		6.75	
	Skewness		.056	.221
	Kurtosis		-.777	.438

T_AHS	Mean		74.41	1.094
	95% Confidence Interval for Mean	Lower Bound	72.24	
		Upper Bound	76.58	
	5% Trimmed Mean		74.33	
	Median		74.00	
	Variance		143.706	
	Std. Deviation		11.988	
	Minimum		45	
	Maximum		105	
	Range		60	
	Interquartile Range		17	
	Skewness		.092	.221
	Kurtosis		-.238	.438
T_MAHS	Mean		60.48	1.212
	95% Confidence Interval for Mean	Lower Bound	58.08	
		Upper Bound	62.88	
	5% Trimmed Mean		60.33	
	Median		60.00	
	Variance		176.151	
	Std. Deviation		13.272	
	Minimum		25	
	Maximum		110	
	Range		85	
	Interquartile Range		17	
	Skewness		.261	.221
	Kurtosis		1.049	.438



**Appendix K****Kolmogorov-Smirnov Test****Tests of Normality**

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
T_SHS	.104	120	.003	.964	120	.003
T2 PTS	.099	120	.006	.969	120	.007
T_AHS	.046	120	.200 <sup>*</sup>	.995	120	.946
T_MAHs	.039	120	.200 <sup>*</sup>	.987	120	.335

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

**Appendix L1****Model Summary Table****Model Summary<sup>b</sup>**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.614 <sup>a</sup>	.377	.361	3.299	1.666

a. Predictors: (Constant), T\_MAHs, T2\_PTS, T\_AHS

b. Dependent Variable: T\_SHS

**Appendix L2****ANOVA Table****ANOVA<sup>a</sup>**

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	763.560	3	254.520	23.380	.000 <sup>b</sup>
	Residual	1262.807	116	10.886		
	Total	2026.367	119			

a. Dependent Variable: T\_SHS

b. Predictors: (Constant), T\_MAHs, T2\_PTS, T\_AHS

**Appendix L3****Coefficients Table****Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.863	2.227		3.082	.003		
	T2_PTS	.477	.080	.503	5.991	.000	.761	1.314
	T_AHS	.065	.029	.190	2.255	.026	.755	1.324
	T_MAHs	-.004	.024	-.014	-.190	.849	.932	1.073

a. Dependent Variable: T\_SHS

**Appendix L4****Case Summaries****Case Summaries<sup>a</sup>**

			Case Number	Mahalanobis Distance	Cook's Distance	Centered Leverage Value
Group_IC .00	1	1	1	2.58321	.00004	.02171
	2	2	2	3.24298	.00007	.02725
	3	3	3	2.00993	.00495	.01689
	4	4	4	5.45140	.03157	.04581
	5	5	5	.12470	.00227	.00105
	6	6	6	5.27805	.01038	.04435
	7	7	7	.77031	.00105	.00647
	8	9	9	4.83742	.00430	.04065
	9	10	10	4.18922	.00315	.03520
	10	11	11	2.33778	.00947	.01965
	11	12	12	4.52198	.00286	.03800
	12	13	13	3.45314	.00097	.02902
	13	14	14	3.52569	.00405	.02963
	14	15	15	1.95993	.02164	.01647
	15	16	16	.45782	.00586	.00385

	16	17	1.98571	.01332	.01669
	17	18	1.19290	.00588	.01002
	18	19	3.53575	.00629	.02971
	19	20	.23032	.00261	.00194
	20	21	.07309	.00318	.00061
	21	22	.09720	.00290	.00082
	22	24	4.88209	.02492	.04103
	23	25	2.63689	.00029	.02216
	24	26	2.71084	.01270	.02278
	25	27	.20156	.00024	.00169
	26	28	3.85983	.00341	.03244
	27	30	1.67848	.00008	.01410
	28	31	5.29107	.00002	.04446
	29	32	3.98289	.00530	.03347
	30	33	2.73244	.02140	.02296
	31	34	2.16357	.01361	.01818
	32	35	4.52058	.00098	.03799
	33	36	1.54725	.01186	.01300
	34	37	.96789	.00083	.00813
	35	38	.25662	.00522	.00216
	36	39	1.43581	.00150	.01207

	37	40	1.83885	.00007	.01545
	38	41	1.90741	.00594	.01603
	39	42	6.80281	.02145	.05717
	40	43	2.15876	.00153	.01814
	41	44	2.38375	.00317	.02003
	42	45	3.15416	.01430	.02651
	43	46	.97805	.00306	.00822
	44	47	5.34804	.00546	.04494
	45	48	.60233	.00000	.00506
	46	49	2.78637	.00862	.02341
	47	50	6.18020	.00808	.05193
	48	51	1.16077	.00020	.00975
	49	52	2.86632	.00161	.02409
	50	53	1.44900	.00027	.01218
	51	54	1.88070	.00912	.01580
	52	55	4.04164	.00879	.03396
	53	56	4.01740	.00725	.03376
	54	57	3.15904	.00921	.02655
	55	58	6.87886	.06145	.05781
	56	59	2.02147	.00113	.01699
	57	60	1.26453	.00009	.01063

	58	61	1.64996	.01441	.01387
	59	62	6.82520	.00174	.05735
	60	63	3.47260	.00745	.02918
	61	64	.46848	.00011	.00394
	62	65	.65445	.00267	.00550
	63	66	3.14597	.00402	.02644
	64	67	2.92517	.00332	.02458
	65	68	.18511	.00375	.00156
	66	69	3.21887	.00184	.02705
	67	70	5.60038	.00146	.04706
	68	71	.91319	.00147	.00767
	69	72	1.32657	.00019	.01115
	70	73	3.63702	.00025	.03056
	71	74	6.80770	.01716	.05721
	72	75	.56837	.00045	.00478
	73	76	1.96932	.00004	.01655
	74	77	1.03298	.00561	.00868
	75	78	.82266	.00503	.00691
	76	79	1.05017	.01237	.00882
	77	80	1.33902	.00057	.01125
	78	81	2.84371	.00873	.02390

	79	82	3.21587	.00146	.02702
	80	83	.28858	.00290	.00243
	81	84	3.25001	.00018	.02731
	82	85	1.53295	.00359	.01288
	83	86	2.57193	.00921	.02161
	84	87	.74819	.00038	.00629
	85	88	1.90131	.00215	.01598
	86	89	.64198	.00003	.00539
	87	90	4.81084	.01281	.04043
	88	91	3.97664	.03562	.03342
	89	92	9.10983	.08391	.07655
	90	93	1.41318	.00364	.01188
	91	94	6.98982	.01569	.05874
	92	95	2.70067	.00492	.02269
	93	96	2.84667	.00053	.02392
	94	97	5.90001	.00321	.04958
	95	98	9.89621	.00034	.08332
	96	99	3.57116	.00013	.03001
	97	100	2.85600	.02413	.02400
	98	101	2.48703	.00043	.02090
	99	102	3.08424	.02542	.02592

	100	103	4.28772	.00093	.03603
	101	104	.77879	.00257	.00654
	102	105	3.07888	.00130	.02587
	103	106	2.96405	.00022	.02491
	104	107	3.78125	.00013	.03178
	105	108	.70517	.00475	.00593
	106	109	1.70642	.01791	.01434
	107	110	.65256	.00007	.00548
	108	111	2.28861	.02909	.01923
	109	112	7.68403	.00397	.06457
	110	113	9.79621	.00564	.08232
	111	115	1.08052	.00496	.00908
	112	116	2.99273	.02104	.02515
	113	117	7.76250	.01633	.06523
	114	118	1.37498	.00145	.01155
	115	119	3.24635	.00778	.02728
	116	120	2.56639	.01010	.02157
	Total	N	116	116	116
1.00	1	8	7.44192	.10444	.06254
	2	23	3.82414	.04545	.03214
	3	29	2.06735	.03349	.01737

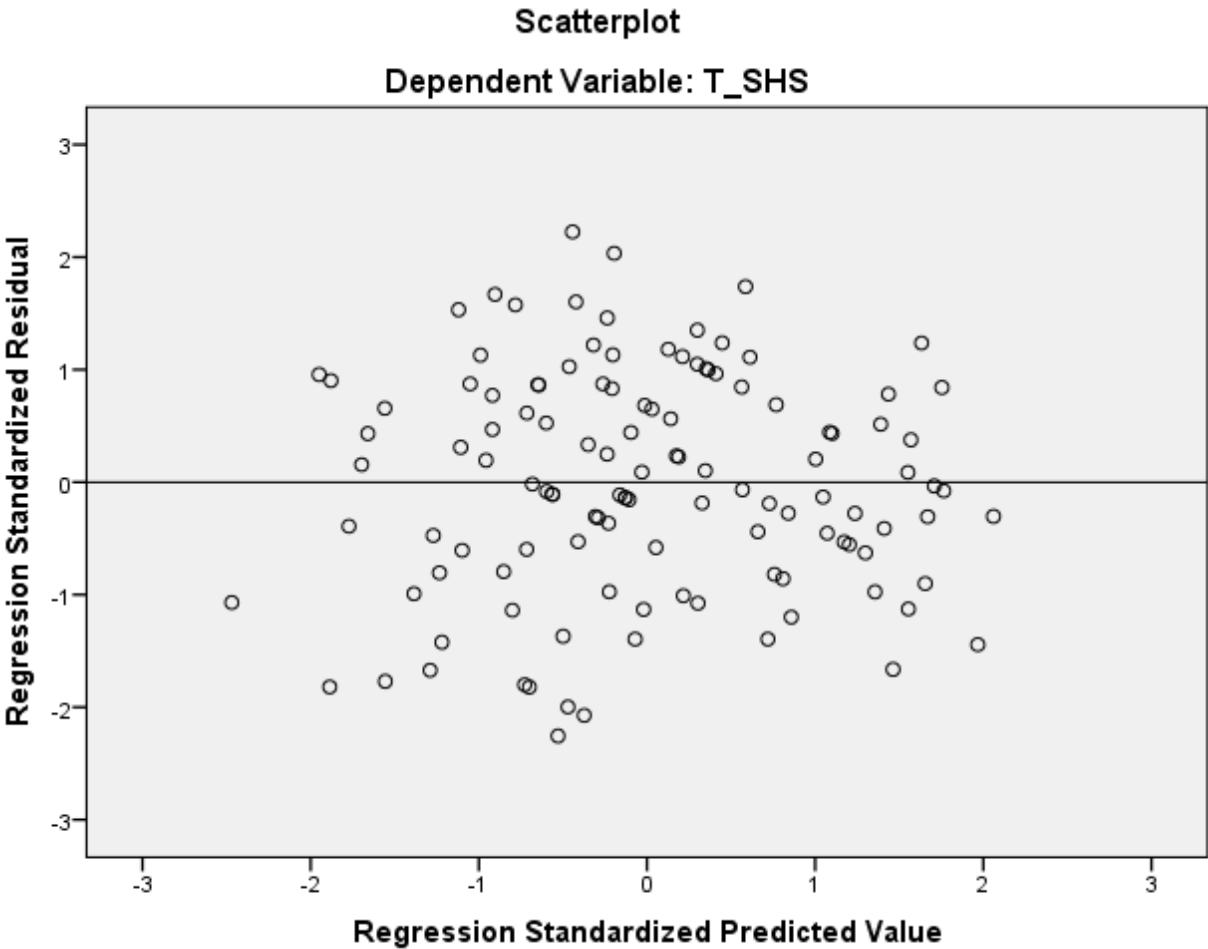


	4	114	.75004	.01619	.00630
Total	N		4	4	4
Total	N		120	120	120

a. Limited to first 120 cases.

Appendix L5

Scatterplot



**Appendix M****Independent T-test****Group Statistics**

	Gender	N	Mean	Std. Deviation	Std. Error Mean
T_SHS	Male	55	17.33	4.060	.547
	Female	65	18.17	4.174	.518
T_PTS	Male	55	30.69	4.329	.584
	Female	65	30.78	4.414	.547
T_AHS	Male	55	73.69	12.471	1.682
	Female	65	75.02	11.626	1.442
T_MAHs	Male	55	63.51	13.940	1.880
	Female	65	57.92	12.208	1.514

**Independent Samples Test**

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
T_SHS	Equal variances assumed	.169	.682	-1.115	118	.267	-.842	.755	-2.338	.654
	Equal variances not assumed			-1.117	115.701	.266	-.842	.753	-2.334	.650
T_PTS	Equal variances assumed	.062	.803	-.117	118	.907	-.094	.802	-1.681	1.494
	Equal variances not assumed			-.117	115.432	.907	-.094	.800	-1.679	1.491
T_AHS	Equal variances assumed	1.048	.308	-.601	118	.549	-1.324	2.202	-5.685	3.036
	Equal variances not assumed			-.598	111.673	.551	-1.324	2.215	-5.714	3.065
T_MAHs	Equal variances assumed	.192	.662	2.340	118	.021	5.586	2.387	.859	10.313
	Equal variances not assumed			2.314	108.334	.023	5.586	2.414	.802	10.370

## Appendix N

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