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WORK-LIFE BALANCE, SOCIAL CONNECTEDNESS AND MENTAL HEALTH AMONG WORKING ADULTS IN MALAYSIA

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A RESEARCH PROJECT
SUBMITTED IN
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Work-life Balance, Social Connectedness and Mental Health among Working Adults in Malaysia

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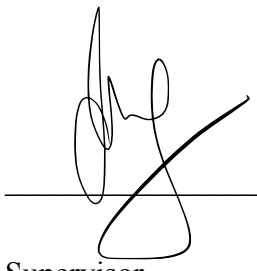
APPROVAL FORM

This research paper attached hereto, entitled "Work-life Balance, Social Connectedness and Mental Health among Workings Adult in Malaysia" prepared and submitted by Esther Ling, Ngoo Ee Ling and Tan Sin Yuan in partial fulfillment of the requirements for the Bachelor of Social Science (Hons) Psychology is hereby accepted.



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Supervisor

(Dr Chuang Huei Gau)

Abstract

Although many studies have shown the importance of work-life balance and social connectedness in relation to mental health, poor work-life balance is still one of the major issues impacting today's working population in Malaysia. There had been no research carried out on social connectedness as the mediator between this association. Correspondingly, this study examines the impacts of work-life balance and social connectedness on mental health problems and on social connectedness as the mediator among working adults in Malaysia. A total of 186 working adults were recruited across Malaysia through an online survey in a cross-sectional design. Multiple linear regression analysis showed that both work-life balance (β = -.193, t(183) = -2.94, p = .004) and social connectedness (β = -.409, t(183) = -6.22, p < .001) significantly predicted the level of mental health problems among working adults. Social connectedness was found to be the strongest predictor. Process SPSS macro analysis indicated that social connectedness significantly mediated the relationship between work-life balance and level of mental health problems (B = -.199, SE = .103, 95% CI [-.425, -021]). These findings are helpful in increasing the awareness of government and human resource management (HRM) to implement policies which facilitates work-life balance and social life, as well as for mental health practitioners in providing them insight for formulating better treatment plans that encourage social connections.

Keywords: work-life balance, social connectedness, mental health, resource drain theory, basic psychological needs theory, Malaysia, working populations

DECLARATION

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

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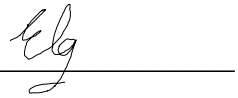
Signed: 

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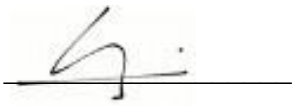
Signed: 

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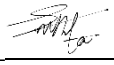
Signed: 

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List of Abbreviations

Abbreviations	Meaning
WLB	Work-life balance
BPNT	Basic Psychological Needs Theory
SCS	Social Connectedness Scale
DASS-21	Depression, Anxiety and Stress Scale-21
SPSS	*Statistical Product and Service Solutions*
PPMC	Pearson Product Moment Correlation
MLR	Multiple Linear Regression
IV	Independent Variable
DV	Dependent Variable
VIF	Variation Inflation Factor
e.g.,	“for example,”
et al.	“and others”
M	Mean
SD	Standard Deviation
n	Sample Size
Min	Minimum
Max	Maximum
TN50	National Transformation 2050
HRM	Human Resource Management
EAP	Employee Assistant Program

Chapter I

Background of Study

Over the years, organizations' initiative to support their employees' work-life balance (WLB) has been a critical issue in the contemporary society for all workers (Nizam & Kam, 2018). It is no longer a catchphrase that organizations use as a lip service without any practical implementations. A growing number of businesses are now aware of the intrinsic value of balance and flexible working hours for organizations (Mukherjee, 2019). Having said that, in Malaysia, workers are well-known to have the worst work-life balance in the world ("A Struggle to Attain Work-Life Balance", 2020) with Kuala Lumpur coming in the last ranking out of 40 cities surveyed for holistic work-life balance in a survey conducted by US-based security specialist Kisi (Wong, 2019). Given the huge amount of work demands, it has further contributed to spill overs and blurring of boundaries between work and non-work time which eventually affected their WLB (Agosti et al., 2017)

Generally, WLB is reported to have a negative correlation with mental health for all working individuals (Haar et al., 2014). In other words, the lack of WLB can threaten a person's well-being (Palumbo, 2020). For instance, it is found that both employees and employers in the Asian region experience significant level of stress due to poor WLB (Chou & Cheung, 2013; Fujimura et al., 2014; Poulose & Sudarsa, 2017). Low WLB is also related with negative health outcomes such as major depression (Albrecht, 2020) and emotional exhaustion (Bakker et al., 2005). In addition, in Malaysia itself, a survey carried out by the Ministry of Education in 2017 reported that 4.4 percent of 48,258 teachers reported moderate stress (Nor Ain, 2018) while government workers with poor work-life balance indicated poor results in the Malaysia Psychological Well-being Index survey conducted in August 2018. Therefore, WLB is extremely

crucial for all workers and imbalance of it could lead to detrimental outcomes on their well-being (Kumarasamy et al., 2015).

WLB is defined by the balance between an individual's work and non-work aspect, in constructing ways to fulfill both work and life commitments as well as experiencing contentment from them (Igbinomwanhia et al., 2012). Many past studies conducted on WLB focused on the "work" aspect and how it impacted well-being (Berry & Hughes, 2019; Jaharuddin & Zainol, 2019; Johari et al., 2018; Kumarasamy et al., 2015; Suganya, 2019). However, few studied on the effects of non-work domains or "life" (Kelliher et al., 2018; Prakash, 2018). Life has been widely examined under the narrow domain of family obligations and roles, (Aryee et al., 2005; Hilbrecht et al., 2008; Unger et al., 2013) involving activities such as taking care of children, a main issue for most working parents (de Janasz et al., 2013; Ozbilgin et al., 2011). Nonetheless, there is a wider definition to non-work domain that involves engagement in religious or community activities, workout, hobbies, and self-interest related training (Kelliher et al., 2018). This non-work domain also includes the individual, family, friends and the community (Greenhaus et al., 2003; Khairunneezam, 2011; Poelmans et al., 2008). Studies have shown that the detrimental consequences of work life imbalance were partly contributed by the way the workers spend their off-working hours or life. Although there are studies that showed how one spend their non-work hours such as spending time with friends or families, exercising or social media (Mckeown & Rich, 2020; Prakash, 2018), there are no studies yet that explicitly connect the social impacts from these activities to WLB.

Some scholars debated that due to imbalance in individual's work and life (e.g. long working hours), they will have lesser time spent with their family, friends and community, which eventually lead them to feel out of sync with others (La Valle et al., 2002). Similarly, in another

study, insufficient time was reported to be one of the factors hindering a person from coordinating time for interaction with others (Warner & Andrews, 2019). If these social interactions are reduced, employees will have a higher risk of feeling isolated, a sense of loss in the community, and have a poorer mental health compared to others (Han & Miller, 2009; Presser, 2000; Strazdins et al., 2006).

Without having to be said, social interactions are vital for all individuals as men and women are created to be social beings (Lamblin et al., 2017). However, the sense of social connectedness in close relations with others such as peers, loved ones, friends, and society are of greater importance (Mashek et al., 2006) as it forms one of the most essential characteristics of a person's life (James, 1890/1950; Williams, 2002). It is undeniable that every person's life is built upon social interaction and the keeping of these multiple interpersonal relationships. It is found that a person's failure to feel valued by others and the inability to form desired relationships would have a deep consequence on their feelings, self-esteem, psychological well-being, and body health (Gossling, 2017). Furthermore, it was once mentioned by Cacioppo and Patrick (2008) that robbing someone off their social connection leads to deep psychological impacts. The barriers imposed that inhibit access into social groups have proven to be a form of apprehension since long ago. In today's world, this conceptual barrier would be in the form of long working hours which leads to work-life imbalance and lesser time for socializing.

In conjunction with this, it is commonly agreed by researchers that social connectedness predictably safeguard and encourage mental health (Gardner, 2011; Kawachi & Berkman, 2001; Perkins et al., 2015). Evidently, individuals with low social connectedness exhibit lower scores in mental health and physical health as well as higher depression level (Cruwys et al., 2014). As mentioned above, work-life balance has an association with mental health, while social

connectedness also affects mental health. Therefore, this study aims to investigate the mediating effect of social connectedness between WLB and mental health.

Problem Statement

Work-life balance (WLB) is a core issue that is frequently discussed by people in their everyday lives (Haar et al., 2014). Many companies in developed countries have started to adopt policies to improve WLB of employees and protect their well-being (Jang et al., 2011). Nevertheless, in a survey conducted by US-based security specialist Kisi during the recent Covid-19 pandemic, the working population in Kuala Lumpur ranked top three among cities from various countries to have the worst work-life balance. They also ranked first for working the longest hours (Azizan & Murad, 2020). Generally, developing countries (e.g., Malaysia) have comparatively longer working hours during weekdays than developed countries (Ollier-Malaterre & Foucreault, 2017) which contributes to poorer WLB. Employed individuals from Asian countries, including Malaysia (Narehan et al., 2014) generally experiences greater work demands and longer working hours as compared to employees from the West (Choi & Kim, 2017; Fujimura et al., 2014). This is known to be a norm and viewed as an expression of one's commitment to work (Chandra, 2012). Besides, past studies have also reported that well-being is affected by WLB (Greenhaus et al., 2003; Gropel & Kuhl, 2009). However, most of the studies on WLB and mental health originated from Western context (Haar et al., 2014; Lee & Robbins, 1998; Lingard et al., 2007; Reinhart et al., 2020), and is debated to be ungeneralizable to our Asian context (Liu & Cheung, 2014) due to the difference in culture. Therefore, our study aims to study both the relationship and influence of WLB on mental health outcomes in Malaysian context.

Research shows that work-life imbalance results in many negative consequences such as decrease in job performance (Blazovich et al., 2014), job dissatisfaction (Whiston & Cinamon, 2015), and higher risks of poor physical and emotional well-being (Kinman & Jones, 2008). However, there are no studies yet that investigate the relationship between WLB and social connectedness despite social connectedness possibly being affected by WLB as well.

Social connectedness is a sense of belonging and having subjective awareness in close relationship with the social world (Lee & Robbins, 1998). People who have limited social connectedness are found to be more prone to have poor mental health which may increase the tendency of having depression (Saeri et al., 2018) whereas people with high social connectedness are less likely to face anxiety or stress in their daily life (Lee & Robbins, 1998). Although studies have firmly claimed that social connectedness is positively related to well-being and mental health, most of these studies only focuses on older adults (Guetter, 2019; Hudson, 2017; Rogers & Mitzner, 2017; Toepoel 2012). In contrast, this study aims to study the both the relation and impacts of social connectedness on mental health issues within a wider age range of Malaysian working adults. In addition, work-life imbalance could impair social life due to shorter period spent socially (La Valle et al., 2002). Thus, this study investigates the association between WLB and social connectedness, and consequently how it affects mental health. It also aims to address the gap in research on the effects on mental health due to WLB by using social connectedness as a mediator.

Research Questions

1. Is there a relationship between work-life balance and level of mental health problems among the working adults?

2. Is there a relationship between work-life balance and social connectedness among the working adults?
3. Is there a relationship between social connectedness and level of mental health problems among the working adults?
4. Does work-life balance predict the level of mental health problems among the working adults?
5. Does social connectedness predict level of mental health problems among the working adults?
6. Does social connectedness mediate the relationship between work-life balance and level of mental health problems among the working adults?

Research Objectives

This study is conducted to achieve the following research objectives:

1. To examine the relationship between work-life balance and level of mental health problems among the working adults.
2. To examine the relationship between work-life balance and social connectedness among the working adults.
3. To examine the relationship between social connectedness and level of mental health problems among the working adults.
4. To investigate the influence of work-life balance on level of mental health problems among the working adults.
5. To investigate the influence of social connectedness on level of mental health problems among the working adults.

6. To examine social connectedness as a mediator between work-life balance and level of mental health problems among the working adults.

Research Hypothesis

H1: There is a significant negative correlation between work-life balance and level of mental health problems among the working adults.

H2: There is a significant positive correlation between work-life balance and social connectedness among the working adults.

H3: There is a significant negative correlation relationship between social connectedness and level of mental health problems among the working adults.

H4: Work-life balance significantly predicts level of mental health problems among the working adults.

H5: Social connectedness significantly predicts level of mental health problems among the working adults.

H6: Social connectedness significantly mediates the relationship between work-life balance and level of mental health problems among the working adults.

Significance of Study

This study aims to contribute to the research gap for work-life balance and mental health of individuals as there are limited studies that places emphases on the non-work domains in work-life balance, specifically social life and its effects on an individual's mental health. As most past studies focused on work-life balance of employees in specific careers such as teachers (Johari et al., 2018), doctors (Dousin et al., 2019; Omar, 2016), nurses (Nurumal et al., 2017) and

employees from bank sectors (Suhaimi & Seman, 2019), our targeted population which consists of the general population of working adults will be able to enhance the generalizability of work-life balance among the working population in Malaysia and further contribute to the existing literature.

This study also hopes to aid future employers and Human Resource management in designing policies that will promote good work-life balance for the working population in Malaysian, in extension to the existing policies. In addition, this study also aims to provide insight to mental health professionals in developing effective interventions and prevention programs to counter the mental health issues among Malaysian workers.

Conceptual Definitions and Operational Definitions

Work-life Balance.

Brough et al. (2014) defines work-life balance as "an individual's subjective appraisal of the balance between their work with non-work-related activities or life more generally". Sirgy and Lee (2018) further explained that work-life balance involves little to no conflict between social roles and work roles. Similarly, Sojka (2020), defined work-life balance as a state where working life poses no negative hindrances to an individual's personal life and the personal life of the individual remains at full capacity.

The operational definition for work-life balance is based on the average score obtained from Work-Life Balance scale by Brough et al. (2014). This scale consists of four items with item two, as the only reverse item. The purpose of this scale is to measure work-life balance, encompassing the wide scope of non-work responsibilities and activities that individuals would

engage in such as social relationships, family time, exercises, and religious activities. The higher the mean score, the higher the perception of one's work-life balance.

Social Connectedness.

Social connectedness can be defined by the good bonds that a person has with their own social network and society (Lee et al., 2002) which incorporates their family members, friends, peers and community (Mashek et al., 2007). This type of bonds enable them to share helpful facts, psychological support, non-financial assistance, feel belong, cherished and to encourage growth (Full Frame Initiative, 2013). However, there are no clear threshold as to when a relationship can be considered as good bonds. Hence, this study adopted Lee and Robbins (1998) definition of social connectedness - a sense of belonging and a person's subjective awareness of close relationship with the social world. Other terms such as 'a sense of belongingness' and 'social support' is applied interchangeably with social connectedness (Duke et al., 2018) in this study.

The operational definition for social connectedness will be based on the sum of the score on Social Connectedness Scale by Lee and Robbins (1995). This scale consists of 8 reverse scored-items that assesses the extent of interpersonal intimacy one feels with their social network and the extent of the struggle in keeping this feeling of intimacy. The higher the sum of score, the better is one sense of belonging.

Mental Health Problems.

According to the World Health Organization (WHO; 2004), mental health refers to the state of welfare of an individual; an individual who is aware of their own capabilities, able to withstand daily stresses of life, able to function effectively and able to contribute to the society.

In the contrary, mental health problems refers to the wide range of conditions from diagnosable disorders to destructive behaviors (British Medical Association, 2006). Furthermore. depression, anxiety and stress were particularly considered as vital indicators of mental health problems as they can lead to detrimental psychological outcomes, when left untreated (Teh et al., 2015). Thus, this study will investigate the level of mental health problems as per related to depression, anxiety and stress, similarly found in past studies (Beiter et al., 2015; Gao et al., 2020; Mamun et al., 2020).

The operational definition for mental health problems is the final score obtained from the scale Depression, Anxiety and Stress Scale (DASS-21) by Lovibond and Lovibond (1995). The total score of DASS-21 after multiplication of two, reflects the overall level of mental health problems in this study. Likewise, it was reported to show greater association to general psychological distress (Shaw et al., 2017) and is a widely utilised indicator for risk of mental health problems among non-clinician population (Tran et al., 2013). There are three subscales under DASS-21, namely depression, stress and anxiety subscales. The subscale of depression measures aspects such as feelings of despair, feeling blue, depreciation of life and self, little interest and participation, distress and inactivity. The items under anxiety subscale measures personal encounter of anxiousness, the effects of voluntary muscles, and anxiety that occurs within specific situation. The stress subscale measures fuzziness, not being patient, easily flustered, arousal of the nervous and difficulty to relax. There are seven items in each subscale and the range of the total scores for each subscale are divided into five categories: normal, mild, moderate, severe and extremely severe. It is also best to take into consideration that DASS-21 is not equivalent to a need for clinical interventions, but it does reflect mental health conditions to some degree.

Chapter II

Literature Review

WLB and Social Connectedness.

According to Gragnano et al. (2020), WLB refers to a person's judgment of work and non-work domain to be in harmonious with each other. As individuals do not only belong in the work environment, but also in the non-work domain which is defined by the vital environments which covers family, friends and community. (Beauregard et al., 2011). Meanwhile, social connectedness refers to the subjective perception of closeness with one's social network which incorporates friends, peers, families and the community (Mashek et al., 2006). From these findings, non-work domain and social connectedness are seen to have overlapping attributes. Thus, it is safe to conclude that non-work domains are of inherently social in nature (Beauregard et al., 2011).

Good WLB due to flexible working arrangements (Abioro et al., 2018; Bell et al., 2012; Jang et al., 2011; Wong et al., 2017) allow employees to reschedule their daily activities based on their working hours (Lizana et al., 2019) and enables them to schedule time for family or for other leisure activities preferred (Lingard et al., 2007). On a local context, Wong (2019) reported that the working population in Kuala Lumpur showed poor WLB. Lack of WLB can be due to long working hours or increased responsibility at work or home (Sanfilippo, 2020). Studies have shown that employees with higher job demands are more likely to experience work-life conflict compared to staff with lesser job demands (Kinman & Jones, 2008; Kluczyk, 2013). Moreover, many careers require their employees to reduce both leisure and personal time to complete their work (IONOS, 2019). This imbalance in work and non-work aspects of life gradually impacts the relationships between employees and their family members (Kluczyk, 2013). A study by

Pedersen and Lewis (2012) stated that people's work-life structure can powerfully shape the practice of friendship as it enables them to coordinate time for social activities with their friends. Similarly, Fischlmayr & Kollinger (2010) found that working women reported insufficient time for social interaction and for making friends was one of the reasons for their work-life imbalance. According to Azar et al. (2009), frequency of contact, such as making phone calls, visiting friends, or attending social activities, can be a significant indicator of social connectedness. However, all these activities require time. Therefore, a good WLB may indirectly strengthen one's social connectedness as it allows them time to connect with others. As supported by Olumuyiwa and Omonijo (2020), WLB plays an important role for workers to have social support. Therefore, poor WLB is hypothesised to have an association with poor social connectedness.

WLB and Mental Health.

Many past studies have revealed the correlation between WLB and mental health among certain working populations such as construction workers (Kotera, 2019), bus drivers in Korea (Choi & Kim, 2019) or working adults in general (Lee et al., 2019). In a study by Giauque et al. (2016), work-life balance was found to be an important factor that lowers stress levels. In conjunction to this, Akanji et al. (2020) reported that long working hours impacted the perceived stress levels of women doctors in Nigeria. They were unable to play their roles in their families, which further intensified their distress.

Besides, a few past studies have shown negative correlation between anxiety and WLB among working individuals (Carney et al., 2005; Mounsey et al., 2013). For instance, in a study conducted across six countries, a higher correlation between WLB and anxiety was seen among individuals embedded in gender egalitarianism culture (GE) than those who were not (Harr et al.,

2014). This implied that individuals with good WLB tend to experience minor mental distress and anxiety as they were more prone to be involved in activities that are non-work related (Larson et al., 2001).

Apart from that, an individual's compulsion to work excessively and for a longer period of time were found to increase their work life balance stressors which significantly gave rise to depression (Yang et al., 2020). A few past researchers (Cheung & Yip, 2016; Hirosaki et al., 2009) have also reported that individuals who were unable to make time for leisure outside of work (work-life imbalance) are at a higher risk of falling into depression as fulfilling needs outside of work are crucial for mental health (Hirosaki et al., 2009).

Despite a seemingly consensus in findings among past studies, very few local studies were found to focus on the influence of WLB on depression, anxiety and stress as a whole. Studies found in local context were commonly related to WLB and quality of life (Ramos et al., 2015), organizational outcomes (Nurumal et al., 2017) or antecedents of WLB (Razak et al., 2014).

Social Connectedness and Mental Health.

Social relationships, a crucial need in human's lives, plays a major role in affecting a person's overall health. However, it is an individual's need for a sense of connectedness to a group that drives social relationships and sustains psychological health (Cruwys et al., 2013). In a study conducted by Saeri et al. (2018), it was found that social connectedness and mental health had a strong correlation. This finding also highlighted the notion that an individual's subjective perception of sense of belongingness, is the core in enabling social connectedness to enhance mental health. This is in accordance with Cruwys et al. (2014) who stated that merely

"being present' at social events were insufficient to promote an individual's well-being as it may not promote a sense of belongingness.

In conjunction to this, a study conducted by McKenzie et al. (2018) reported that the opportunities to connect with others is most helpful in maintaining social connectedness and protecting oneself from the risk of depressive symptoms. The opportunities to connect with others were examined together with other factors such as the way an individual develops relationships and an individual's lifestyle which centred on physical activities. To support this, findings by Hunsaker et al. (2020) showed that opportunities to connect with loved ones even in the form of social media was able to reduce anxiety among older adults. Similarly, Malaquias et al. (2014) reported that individuals who are involved in family celebrations had a greater sense of social connectedness as well as fewer depressive and anxiety symptoms, even though there was a greater correlation between depression and social connectedness as compared to social connectedness and anxiety.

Despite many past researchers had indicated that social connectedness can safeguard a person's mental health, it was also evident that poor social connectedness was correlated with various detrimental psychological outcomes (Ge et al., 2017; Ryan & Willits, 2007; Teo et al., 2013). For example, Grover et al. (2018), reported that social isolation (the lack of social connectedness) in older patients predicted the intensity of symptoms related to depression, and anxiety. Therefore, we hypothesise that social connectedness is related to mental health and can predict the level of mental health problems.

In short, there is a negative association between WLB and mental health (Choi & Kim, 2019). WLB is also associated with social connectedness, given that poor WLB affects time for

social interaction (Fischlmayr & Kollinger, 2010) and consequently hinders an individual's effort for enhancing their social bonds. Simultaneously, social connectedness is strongly associated with mental health (Grover et al., 2018). Therefore, this led to our next hypothesis that social connectedness mediates the relationship between WLB and level of mental health problems.

Theoretical Framework

Two main theories are applied in explaining work-life balance, social connectedness, and level of mental health problems (depression, anxiety and stress). The first theory applied is the resource drain theory which explains the relation between WLB and social connectedness as well as the relation between WLB and mental health. Meanwhile, Basic Psychology Needs Theory (BPNT; Deci & Ryan, 2002) explains the association and effects social connectedness have on mental health.

Resource Drain Theory.

Resource drain refers to the fixed number of accessible resources such as time, energy and attention being transmitted from one domain to another (Eckenrode & Gore, 1990; Morris & Madsen, 2007; Tenbrunsel et al., 1995). The limited resources available is the prime focus of this theory and the exhaustion of it by one domain (e.g., work) will lead to the inaccessibility of the same resource in other domains (e.g., personal life) (Eckenrode & Gore, 1990; Small & Riley, 1990). This restriction in resources (time, energy and attention) brings forth a negative direct correlation between work and non-work domain whereby additional resources spent by one domain will reduce the resources for the other (Piotrkowski, 1979; Repetti, 1987; Staines, 1980). This perspective debates on the ground that excessive drain of resources can impact one's own judgment of work-life balance to be poor (Grawitch et al., 2013).

Generally, this negative correlation between work and non-work domain is viewed in two ways. One ensues from the resource distribution out of one's own accord whereas the other ensues from circumstances whereby one is forced to restrict their engagement in another domain due to responsibilities (Rincy & Natarajan, 2014). For instance, night shift that inhibits an individual from making time for others during the typical waking hours due to exhaustion (Burke & Mckeen, 1993; Shamir, 1983), or working additional hours due to a rise in work demands, results in an individual spending a shorter duration of time for social life with family or friends outside of work (Edwards & Rothbard, 2000). Besides, when the resources are depleted and inadequate for a domain, the risk of experiencing stress, exhaustion and burnout is more likely to occur (Frone, 2003). In this study, the deficiency in resources, particularly time for non-work domain will plausibly reduce one's social engagement and influence one's risk of having poor mental health.

Basic Psychological Needs Theory.

Basic Psychological Needs Theory (BPNT; Deci & Ryan, 2002) is a theory under the umbrella of self-determinant theory. Psychological needs which differ from physiological needs is defined as a psychological nutriment that is crucial for one's development, coherence, and regulation (Ryan, 1995). The fundamental of BPNT is the perspective that every human has a fixed group of basic psychological needs that are indispensable and innate in each social being (Ryan & Deci, 2017). These needs comprise of autonomy, competence, and relatedness. Autonomy is expressed as the experience when a person engages in an activity out of own accord and willingness. Competence is associated with the experience of efficacy and expertise in a task while relatedness refers to the feeling of love, care, and a sense of belongingness with others (Vansteenkiste et al., 2020). The need for relatedness is constantly reflected through the effort

people put in to develop and sustain relationships, to engage in social activities, and to avert social stigma (Baumeister & Leary, 1995). This study primarily focuses on the need of relatedness in explaining social connectedness.

When one of the three needs is restrained in the social environment, one would experience need frustration. Moreover, need frustration have been found to be detrimental (Bartholomew et al., 2011) as it contributes to various mental health problems (van de Kaap-Deeder et al., 2017). They are more likely to be passive, guarded and have a poor well-being (Ryan & Deci, 2000). Contrariwise, when one is contented with their psychological needs, their psychological health is maintained (Vansteenkiste & Ryan, 2013). In brief, when one is frustrated of their need of relatedness (to have a sense of closeness and belonging with others), it will influence one's well-being.

Conceptual Framework

Taking the current Covid-19 pandemic into consideration, and the fact that some Malaysians are working from home (Kanyakumari, 2020), the specialist Kisi mentioned that Malaysians have a tendency to overwork and are working longer hours than usual when compared to other nations, as reported in a recent research (Azizan & Murad, 2020). From the resource drain theory, the relevant resources which are limited would refer to the Malaysian employees' time and energy which are used up for work. Long working hours has lead to poor WLB, and sequentially resulted in negative mental health consequences (Clinton et al., 2017). Based on previous studies' that similarly reported negative correlation between WLB and mental health problems (Kotera et al., 2020) such as depression (Yang et al., 2020), anxiety (Mounsey et al., 2013) and stress (Giauque et al., 2016), this study came to the hypothesis that WLB is associated and can further predict mental health issues.

Besides, Haworth and Lewis (2005) stated that these transformation in work patterns have also diminished one's time and energy for non-work activities and is happening throughout the world. This is in accordance with resource drain theory that explains a lack of resource in another domain will occur when the similar resource has been used up in one domain. Rapoport et al. (2006) also debated on the evidence that the current work life has robbed time and energy off from families, communities, and friends, as well as activities that rejuvenate oneself. As a result, Bauman (2003) stated that employees were left feeling more isolated than before. This led to our assumption that one's social connectedness, defined by perception of interpersonal closeness with individuals or groups (Lee et al., 2002), are linked to WLB.

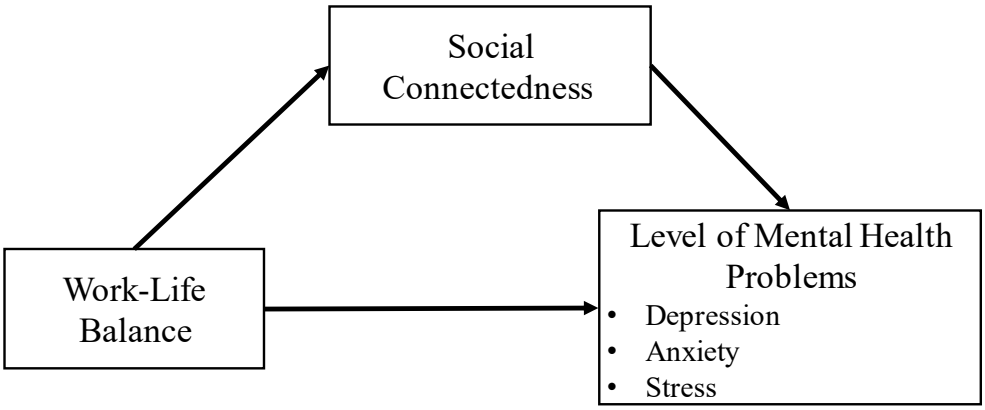
Simultaneously, based on BPNT, when one experiences social isolation or detachment from others, they are known to experience frustration in fulfilling relatedness need (Vansteenkiste et al., 2020). This theory underlines the notion that fulfilling relatedness needs is crucial for survival as it could negatively impact a person when the need is not met. In the local context, Malaysians are very likely to experience need frustration due to a large part of their time and energy being invested into their work, resulting in lesser resources remaining for social activities. Past studies have reported that lack of social connectedness is a risk factor of stress (Campbell et al., 2017; Weinstein & Ryan, 2011), depression (Cordeiro et al., 2016) and anxiety (Ng et al., 2012). Therefore, this led to our assumption that when an individual experiences poor social connectedness, it would affect their level of mental health problems.

In brief, this study hypothesizes that (1) WLB has a negative correlation and can predict with mental health problems, (2) WLB has a positive association with social connectedness, (3) social connectedness also has a negative correlation and can predict mental health, and our final

hypothesis (4) social connectedness can mediate the relationship between WLB and mental health problems among Malaysian working adults.

Figure 2.1

Proposed Conceptual Framework Model



Note. Social connectedness is a mediating variable.

Chapter III

Methodology

Research Design

This study employed quantitative descriptive approach to understand the relationships between work-life balance, social connectedness and mental health problems. Based on Daniel (2016), implementing statistical data in research and analysis can assist in reducing resources like time and effort, in the description of results.

Cross-sectional design was applied as participants were only recruited once and it allows the association between variables to be examined (Thelle & Laake, 2015). Besides, since the influence of two variables as the predictors were also examined, cross-sectional design was relevant as it allowed the description and predictions of various issues (Sedgwick, 2014; Shaughnessy et al., 2015). Moreover, this design was convenient, inexpensive, and allowed the research to be conducted, not only in a short period of time, but also enabled an access to a large group of people (Levin, 2006; Sedgwick, 2014; Setia, 2016).

Sampling

The sample method applied in this study was non-probability sampling whereby respondents who were recruited from the working population were not given equal opportunity to participate. Therefore, it is a non-random sample (Etikan et al., 2016). Purposive sampling was also adopted in this study. Purposive sampling or judgment sampling refers to the method whereby researchers first identify the criteria that is needed to be fulfilled by individuals before approaching those who can, willing, and are well-informed in the topic of interest (Bernard, 2002). This method was found to be beneficial in studies which focused on participants who can

be helpful in providing more reliable data (Etikan et al., 2016). In the current study, working adults with full-time employment and those who were within the age range of 21-65 were targeted as our participants from the wide pool of working population. This approach was similarly applied in a few past empirical studies in the recruitment of participants with specific characteristics from the working population (Barber et al., 2019; Karkoulian et al., 2016; Talukder et al., 2018; Toffoletti & Starr, 2016). In addition, respondents who had access to electronic devices and social media accounts were specifically targeted as the survey could only be distributed online due to Covid-19 pandemic in order to reduce exposure towards risk. Collection of the data was conducted through online survey with the usage of Qualtrics software and distributed through the means of social media platforms such as Instagram, WhatsApp and Facebook. Online survey had enabled researchers to recruit a large group of individuals of similar characteristics in a short duration of time and to overcome the limitations of geographical distance (Lefever et al., 2007).

Research Sample

According to Department of Statistics Malaysia (2020), working age in Malaysia were inclusive of those who are within the age range of 15 to 65. However, the inclusion criteria for this study had only targeted those who are working full-time, falling within the age range of 21 to 65. Although a study conducted by Harun (2020) based on Malaysia Labour Force Survey in 2018 reported that young men generally join the labor market around age 17 or 18, young women generally join around age 20 or 21 after completing their tertiary education. In addition, survey conducted by HSBC which was published in The Star (Nine out of ten Malaysian students work while studying: HSBC survey, 2018) reported approximately 83 percent of

Malaysian university students were working while studying. Therefore, to prevent our study from having skewed due to the difference in lifestyle between working university students and fully working adult population, only working population who are working full-time and falls within the age range of 21 to 65 were being targeted.

Inclusion Criteria.

Participants who are Malaysian citizens, have a full-time job and falls within the age range of 21 – 65 were included.

Exclusion Criteria.

Participants who are doing a part-time job, studying while working or falls outside the age range of 21 – 65 were excluded.

Sample Size

In this study, power analysis, G*Power software version 3.1.9.4, (Faul et al., 2009) as per recommended by recent studies (Hair et al., 2017; Hair et al., 2018; Ringle et al; 2018) had been utilized to compute for sample size. Power analysis includes information on statistical power, effect size, significance level and number of predictors to compute for the minimum participants that is required (Hair et al., 2018). The statistical power inserted for this study was 0.95, supported by studies which reported that any power level beyond the percentage of 80 was sufficient for social science research (Cohen, 1988; Uttley, 2019). The effect size inserted was 0.42, computed based on previous correlation studies of 0.27 (work-life balance variable) and 0.57 (social connectedness variable) (Kotera et al., 2020; McLoughlin et al., 2019). The number of predictors inserted were two while the generally accepted significance level inserted was 0.05

(Hair et al., 2010). Hence, the minimum number of respondents calculated was 40 (refer to Appendix C, p.124).

The current study had also taken into account that missing data and presence of outliers might be present as they were found to be a common occurrence in most research (Kwak & Kim, 2017; Soysal et al., 2018). Thus, Kang (2013) proposed that targeted sample size should be increased to allow the possibility. Enders (2003) reported that it was usual to encounter up to 15% to 20% of missing values in social science studies. Meanwhile, Beumont and Rivest (2019) reported that outliers usually accounted about 5-10% of the data. In this study, given the consideration of approximately 20% of missing values and 10% of outliers might be present, the minimum sample size was increased by 35%, with 54, as the targeted new sample size.

Research Location

The targeted location of this study was Malaysia. Malaysia is separated into Peninsular Malaysia and East Malaysia. Peninsular Malaysia encompasses of 11 states (Perlis, Kedah, Pulau Pinang, Perak, Selangor, Johor, Negeri Sembilan, Malacca, Pahang, Kelantan and Terengganu) and three federal territories (Kuala Lumpur, Labuan, and Putrajaya). East Malaysia consists of Sabah and Sarawak. Overall, our respondents consisted of Malaysians who are currently living in any of the states and federal territories stated above.

Instrumentation

The measurements used include 4-item Work-Life balance scale (Brough et al., 2014), 8-item Social Connectedness scale (Lee & Robbins, 1995) and 21-item Depression, Anxiety and Stress scale (DASS-21; Lovibond & Lovibond; 1995). The questionnaires in this study were remained in their original language, English as it was a common language understandable by

Malaysians (Chin et al., 2017; Thirusanku & Yunus, 2012). This is supported by the fact that English was taught in majority of the schools in Malaysia (Pillai & Ong 2018).

Demographic Profile.

The demographic questionnaire was included to gather the information on age, gender, marital status *(single, married without children, and married with children)*, weekly working hours *(*$\leq 48\ hours$, or $\geq 49\ hours$) and non-work domain inclinations (*Family & family responsibilities, leisure activities, friends, personal care, hobbies alone, community activities, volunteering work and others*). The demographics information was specifically included with the intention of providing substantial support to the study's findings and to provide a comprehensive discussion.

Work Life Balance (Brough et al., 2014).

Work-life balance scale was constructed by Brough et al. (2014). The purpose of this unidimensional factor scale was to assess an individual's subjective judgment on the balance between work and non-work activities. The participants are to answer four items based on their work and non-work engagement over the past few months using a 5-point Likert scale from 1 (*strongly disagree*) to 5 (*strongly agree*). All the items were in positive statements except for Item 2. Item 2 will be reverse scored before the total score is computed. The total scores range from 4 to 20 and is computed by averaging the sum of the score. Higher average scores indicate a higher perception of work-life balance. The example of items in positive statements include "I currently have a good work-life balance between the time I spend at work and the time I have available for non-work activities", "I feel that the balance between my work demands and non-work activities is currently about right.", while the negative statement entails "I have difficulty

balancing my work and non-work activities". This scale showed an internal reliability of 0.84 to 0.94 for different samples targeted in the original research (Brough et al., 2014) while another study reported Cronbach alpha of 0.84 among full-time employees age range of 21-75 (Gravador & Teng-Calleja, 2018).

Social Connectedness Scale (Lee & Robbins, 1995).

Social Connectedness Scale (SCS) was developed by Lee and Robbins (1995) to assess both the extent in the sense of belongingness that one perceives in their social circle such as friends, family and society and extent of difficulty in maintaining the perceived sense of belongingness. SCS is an 8-item unidimensional scale despite covering relevant components under social connectedness such as 4-items on connectedness, 3-items on affiliation and 1 item on companionship. 6-point Likert scale ranging from 1 *(strongly agree)* to 6 *(strongly disagree)* were used to answer the items. All the eight items were in negative statements. Thus, scoring method was carried out by summing up the reverse scores of all the items. The potential scoring range is within 8 to 48. Example of items include "I feel disconnected from the world around me", "I have little sense of togetherness with my peers", and "I catch myself losing a sense of connectedness with society". Higher scores are interpreted as stronger sense of belonging. The internal consistency of Cronbach alpha recorded in the original study was 0.91 (Lee & Robbins, 1995) whereas in other studies, the estimated reliability varies from 0.83 to 0.93 (Cao et al., 2018; Moreton et al., 2019; Satici et al., 2016).

Depression, Anxiety and Stress Scale-21 (DASS-21; Lovibond & Lovibond, 1995).

DASS-21 is a shorter version of the full 42-item version, developed by Lovibond and Lovibond (1995). It was chosen instead of the full version scale because of its solid psychometric

properties and its time efficiency (Norton, 2007). DASS-21, a self-report scale is used to measure the level of risks for mental health problems in this study because it was reported by Zanon et al. (2020) to be an effective tool to assess a unidimensional construct of general distress. Furthermore, it was found to be a greater instrument to assess one's overall mental health as compared to other specific instruments (Batterham et al., 2016). DASS-21 contains three subscales for symptoms of depression, anxiety and stress, with seven items in each subscale (Coker et al., 2018). Respondents were required to answer the items using a 4-point Likert scale ranging from 0 *(Did not apply to me at all)* to 3 *(Applied to me very much or most of the time)* on how they feel over the past week. Examples of items under each subscale include depression (e.g., "I couldn't seem to experience any positive feeling at all"), anxiety (e.g., "I felt scared without any good reason) and stress (e.g., "I found it difficult to relax"). The scoring method for this scale was by multiplying the total score of each subscale by two followed by the summation of all three subscales to be comparable to the full version (Lovibond & Lovibond, 1995). The final total score of DASS-21 from all three subscales represented the overall level of risk of mental health problems (range from 0 – 126) (Zou et al., 2020). Cut-off scores of ≥ 60, indicated high level of risk of mental health problems (Beaufort et al., 2017). Moreover, the sum score for each subscale ranges from 0 – 42 with five categories to its severity. In the case of depression, the range of scores for normal were (0-9), mild (10-13), moderate (14-20), severe (21-27) and extremely severe (28-42). For anxiety, the thresholds were normal (0-7), mild (8-9), moderate (10-14), severe (15-19) and extremely severe (20-42). Meanwhile, for stress, the cut-off scores were normal (0-14), mild (15-18), moderate (19-25), severe (26- 33) and extremely severe (34-42). The Cronbach alphas reported in a study among adult population were 0.95 for the overall scale (Talaee et al., 2020), 0.89 for depression, 0.77 for anxiety and 0.87 for stress in another

study (Görlich & Stadelmann, 2020) while 0.95 for overall scale, 0.95 for depression, 0.85 for anxiety and 0.87 for stress were reported in Malaysia (Musa & Maskat, 2020).

Pilot Study

Pilot study was not conducted for the current study as the measurements included in the questionnaires have been tested and cited in various past research. Firstly, Work-Life Balance scale by Brough et al. (2014) was reported to show good construct validity in research that was conducted in the Asian context such as India (Heriyadi et al., 2020; Poulose & Dhal, 2020) and Hong Kong (Wong & Chan, 2020). WLB scale tested in Malaysia was also found to have good convergent validity above the acceptable threshold of 0.4 and Cronbach's alpha reliability exceeding 0.8 (Lau et al., 2018; Lee et al., 2018; Yap & Badri, 2020).

Next, the English version of DASS-21 has been validated by many past researchers for its good validity in Malaysia (Edimansyah et al, 2007; Imam, 2010; Musa et al., 2011; Ramli et al., 2012; Yusoff, 2013). It is found to be applicable for both general population and clinical patients (Ramli et al., 2012). Furthermore, in support of previous statement, DASS-21 has been used in more than 400 up to date studies in Malaysia (Musa & Maskat, 2020). Therefore, the application of this scale in research is said to be well-accepted in Malaysia (Majid et al., 2019).

As for social connectedness scale by Lee and Robbins (1995), this scale showed good reliability and has been utilized in numerous studies targeting wide scale of respondents from countries in Asia such as Malaysia, Thailand, Taiwan and Vietnam (Nguyen et al, 2019; Nguyen et al, 2021) as well as in studies focused on Chinese respondents (Cao et al., 2018) and Asian Americans (Liu et al., 2019). Although no psychometric properties of the scale were reported in Malaysia except for Ramah et al. (2019), the longer version of this scale reported good internal

reliability of 0.82 – 0.92 (Hashim et al., 2019; Khodabakhsh & Siak, 2018) with acceptable convergent and discriminant validity (Khodabakhsh & Siak, 2018). In addition, good construct validity was indicated by negative correlation with anxiety (Lee & Robbins, 1998), stress (Yeh & Inose, 2003) and negative affect (Yoon et al., 2012). Overall, as all three instruments were found to have good psychometric properties, no changes were made to any of the instruments. Therefore, pilot study was not conducted for this study.

Ethical Consideration

Before we proceed to data collection, a few ethical considerations were adhered to ensure the research was conducted in a proper manner. The ethical clearance (U/SERC/212/2020) was approved by UTAR Scientific and Ethical Review Committee on 24th December 2020 to ensure the research was ethical. Before the study, we had obtained informed consent from the participants and maintained the confidentiality of participant's personal data. Participants were given the right to leave the study and the involvement was on a voluntary basis. Participant's data in which consent was not given, was not used in data analysis. The current study had followed closely the procedure set out in relation to the policies of UTAR such as UTAR Research Ethics and Code of Conduct, Code of Practice for Research Involving Humans and other related policies or guidelines.

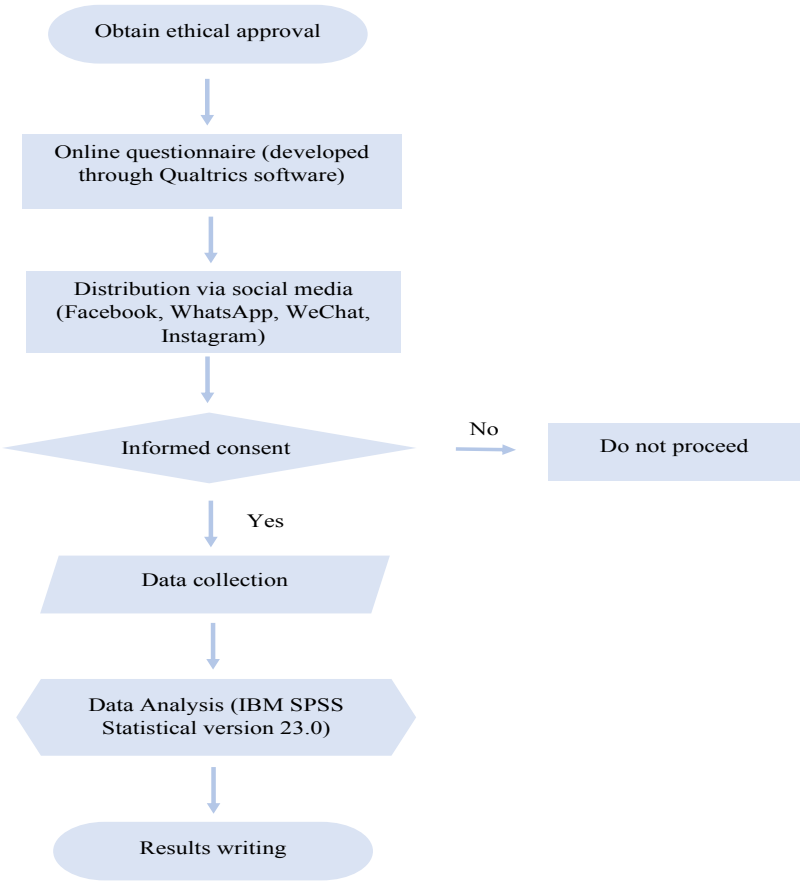
Procedure

Research ethical approval was firstly applied before the collection of data. Online questionnaires were developed using Qualtrics software upon the obtainment of approval on the 24th December 2020. The link of the questionnaire was then distributed via social media platform such as Facebook, WhatsApp, WeChat and Instagram to reach employed working adults with

full time job across various states in Malaysia. Respondents were required to first go through the items stated in the informed consent attached in the first page of the questionnaire such as purpose of research, duration to complete the questionnaire, voluntarily participation, confidentiality, and privacy. Any inquiries were reached via the contact information given in the consent form. Respondents were given the option to withdraw without any consequences. Data collected from the questionnaires was further analyzed using IBM SPSS Statistics version 23.0.

Figure 3.1

Flowchart of Procedure



Data Cleaning

A total of 275 respondents were initially gathered. 72 responses were deleted because of incomplete survey whereby the survey was not completed within the given time and had expired. Another 12 responses were removed as the informed consent was not filled in by the respondents. Lastly, 5 univariate outliers detected were also removed. Hence, the finalized number of respondents left was 186.

Data Analysis

IBM SPSS Statistics version 23 software was used to compute the data analysis. Demographic information such as age, sex, marital status, and working hours were examined using descriptive analysis.

Pearson Product Moment Correlation (PPMC) was carried out to examine the relationships between the variables of work-life balance, social connectedness and level of mental health problems. PPMC shows the strength, direction, and magnitude of the linear association (Sekaran & Bougie, 2010; Walk & Rupp, 2010). The closer the correlation coefficient, r is to ±1, the stronger is the association between the variables (Shevlyakov, & Oja, 2016).

Multiple Linear Regression (MLR) was used to examine whether work-life balance and social connectedness predicted the level of mental health problems. This is relevant as MLR is deemed appropriate to examine variance of DV when there is presence of more than one predictor (Cohen et al., 2003). Nonetheless, normality assumptions and MLR assumptions were conducted beforehand. Normality assumptions were tested using Kolmogorov-Smirvov test, histogram, P-P plot, Skewness and Kurtosis. Kolmogorov-Smirvov test is usually used in large

sample size, more than 50 (Mishra et al., 2019). If the results were insignificant, it represented a normal distribution (Ghasemi & Zahediasi, 2012). Meanwhile, the P-P plot (percent-percent plot) and histogram provided a visual illustration to examine normal distribution (Peat & Barton, 2005). P-P plot is a probability plot used to check how near two data sets are when plotted against each other using cumulative distribution functions (Das & Imon, 2016). Thus, a straight diagonal line plotted indicated normality (Field, 2009). In another hand, a bell-shaped curve seen in histogram indicates normality. Next, skewness is a test that assesses the distribution's symmetry while kurtosis assesses the peaked-ness of distribution (Kim, 2013). The acceptable range for both skewness and kurtosis to be considered a normal distribution was between the range of ± 2 (George & Mallery, 2010).

To ensure the absence of multivariate outliers, Mahalobis distance, Cook's distance and Centered Leverage values were also carried out. Mahalanobis distance is commonly used by psychologists to check for influential cases (Leys et al., 2018). The cut-off score of 15 was used to detect potential outliers in Mahalanobis for a sample size of more than 100. Cook's distance is a method of examining individual influential case on the estimated coefficients in a linear regression analysis (Cook, 1977). The cut-off points for Cook's distance to be detected as an outlier was value > 1 (Cook & Weisberg, 1982). Centered Leverage value or hat values is the influence of observed value of dependent variable over the predictor. This value is computed from (p+1)/n in which p represents the number of predictors. Two times of the hat value computed is used as the threshold to detect for outliers (Stevens, 2002).

MLR assumptions include 1) types of variables, 2) independent data, 3) multicollinearity, 4) independent errors, 5) homoscedasticity, 6) normality of residual and 7) linearity of residual. The assumption for types of variables were met when the predictor variables are quantitative and

outcome variable are continuous. Independent data is based on the notion that all data of each respondent are independent from one another (Berry, 1993). Multicollinearity indicates a problem with high correlation between the variables which were analyzed using tolerance and Variance Inflation Factors (VIF). The presence of VIF greater than five to ten and tolerance value lesser than 0.1 to 0.2 reflected the existence of multicollinearity and would pose a problem to the study (Kim, 2019). Independent of errors is the assumption that errors are not associated for any observed value and is usually analyzed using Durbin-Watson (Berry, 1993). Values that were nearer to two revealed independence of errors (Reddy & Sarma, 2015). Homoscedasticity assumes that residuals at each level of predictors ought to have equivalent variance while normality of residuals is defined by the normal distribution of errors. Linearity of residual assumes a linear pattern in the scatter plot. All three assumption of homoscedasticity, normality of residuals, and linearity of residuals were examined using scatterplot.

Moreover, to investigate the mediating effect of social connectedness on the relationship between work-life balance and level of mental health issues, PROCESS SPSS macro developed by Hayes (2018) was adopted. The mediation model included three indirect effects which were work-life balance significantly predicted mental health issues, social connectedness significantly predicted mental health issues and work-life balance significantly predicted social connectedness. Based on Hayes (2018), when 95% bootstrap confidence interval does not involve zero, hence the indirect effect is accepted as significant.

Chapter IV

Results

Normality Assumptions

Univariate Outlier

In this study, boxplot analysis was used to detect for univariate outliers and a total of 5 cases were found and deleted (Refer to Appendix D, p.125).

Skewness and Kurtosis Tests

Skewness and kurtosis test were used to examine the normality of each variable. George and Mallery (2010) proposed that the satisfactory range for both skewness and kurtosis value were ±2. Table 4.1 shows that the assumption for skewness and kurtosis were met for all three variables (Refer to Appendix E, p.131).

Table 4.1

Skewness and Kurtosis

Variables	Skewness	Kurtosis
WLB	-.196	-.414
Social Connectedness	-.317	-.390
Level of Mental Health	.569	-.131

Histogram

Histogram was also one of the tests used to check for normal distribution. All the variables illustrated an acceptable bell-curved indicating normality except for level of mental health problems (DASS-21) variable which showed an acceptable bell-curved but was slightly

skewed to the right (refer to appendix F, p.132). The skewedness could be contributed by responses' data which differs greatly from the rest but was not too extreme to be detected as a univariate outlier by boxplot.

P-P Plot

P-P plots indicates normal distribution when the values are observed to be plotted near to the diagonal line. Current study showed that each variable had values plotted near to the diagonal line. Thus, the assumption of normality was met (refer to appendix G, p.135).

Kolmogorov-Smirnov (K-S) Test

Normality could be check by using the K-S test. Ghasemi and Zahediasl (2012) stated that if the results were insignificant with p-value above .05, the distribution is considered normal. Table 4.2 shows that all three variables did not meet the assumption for normality because the values were significant with p-value below .05 (refer to appendix H, p.138). However, according to Oztuna et al. (2006), a downside to K-S test was that it was very sensitive, and even the presence of a small deviation from normality would provide significant results, although the parametric results will not be affected by the small deviation. Overall, the variables were all considered normally distributed given that assumptions were met in four out of five tests.

Table 4.2

Kolmogorov-Smirnov (K-S) Test

Variable	Significant Value
WLB	.000
Social Connectedness	.018
Level of mental health problems	.001

Multi-Linear Regression Assumption

Multivariate Outlier

Cook's distance, Mahalanobis distance, and Centered Leverage were used in the study to detect for multivariate outliers. Standard deviation of 2 was used to screen for outliers with cases exceeding standard deviation of two being the potential outliers (Seo, 2002). Results shown in Table 4.3 indicated that six cases exceeded the standard deviation of two. Based on Cook's distance, cases with value greater than one would be considered as multivariate outliers (Dhakal, 2017). None of the cases violate this assumption. Meanwhile, Centered Leverage value calculated was 0.016 based on (p+1)/n, where p indicates the number of predictors while n referred to the sample size. Cases with values that exceeded twice the leverage value were identified as multivariate outliers (Hoaglin &Welsh, 1978). With that, two cases violated the Centered Leverage value of .032. The cases with Mahalanobis distance greater than 15 was also considered as multivariate outliers but none of the cases violated this rule of thumb. Overall, although two cases violated Centered Leverage value, they were not removed. This was in accordance with Leys et al. (2018) who suggested that outliers can be kept in cases whereby the data was already found to be normally distributed.

Table 4.3

Multivariate Outliers Test

		Case Number	Mahalanobis Distance	Cook's Distance	Centered Leverage Value
Group_MO	1	33	11.91070	.16174	.06438
	2	86	2.11414	.08841	.01143
	3	121	6.33492	.12333	.03424

Table 4.3 Continued

Multivariate Outliers Test

	Case Number	Mahalanobis Distance	Cook's Distance	Centered Leverage Value
4	179	1.41860	.02741	.00767
5	181	.01460	.00772	.00008
6	185	.40939	.01082	.00221

Variable Type

According to Trammer et al. (2020) all the predictors involved in the study had to be either quantitative or continuous while dependent variable ought to be continuous. All three variables in this current study were continuous. Therefore, assumption was met.

Independent data

The assumption for independent data was met as each respondent's data was independent of the data of other respondents (Berry, 1993).

Multicollinearity

Multicollinearity refers to high inter-correlations between the predictors (Berry, 1993). Tolerance and Variance Inflation Factor (VIF) were used to test the multicollinearity assumption. No presence of multicollinearity was detected as the predictors' tolerance values were greater than .01 (Uyanık & Güler, 2013; Daoud, 2017), Meanwhile, VIF values were also found to be below the more stringent standard applied, of five (Hair et al., 2010; O' Brein, 2007). Results in

Table 4.4 indicated that there is no issue with multicollinearity in this study (Refer to Appendix I, p.139).

Table 4.4

Collinearity Statistic

	Tolerance	VIF
WLB	.967	1.034
Social Connectedness	.967	1.034

Independence of Errors

Durbin-Watson test was used to analyze for independent errors assumption. Values nearer to two and within the acceptable threshold of one to three, indicates independent errors (Reddy & Sarma, 2015). Based on Table 4.5, the assumption for independence of errors was met (Refer to Appendix J, p.140)

Table 4.5

Independence of Errors Test

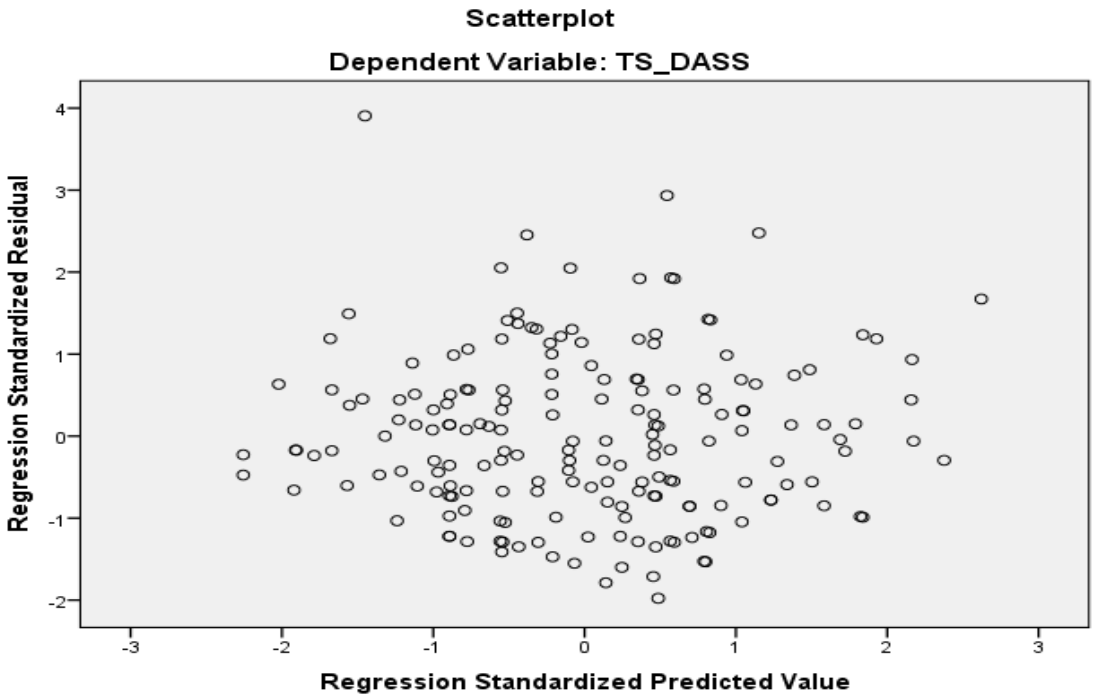
Model	Durbin-Watson
1	1.936

Homoscedasticity, Residual Normality, and Residual Linearity

Scatterplot was used to check for homoscedasticity, normality of residual, and linearity of residual assumptions (Reddy & Sarma, 2015). Figure 4.1 showed that all three assumptions were met as majority of the residuals were scattered evenly around zero, shown by the scatterplot.

Figure 4.1

Scatterplot Illustrated Homoscedasticity, Normality of Residual, and Linearity of Residual among Variables



Descriptive Statistics

The demographic statistics of the sample in this research was illustrated in Table 4.6. The final sample consisted of 186 respondents in total. All the respondents were Malaysians who are currently residing in one of the states in Malaysia, and hence, our inclusion criteria were

fulfilled. Their age ranges from 21 to 65 (M = 30.43, SD = 9.63). There were more female respondents (60.2%) in this research as compared to male respondents (39.8%). Besides, majority of the working adults were single (73.3%), followed by married with children (17.8%) and married without children (8.9%).

More than half of the respondents were in the category of working less or equal to 48 hours (66.1%) which is in accordance with the Malaysian Employment Act 1995 that defines work week as 48 hours. However, there were about 33.9% of respondents who work more than 48 hours per week. Besides, it was found that majority of the working adults spend their non-work hours committing to family and family responsibilities (79.6%), on leisure activities (75.8%), with friends (60.8%) or on hobbies alone (53.8%). They were less likely to spend time on activities such as personal care (44.6%) community activities (19.9%), volunteering work (17.7%) and others (9.1%) which include academic-related pursuits, religious-based activities, house chores and so on.

Table 4.6

Demographic Statistics of the Sample (N =186)

	n	%	*M*	*SD*	*Min*	*Max*
Malaysian	186	100				
Age			30.43	9.63	21	60
Gender						
Female	112	60.2				
Male	74	39.8				
Marital Status						
Single	136	73.1				

Table 4.6 (Continued)

Demographic Statistics of the Sample (N =186)

	n	%	*M*	*SD*	*Min*	*Max*
Married without children	16	8.6				
Married with children	34	18.3				
Weekly working hours						
Less or equals to 48 hours	123	66.1				
More than 48 hours	63	33.9				
Non-work domain inclination						
Family & family responsibilities	148	79.6				
Leisure activities	141	75.8				
Friends	113	60.8				
Personal care	83	44.6				
Hobbies alone	100	53.8				
Community activities	37	19.9				
Volunteering work	33	17.7				
Others:	17	9.1				

Based on Table 4.7, participants who were reported to work less or equals to 48 hours have better work-life balance (M = 3.44, SD = .75) than those who work more than 48 hours per week (M = 2.90, SD = .93). Furthermore, although work-life balance of single adults (M = 3.28, SD = .86) and adults who are married without children (M = 3.23, SD = .84) did not differ much, both were slightly better than those who are married with children (M = 3.18, SD = .84).

Table 4.7

Descriptive statistics of Work-Life Balance Based on Working Hours and Marital Status

	WLB	
	M	*SD*
Weekly Working Hours		
Less or equals to 48 hours	3.44	0.75
More than 48 hours	2.90	0.93
Marital Status		
Single	3.28	0.86
Married without children	3.23	0.84
Married with children	3.18	0.84

Descriptive Statistics of Variables

Table 4.8 indicates the mean scores for work-life balance, social connectedness and mental health problems (DASS-21) among working adults in Malaysia. Most of the respondents reported good work-life balance ($M = 3.26$, $SD = .85$) and good social connectedness ($M = 35.12$, $SD = 7.58$). In addition, level of mental health problems of working adults was averagely low ($M = 27.69$, $SD = 18.38$), not exceeding the cut-off score of 60 for high risk of mental health problems. The average depression level ($M = 8.92$, $SD = 7.77$) and average stress level ($M = 11.03$, $SD = 7.37$) of adults were in the normal range indicating no presence of depression and stress risks. Meanwhile, average anxiety was inclined towards the mild category ($M = 7.73$, $SD = 6.04$).

Table 4.8

Frequency Distribution of the Variables (n = 186)

Variables	n (%)	*M*	*SD*	*Min*	*Max*
Work-Life Balance		3.26	0.85	1.00	5.00
High	139 (74.7)				
Low	47 (25.3)				
Social Connectedness		35.12	7.58	16.00	48.00
High	169 (90.9)				
Low	17 (9.1)				
Mental Health (DASS21-T)		27.69	18.38	0.00	80.00
High	12 (6.5)				
Low	174 (93.5)				
Depression Subscale		8.92	7.77	0.00	38.00
Normal (score 0 - 9)	105 (56.5)				
Mild (score 10 -13)	26 (14.0)				
Moderate (score 14 - 20)	42 (22.6)				
Severe (score 21 - 27)	8 (4.3)				
Extremely Severe (score 28 - 42)	5 (2.7)				
Anxiety Subscale		7.73	6.04	0.00	26.00
Normal (score 0-7)	99 (53.2)				
Mild (score 8-9)	15 (8.1)				
Moderate (score 10-14)	48 (25.8)				
Severe (score 15-19)	15 (8.1)				

Table 4.8 (Continued)

Frequency Distribution of the Variables (n = 186)

Variables	*n* (%)	*M*	*SD*	*Min*	*Max*
Extremely Severe (score 20-42)	9 (4.8)				
Stress Subscale		11.03	7.34	14.00	36.00
Normal (score 0- 14)	135 (72.6)				
Mild (score 15-18)	26 (14.0)				
Moderate (score 19-25)	17 (9.1)				
Severe (score 26- 33)	7 (3.8)				
Extremely Severe (score 34-42)	1 (.5)				

Main Findings

Pearson Correlation Analysis

Pearson Product Moment Correlation was run to examine the association between the variables. Cohen's (1988) rule of thumb was used to determine the effect size with .10 indicating weak correlation, .30 indicating moderate correlation and .50 indicating strong correlation. Referring to Table 4.9, work-life balance and level of mental health problems reported a significant but weak negative correlation, $r(184) = -.267$, $p < .001$, supporting Hypothesis 1. There was a significant weak, positive relationship between work-life balance and social connectedness, $r(184) = .181$, $p = .014$. This result supported our Hypothesis 2. Social

connectedness and mental health issues also reported a significant moderate, negative relationship, $r(184) = -.444$, $p < .001$, supporting our Hypothesis 3. Despite the relationships between social connectedness and work-life balance with the subscales of DASS-21 (depression, anxiety and stress) were not studied for this study, the analysis was conducted. Work-life balance showed a significant negative correlation with depression $r(184) = -.241$, $p = .001$ and stress $r(184) = -.314$, $p < .001$ but was not significantly correlated with anxiety $r(184) = -.120$, $p = .102$. Meanwhile, social connectedness was found to be negatively correlated with depression $r(184) = -.509$, $p < .001$, anxiety $r(184) = -.297$, $p < .001$ and stress $r(184) = -.328$, $p < .001$.

Table 4.9

Correlations among WLB, Social Connectedness and Mental Health Problems.

Variable	1	2	3	4	5	6
1. WLB	1	.181*	-0.267**	-0.241**	-0.12	-0.314**
2. Social connectedness		1	-0.444**	-0.509**	-0.297**	-0.328**
3. DASS-21(Mental health problems)			1	0.866**	0.815**	0.917**
4. Depression				1	0.507**	0.694**
5. Anxiety					1	0.682**
6. Stress						1

Note. **. Correlation is significant at the .01 level (2-tailed) while *. Correlation is significant at the level of .05 (2-tailed).

Multiple Linear Regression Analysis

Multiple Linear Regression analysis was used to test if WLB and social connectedness significantly predicted level of mental health problems. The model was statistically significant with 22.5% variance accounted for by the two predictors ($R^2 = .23$, $F(2, 183) = 27.82$, $p < .001$) (Refer to Appendix K, p.141). It was found that both WLB ($\beta = -.193$, $t(183) = -2.94$, $p = .004$)

and social connectedness (β = -.409, $t(183)$ = -6.22, p < .001) significantly predicted level of mental health problems. These results supported Hypothesis 4 and Hypothesis 5. In addition, social connectedness was reported to be a stronger predictor than WLB (Refer Table 4.10 and 4.11).

Table 4.10

Result of Regression Model

	Df	*F*	*p*	Adj. R^2
Regression	2	27.82	.000	.225
Residual	183			
Total	185			

Note. Dependent variable = Level of mental health issues. Predictors = WLB, social connectedness.

Table 4.11

Result of Regression Coefficient

	Std. β	*t*	*p*
WLB	-.193	-2.94	.004
Social Connectedness	-.409	-6.22	.000

Note. Dependent variable = Level of mental health issues

Mediation Analysis

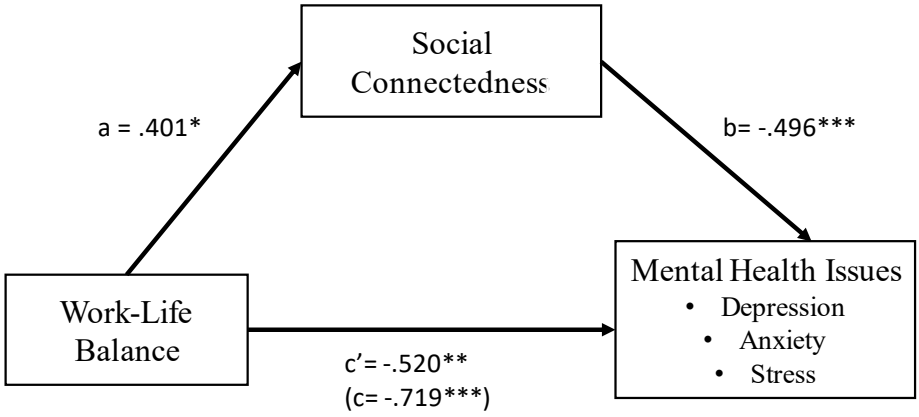
PROCESS SPSS macro (Hayes, 2018) was utilized to analyse the mediating effect of social connectedness between work-life balance and mental health problems. Based on Figure 4.2, the results show that there is a significant negative effect between work-life balance and level of mental health problems (B = -.520, SE = .177, t = -2.94, p = .004, 95% CI [-.869, -.171]),

path c'). Work-life balance also reported a significant effect on social connectedness (*B* = .401, *SE* = .161, *t* = 2.49, *p* = .014, 95% CI [.083, .718]), path (a). Social connectedness had a significant negative effect on level of mental health problems (*B* = -.496, *SE* = .080, *t* = -6.21, *p* < .001, 95% CI [-.654, -.339]), path (b). The indirect effect between work-life balance and level of mental health problems was significant (*B* = -.199, *SE* = .103, 95% CI [-.425, -.021]). This showed that social connectedness significantly mediated the relationship between work-life balance and level of mental health issues as the bootstrap does not include zero. With this, Hypothesis 6 was supported. The total effect of work-life balance on mental health issues was reported to be significant too (*B* = -.719, *SE* = .191, *t* = -3.76, *p* = .002, 95% CI [-1.096, -.342]) (refer to Appendix L, p.142). The ratio of indirect effect to direct effect was computed as below, with c being the total effect of X on Y, and c' being the conditional slope of the effect X had on Y (Alwin & Hauser, 1975). The results indicated that social connectedness mediation accounted for approximately more than a quarter of the total effect, P_M= .28.

$$P_M = \frac{ab}{ab+c'} = \frac{ab}{c} = 1 - \frac{c'}{c} = 1 - \frac{(-.520)}{(-.719)} = 0.277$$

Figure 4.2

Mediation Effect of Social Connectedness on Work-Life Balance and Mental Health Issues



Note. **p* < 0.05; ***p* < 0.01; ****p* <0.001.

Reliability Analysis

Referring to Table 4.12, social connectedness scale (α = .936) and DASS-21 (α = .922) indicated excellent reliability, exceeding threshold of 0.9 while work-life balance (α = .870) indicated very good coefficient for reliability. This was according to Hair et al. (2017) rule of thumb in which Cronbach's alpha exceeding 0.9 were considered excellent while 0.8-0.9 were considered very good. The subscales of DASS-21 also reported good Cronbach's alpha except for anxiety subscale which reported satisfactory reliability (α = .737) slightly above the acceptable range of 0.7 (George & Mallery, 2003). Overall, all the scales showed good reliability.

Table 4.12

Reliability of the Instruments

Variable	No of items	Cronbach's Alpha
Work-life Balance Scale	4	.867
Social Connectedness Scale	8	.923
Depression, Anxiety and Stress Scale-21	21	.911
Depression Subscale	7	.878
Anxiety Subscale	7	.713
Stress Subscale	7	.832

Chapter V

Discussion

H1 and H4: Work-life balance is significantly associated and predicted the level of mental health problems among the working adults.

The current results indicated that work-life balance significantly and negatively predicted the level of mental health problems among the working adults. Thus, our hypotheses were supported. These results were in accordance with previous findings (Badri, 2019; Haider et al., 2018; Kotera et al., 2020; Sprung & Rogers, 2020) whereby the imbalance between work and daily life of an individual were found to increase their level of psychological distress such as anxiety, and depression (Sirgy & Lee, 2018).

Long working hours may be a contributing factor to the poor WLB which leads to the higher level of anxiety and depressive symptoms (Kleppa, et al., 2008; Parkes & Langford, 2008). A study had shown that WLB mediated the relationship between working hours and mental health in which, long working hours was harmful to mental health when it disrupted the working population's life responsibilities and activities (Fein & Skinner, 2015). Conversely, if they do not perceive their working hours as long nor does it interfere with their lives, they would have better psychological health. This was observed in this current study's participants who reported working 48 hours or less, as having better WLB (refer to Table 4.7). This further confirms resource drain theory that workers have limited resources (i.e., time, attention, and energy) for each domain. Greater engagement in either work or non-work will interfere with the engagement in the other (Edwards & Rothbard, 2000). Likewise, based on Barber et al. (2019),

workers who were unable to distribute their time and attention across work and their life activities as they wished, were reported to have lower psychological well-being.

Apart from that, it is intriguing to note that although good work-life balance predicted lower levels of mental health problems, it showed no significant correlation with risk of anxiety symptoms. This contrasted with previous studies (Bell et al., 2012; Mathew & Panchanatham, 2011). In addition, almost 40% of our participants reported moderate to extremely severe level of anxiety albeit the high percentage of good WLB reported. The contrast in findings perhaps can be accounted by the interference of Covid-19 pandemic breakout during the period of which the research was conducted, in the month of January 2021. As the frequency of Covid-19 cases was still on the rise in Malaysia, the individuals' perception of pandemic severity could be a crucial indicator of high anxiety levels (Wong & Alias, 2021) which unintentionally, intervened with the findings of this study.

H2: There is a significant positive correlation between work-life balance and social connectedness among the working adults.

The results showed a significant positive relationship between work-life balance and social connectedness among the working adults. Hence, our second hypothesis is also supported. Although no studies have shown the direct connections between work-life balance and social connectedness, it could be understood by looking into the overlapping activities between non work domains and social connectedness. Non-work domain comprises of aspects such as family, friends, self-care, hobbies, community activities and involvement in volunteering (Prakash, 2018) and these activities were found to be easier to execute when there is work-life balance

(Delina & Raya, 2013). People tend to spend their time with family activities after work (Zainuddin et al., 2020). However, when they engage in longer working hours, they are not able to engage with their family members as much (Khare & Kapoor, 2019) since lack of time hinders their capability to physically engaged in social activities (Sha et al., 2019). Subsequently, it may lead to poor sense of belonging with the people around them. Another study which was consistent with our findings showed that when working hours were flexible, work-life balance was achievable and this resulted in better functioning in the family (Chung & van der Lippe, 2020). Furthermore, this is in accord to resource drain theory – when work-life balance is maintained, resources for time and energy are adequate for both domains and therefore, an individual's social life will not be negatively affected.

Besides that, a possible explanation for the positive relationship between work-life balance and social connectedness in our findings may be due to the minimal tension between social roles in work and nonwork domains (Sirgy & Lee, 2018; Zainuddin et al., 2020). The results in our study reflected equally good WLB with a very slight difference among those who are married with children and those who are not (refer to Table 4.7). Findings from our study contrasted with previous study which indicated that employees who are married and have children tend to have poor work-life balance because of the need to play dual roles (Sundaresan, 2015). Tension between social roles occurs when an individual had to juggle between family and work (Clark, 2001), resulting in work-life imbalance (Talukder, 2018). Nonetheless, this finding coincidentally, supported role theory in which good work-life balance enables people to play multiple roles in life without difficulties (Carlson et al., 2009). In addition, as majority of our respondents reported to be working 48 hours or lesser, this could indicate more time or resources left for non-work-related activities, providing them with adequate time to carry their various

social roles' responsibilities and further improving their connections with their families or friends. As mentioned by Abdul Hadi (2019), long working hours diminishes the chances for a person to involve in socially productive leisure by restricting the time to carry out their roles as a family member, partner, or friend.

H3 and H5: Social connectedness significantly correlates and predicts the level of mental health problems among working adults.

The current findings supported the third and fifth hypothesis - social connectedness significantly and negatively correlated as well as predicted the level of mental health problems among working adults. This indicated that individuals with high level of social connectedness are less likely to have mental health problems. Although there were no past studies conducted on the working population's social connectedness, similar results were reported in studies among other populations such as the older adults (Schwartz & Litwin, 2019), youths (McLoughlin et al., 2019), spouses (Crouch et al., 2017) and the overall population (Saeri et al., 2018) which is similar to our current study.

People with poor social connectedness were found to feel lonely easily (Duke et al., 2018; Santini et al., 2015) due to the inability to meet their social needs based on a theoretical basis of framework (Weiss, 1973). The poor sense of connection with the community and poor social support, in turn, gave them a low meaning to life (Stavrova & Luhmann, 2015) and subsequently led to their increased level of stress (Anjara et al., 2017) and depression (Haslam et al., 2015; Santini et al., 2015). This supports Baumeister and Leary (1995)'s notion that social connectedness is a crucial human need, and it accentuate the function of this need by ensuring a

person's positive well-being. Past researchers have also discovered that social connectedness was a fundamental need to cope with life adversities (Arslan, 2015; Duru & Poyrazli, 2011; Ungar et al., 2013).

Contrariwise, individuals with better social connectedness had lower risk of depression perhaps due to their frequent social engagement which provides easier accessibility to social resources by encouraging social connectedness and social acceptance (Arslan, 2015) in addition to improving self-esteem and diminishing the feeling of loneliness (Cornwell & Laumann, 2015; Thoits, 2011). Intriguingly, good social connectedness and low risk of mental health problems was seen in the current study. A plausible reason for this could be attributed by the working adults' tendencies to spend time with families, friends and doing leisure activities after work (refer to Table 4.6). Toepoel (2013) stated that productive leisure activities carried out with the companion of others can generate stronger feeling of social connectedness as certain activities are active and require the cooperation between each other.

H6: Social connectedness significantly mediates the relationship between work-life balance and level of mental health problems among working adults.

Although our results showed that social connectedness partially mediated the relationship between work-life balance and level of mental health problems, the results was significant and thus, should be taken into consideration. This result indicated that better work-life balance predicted stronger social connectedness which in turn, help to decrease level of mental health problems. This is in accordance with a slightly similar study by Tuğsal (2020) who reported that social support mediated the correlation between work life balance and burnt out, which

according to Pacheco et al., (2017), burnt out is one of the many common mental health problems experienced by individuals.

Interestingly, our findings reported that majority of our respondents have good work-life balance in contrast with the articles that were published by *The Star* newspaper regarding Malaysians having the worst work-life balance ("A Struggle to Attain Work-Life Balance", 2020; Wong, 2019). As a result, they also reported good social connectedness and low risk of mental health problems; consistent with what was predicted. This was perhaps contributed by most of our respondents reported having worked 48 hours or less in a week (refer to Table 4.7) indicating more time to juggle between work and social life as compared to those who worked more than 48 hours. Moreover, the reason for the lesser work hours could be further tracked to organizations in Malaysia who perhaps are now more aware of the benefits WLB can bring to their corporations and have started to adopt WLB-friendly practices. According to a research conducted by two corporations in Malaysia, TalentCorp and Ernst & Young (2018), they reported that 90% of organizations in Malaysia recognized the need for WLB practices and its benefits in increasing job engagement, job performance and in reducing the turnover rate. Despite the low rate in implementation of policies reported in 2017, they also reported 70% of the organizations had the intention to improve their WLB policies in the next two years which can be seen to have taken effect up until now. Nevertheless, it was also plausible that the good WLB was accounted by the fact that most of the respondents were working from home as it was declared that all employees in the non-essential services were required to work from home by the Malaysian government due to the rising cases of Covid-19 in January 2021 (Povera & Harun, 2021). This was supported by studies in Malaysia and Indonesia that reported employees who worked from home had better work-life balance during the lockdown (Ambikapathy & Ali,

2020; Putri & Amran, 2021). Better work-life balance in turn, enables the employees to have more resources such as time and energy for their loved ones at home. A study conducted by Sun et al. (2020) found that face-to-face communications occurring at home during lockdown served as a safeguard for well-being. Therefore, the increased social connectedness from interactions with others at home act as a crucial social support (Ashida & Heaney, 2008). This sequentially protect individuals from negative mental health outcomes as Barck-Holst et al. (2020) mentioned, people tend to seek social support from close ones to channel out their negative emotions and to solve problems faced together.

Theoretical Implications

There are several implications in this study. Firstly, the current results indicated that work-life balance predicted the level in risks of mental health problems such as depression and stress. This confirms the resource drain theory that limited resources (i.e., time, energy and attention) will contribute to a negative association between two domains when being compared (Staines, 1980) and would further lead to stress and burnout when a domain is exhausted of its needed resources (Frone, 2003).

Secondly, work-life balance is also found to correlate with social connectedness. This finding is of novel value, shown by the extant of literature, as there had been no studies conducted previously on the association between work-life balance and social connectedness among the working adults in Malaysia. This particular result had further strengthened resource drain theory by extending the application of the theory with a new variable, specifically social connectedness. From the study, if an individual invested more resources (e.g., time and energy) into their work (work-life imbalance), they were more likely to have lower social connectedness due to reduced time and energy left to spend with their social circle after work. This was evident

in cases whereby, working females who were found to experience continuous conflict between work and life gradually developed a sense of social isolation (direct opposite of social connectedness) (Eddleston & Powell, 2012; Thompson & Prottas, 2006).

Thirdly, social connectedness was reported to predict the level of mental health problems among working adults. Despite this finding has had a wide range of existing literature, it is still of significance as there were limited studies conducted among the working adult population. Previous studies mostly focused on students (Arslan, 2018; Liu et al., 2019; Mcloughlin et al., 2019; Ramah et al., 2019) or older adults (Callow et al., 2020; Schwartz & Litwin, 2017; Santini et al., 2020). In addition, this theory affirmed the basic psychological needs theory (Deci & Ryan, 2002) in which if a person's need for relatedness is not met, it would lead to need frustration and consequently, negative mental health (van de Kaap-Deeder et al., 2017).

Lastly, the current study found that social connectedness significantly mediated the relationship between work-life balance and mental health problems. This finding has helped to fill in the gap of existing studies on the correlation between work-life balance and mental health problems. It is noteworthy to stress that social connectedness can play a role in buffering busy working adults from experiencing negative mental health outcomes. Likewise, it is also important to stress that working adults should spend their time in building social connectedness among their social network with the remaining resources for their non-work aspects of life.

Practical Implications

This study has implications for several stakeholders involved. From the study, we see the importance of work-life balance and social connections on the impact of mental health on the employees. Thus, this finding can help to increase the awareness of government ministers to play

a part by inducing policies that are more work-life friendly to be implemented in both public and private organizations in order to protect the psychological health of working adults. This is especially crucial as specific policies and acts regarding work-life balance found under the Malaysian Ministry of Human Resource at the moment were equal to none (Jayasingam et al., 2021). In addition, the implications of the current study are aligned to Malaysia's visions for National Transformation 2050 (TN50) which incorporates better well-being among citizens and more flexibility in organizations. Therefore, these could act as a strong basis for government to encourage organizations to implement work-life policies in concern of Malaysian's well-being.

Initiatives from government alone will be ineffective if no other parties involved were to heed it. Thus, this study also has several implications for human resource management (HRM). HRM can consider implementing policies which aid in enhancing relationships not only within the workplace but outside of work as well, encouraging work-life balance in return. As Boss et al. (2015) mentioned, longer working hours does not drive higher productivity level, instead, it leads to the loss of precious time spent with family and friends. Regardless, policies that can contribute to work-life balance include flexible working arrangements, paid childcare, at least 25 days of paid leave and 35 to 40-hours of work per week. All these are said to enable employees to have more time to foster their social relationships during non-work hours (Holt-Lunstadt, 2018). In addition, due to the recent pandemic, many companies in Malaysia have come to accept and adapt into the new work-from home arrangements, particularly those who belong in the higher income or higher skills set group (Pfordten, 2020). Thus, work from home arrangements or flexible working arrangements are encouraged to be remained until and after Covid-19 pandemic has subsided. In support of this, studies have shown its effectiveness in

promoting work-life balance among employees (Ambikapathy & Ali, 2020; Putri & Amran, 2021).

Besides, mental health practitioners are also involved in the implications of current study. From the results, social connectedness seemed to be a protective factor against mental health problems. Hence, as an intervention, mental health practitioners such as counsellors or employee assistant program (EAP) providers might want to consider identifying the social circle of working adults who are facing psychological health problems and attempt to engage them into the treatment plan. In addition, they can consider incorporating activities that facilitates social connectedness into their additional services or into part of their EAP programs as a prevention against negative mental health consequences due to work-life imbalance among working adults.

Limitations of Study

Current research is not without limitations. Firstly, our study is unable to generalize to the working population across Malaysia. This is due to the disproportionate ratio of respondents between females and males as well as over-representation of respondents from Perak and Selangor states. The online distribution of survey could have also resulted in a left out of a particular group of working adults due to the Covid-19 lockdown in which, pen and pencil survey could not be conducted for them. In addition, this study might have underrepresented a group of people who may not have known English and thus, was unable to participate in this study since Malaysia is a multilanguage country with Malay as its national language. Apart from this, as the findings for the current study were extracted from a cross-sectional design, the potentiality in making causal inferences were also limited.

Next, the terms used under non-work domain inclination in the questionnaire such as leisure activities, hobbies alone and personal care are vague and may have overlapped with each other. This reduces the accuracy of our findings and restricts us from accurately identifying the types of activities that had helped in facilitating the respondents' social connectedness. In addition, although social connectedness was reported to be high due to the inclination to spend time with families and friends, leisure activities was also seen to be high, but the activities considered as leisure was unable to be further analyzed.

Thirdly, although the emphasis of study was placed on the social connections formed during non-work hours, the social connectedness scale used was only capable of measuring the extent of their sense of belongingness within their general social circles, with no distinctions between the domains. Thus, social connectedness formed in workplace could be a potential confounding variable affecting the current study.

Lastly, the presence of bias results due to self-report questionnaires. Although current study had kept the anonymity of respondents, they might still be susceptible to social desirability bias due to inclusion of items related to mental health problems which are considered sensitive. Respondents may have the tendency to provide lower ratings than initial intention as stigmatizations of mental health is still a prominent issue in Malaysia.

Recommendations

Many studies up to date have used cross-sectional design. Future implementation of longitudinal research for current study would be of value and also enables the researchers to make causal inferences since changes which occurred over a duration of time can be observed for the same sample (Caruana et al., 2015). Moreover, researchers are suggested to target a

specific group of working adults in Malaysia who are harder to reach and often overlooked by other researchers such as factory workers and laborers, which might yield interesting new findings. It is also proposed that Malay-version questionnaires to be used instead of English-version in the future.

Next, future studies can consider investigating the effects of a specific leisure activity that can facilitate social connectedness and protect mental health. For instance, according to a study by Smith et al. (2017), physical activities carried out during leisure time was found to be positively correlated with social support from friends and families. This perhaps can enable them to gain more valuable insight. Apart from this, future researchers may yield intriguing results by comparing the formation of social connectedness in different context such as workplace and those outside of workplace onto an individual's mental health.

Lastly, to overcome social desirability bias, a suggested method by Larson (2018) is by stressing on respondents' anonymity and confidentiality at the very beginning before the respondents give their consent, that it will not be breached throughout the study. Researchers can maintain anonymity by excluding the section for respondents to fill in their names or signatures in the questionnaire. For this study, it would be more relevant to avoid a direct approach towards the respondents (e.g. private message) on social media. This is because people are more likely to answer the questionnaire honestly when they realize that their identities are not known by others.

Conclusion

This study had not only examined the impacts of work-life balance and social connectedness on level of mental health problems but had also examined the mediating role of social connectedness among working adults. Findings from our study reflected that work-life

balance and social connectedness were significant predictors of mental health problems. Social connectedness was also found to mediate the relationships between work-life balance and mental health problems which is in line with the proposed hypothesis. As past studies have yet to explore the linkage between work-life balance and social connectedness, our study provided a new insight into social connectedness as a mediator, contributing to the wide-existing literature. In addition, through these findings, government, HRM and mental health professionals are made to be more aware of the importance of social connections in formulating their policies or treatment plans to improve working adults' well-being.

Future researchers are encouraged to explore not only in a new direction but also to examine the connections between the variables among Malaysians as results from current studies showed good work-life balance which differs from previous studies. It is also recommended that future studies investigate the specific leisure activities that can promote social connectedness as well as the extent of impacts the different groups of social connections can have on mental health.

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Appendix A

Turnitin Report

Work-life balance, social connectedness, and mental health among working adults in Malaysia

ORIGINALITY REPORT

7%	%	7%	%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	A.K.M. Talukder, Margaret Vickers, Aila Khan. "Supervisor support and work-life balance", Personnel Review, 2018 Publication	<1%
2	Scott M. Pickett, Michele R. Parkhill, Mitchell Kirwan, Kristin M. Aho, David Nguyen. "The Impact of Individual Difference Factors on Men's Competitive Intent Against a Female Confederate Following Social Stress", The Journal of Men's Studies, 2016 Publication	<1%
3	Hamzeh Al Zabadi, Maryam Haj-Yahya, Noor Yaseen, Thair Alhroub. "The role of Coronavirus Disease (COVID-19) pandemic on anxiety and stress among the Palestinian general population: A cross sectional study", Research Square, 2020 Publication	<1%
4	Renjan, Vidhya, Peter M. McEvoy, Alicia K. Handley, and Anthea Fursland. "Stomaching	<1%

uncertainty: Relationships among intolerance of uncertainty, eating disorder pathology, and comorbid emotional symptoms", Journal of Anxiety Disorders, 2016.
Publication

5 Al James. "Work-Life Advantage", Wiley, 2017 <1%
Publication

6 Isidora Vujčić, Teodora Safiye, Bojana Milikić, Emina Popović et al. "Coronavirus Disease 2019 (COVID-19) Epidemic and Mental Health Status in the General Adult Population of Serbia: A Cross-Sectional Study", International Journal of Environmental Research and Public Health, 2021 <1%
Publication

7 Kate Fennessy, Paul Rhodes, Val Wilson, Shahadat Uddin et al. "Systemic Consultation in Intellectual Disability Case Management", Australian and New Zealand Journal of Family Therapy, 2015 <1%
Publication

8 Ai Yue, Jiaqi Gao, Meredith Yang, Lena Swinnen, Alexis Medina, Scott Rozelle. "Caregiver Depression and Early Child Development: A Mixed-Methods Study From Rural China", Frontiers in Psychology, 2018 <1%
Publication

9	Philip Bohle, Michael Quinlan, Maria McNamara, Claudia Pitts, Harold Willaby. "Health and well-being of older workers: comparing their associations with effort–reward imbalance and Pressure, Disorganisation and Regulatory Failure", Work & Stress, 2015 Publication	<1%
10	Kristopher J. Preacher, Ken Kelley. "Effect size measures for mediation models: Quantitative strategies for communicating indirect effects.", Psychological Methods, 2011 Publication	<1%
11	Chelsea L Kracht, Katheryn J Swyden, Ashley E Weedn, Alicia L Salvatore, Robert A Terry, Susan B Sisson. "A Structural Equation Modelling Approach to Understanding Influences of Maternal and Family Characteristics on Feeding Practices in Young Children", Current Developments in Nutrition, 2018 Publication	<1%
12	A.-S.E. Darlington, F.C. Verhulst, A.F. De Winter, J. Ormel, J. Passchier, J.A.M. Hunfeld. "The influence of maternal vulnerability and parenting stress on chronic pain in adolescents in a general population sample: The TRAILS study", European Journal of Pain, 2012 Publication	<1%

13	Abhishek Shukla, Rajeev Srivastava, Derek Eldridge. "Development of short questionnaire to measure an extended set of role expectation conflict, coworker support and work-life balance: The new job stress scale", Cogent Business & Management, 2016 Publication	<1%
14	Homayoun Pasha Safavi, Osman M. Karatepe. "High-performance work practices and hotel employee outcomes", International Journal of Contemporary Hospitality Management, 2018 Publication	<1%
15	KRISTIN D. NEFF. "The Development and Validation of a Scale to Measure Self-Compassion", Self and Identity, 2003 Publication	<1%
16	Yifan Zuo, Mu Zhang, Yudan Ma, Xiaoyuan Wu, Zhanbing Ren. "How the sharing physical activity experience on social network sites(SNS) improves residents' social connectedness during isolation: the multiple mediating effects of positive self-presentation and positive feedback", Research Square, 2020 Publication	<1%
17	M. Virtanen, J. E. Ferrie, A. Singh-Manoux, M. J. Shipley, S. A. Stansfeld, M. G. Marmot, K. Ahola, J. Vahtera, M. Kivimäki. "Long working	<1%

hours and symptoms of anxiety and depression: a 5-year follow-up of the Whitehall II study", Psychological Medicine, 2011
Publication

18 Orta, Olivia R., Bizu Gelaye, Chungfang Qiu, Lee Stoner, and Michelle A. Williams. "Depression, anxiety and stress among pregnant migraineurs in a pacific-northwest cohort", Journal of Affective Disorders, 2015. <1%
Publication

19 Christine J Yeh, Mayuko Inose. "International students' reported English fluency, social support satisfaction, and social connectedness as predictors of acculturative stress", Counselling Psychology Quarterly, 2003 <1%
Publication

20 Claire Sophie Zerwas. "Chapter 4 Expert Study: Factors Influencing Women Entrepreneurs' Work-Life Balance", Springer Science and Business Media LLC, 2019 <1%
Publication

21 Julia Caroline Porter Miller, Robert A. Carels. "Influence of Weight Bias and Associated Factors on Perceptions of Plus Size Models", Research Square, 2021 <1%
Publication

22 Milica Lazić, Veljko Jovanović, Vesna Gavrilov-

	Jerković. "The general self-efficacy scale: New evidence of structural validity, measurement invariance, and predictive properties in relationship to subjective well-being in Serbian samples", Current Psychology, 2018 Publication	<1%
23	Journal of Organizational Change Management, Volume 27, Issue 4 (2014-09-16) Publication	<1%
24	Li-Jane Chen, Shi-Kai Chung. "LONELINESS, SOCIAL CONNECTEDNESS, AND FAMILY INCOME AMONG UNDERGRADUATE FEMALES AND MALES IN TAIWAN", Social Behavior and Personality: an international journal, 2007 Publication	<1%
25	Catherine Kilfedder, Paul Litchfield. "Wellbeing as a Business Priority", Wiley, 2014 Publication	<1%
26	Mina Poorrezaeian, Fereydoun Siassi, Alireza Milajerdi, Mostafa Qorbani et al. "Depression is related to dietary diversity score in women: a cross-sectional study from a developing country", Annals of General Psychiatry, 2017 Publication	<1%
27	Cohen, R.A.. "Early Life Stress and Morphometry of the Adult Anterior Cingulate	<1%

Cortex and Caudate Nuclei", Biological Psychiatry, 20060515
Publication

28 Crystal L. Park, Lucy Finkelstein-Fox, Shane J. Sacco, Tosca D. Braun, Sara Lazar. "How does yoga reduce stress? A clinical trial testing psychological mechanisms", Stress and Health, 2020 <1%
Publication

29 Mohammad Farris Iman Leong Bin Abdullah, Hazwani Ahmad Yusof, Noorsuzana Mohd Shariff, Rohayu Hami et al. "Depression and anxiety in the Malaysian urban population and their association with demographic characteristics, quality of life, and the emergence of the COVID-19 pandemic", Research Square, 2020 <1%
Publication

30 Werner Vogel, Henry Kalb. "Large-Scale Solar Thermal Power", Wiley, 2010 <1%
Publication

31 Baljinder Kaur Sahdra, Phillip R. Shaver, Kirk Warren Brown. "A Scale to Measure Nonattachment: A Buddhist Complement to Western Research on Attachment and Adaptive Functioning", Journal of Personality Assessment, 2010 <1%
Publication

32	Fiona D'Souza, Sarah J. Egan, Clare S. Rees. "The Relationship Between Perfectionism, Stress and Burnout in Clinical Psychologists", Behaviour Change, 2012 Publication	<1%
33	Hannah Kuper, Tereza Maciel Lyra, Maria Elisabeth Lopes Moreira, Maria do Socorro Veloso de Albuquerque et al. "Social and economic impacts of congenital Zika syndrome in Brazil: Study protocol and rationale for a mixed-methods study", Wellcome Open Research, 2018 Publication	<1%
34	Leanne Lester, Jacinth Watson, Stacey Waters, Donna Cross. "The Association of Fly-in Fly-out Employment, Family Connectedness, Parental Presence and Adolescent Wellbeing", Journal of Child and Family Studies, 2016 Publication	<1%
35	Susan P. Selby, Annette Braunack-Mayer, Nicole Moulding, Alison Jones, Sheila Clark, Justin Beilby. "Resilience in re-entering missionaries: why do some do well?", Mental Health, Religion & Culture, 2009 Publication	<1%
36	Yoonhee Kyung, Paula Yanes-Lukin, John E. Roberts. "Specificity and detail in	<1%

	autobiographical memory: Same or different constructs?", Memory, 2015 Publication	
37	Andrea Phillipou, Denny Meyer, Erica Neill, Eric J. Tan, Wei Lin Toh, Tamsyn E. Van Rheenen, Susan L. Rossell. " Eating and exercise behaviors in eating disorders and the general population during the -19 pandemic in Australia: Initial results from the project ", International Journal of Eating Disorders, 2020 Publication	<1%
38	NOOR AL-HUDA ABDUL KARIM, EUAN FLEMING. "FACTORS AFFECTING FOREIGN DIRECT INVESTMENT IN MALAYSIA'S MANUFACTURING SECTOR: AN ANALYSIS ACROSS STATES", The Singapore Economic Review, 2013 Publication	<1%
39	Norhayati Mohd Zain, Nur Anis Izzati Che Mut. "The perceptions on the recent COVID-19 pandemic: a study on health-care students in Malaysia", Asian Education and Development Studies, 2020 Publication	<1%

Exclude quotes	Off	Exclude matches	Off

Appendix B

Questionnaire

Work-life Balance, Social Connectedness and Mental Health among Working Adults in Malaysia

Start of Block: Default Question Block

Q1 Consent Form for Research Participation and Personal Data Protection

Title of Project: Work-life Balance, Social Connectedness and Mental Health among Working Adults in Malaysia

NOTE: This consent form will remain with the UTAR researchers for their records.

Page Break

Q2 I understand I have been asked to take part in the research project specified above. I have had the project explained to me, and I have read the Explanatory Statement, which I keep for my records.

I understand that:

	Yes (1)	No (2)
I will be asked to complete a questionnaire about my work-life balance, social connectedness and level of mental health. (1)	○	○
My participation is voluntary, that I can choose not to participate in part or all of the project, and that I can withdraw at any stage of the project without being penalized or disadvantaged in any way. (2)	○	○
I may ask at any time for my data to be withdrawn from the project. (3)	○	○
No information I have provided that could lead to the identification of any other individual will be disclosed in any reports on the project, or to any other party. (4)	○	○
I will remain anonymous at all times in any reports or publications from the project. (5)	○	○
It is my sole responsibility to look after my own safety for the above project. In the event of any misfortune or accidental injury involving me, whether or not due solely to personal negligence or otherwise, I hereby declare that UTAR shall not be held responsible. (6)	○	○

Page Break

Q3 By submitting this form, I hereby authorize and consent to UTAR processing (including disclosing) my personal data and any updates of my information, for the purposes and/or for any other purposes related to the purpose.

I acknowledge that if I do not consent or subsequently withdraw my consent to the processing and disclosure of my personal data, UTAR will not be able to fulfil their obligations or to contact me or to assist me in respect of the purposes and/or for any other purposes related to the purpose.

Please feel free to contact Tan Sin Yuan via xhann0919@1utar.com if you have any inquires.

Q5 Acknowledgment of Personal Data Protection Notice

- ○ I have been notified by you and that I hereby understood, consented and agreed per UTAR above notice. (1)
- ○ I do not consent, my personal data will not be processed. (2)

Q22 Date (e.g. 18/1/21)

_____

Page Break

Q8 Demographic Profile

Age:

_____

Q10 Gender:

- Male (1)
- Female (2)

Q11 Nationality:

- Malaysian (1)
- Non-Malaysian (2)

Q12 Current Living State:

- ○ Johor (1)
- ○ Kedah (2)
- ○ Kelantan (3)
- ○ Melaka (4)
- ○ Negeri Sembilan (5)
- ○ Pahang (6)
- ○ Penang (7)
- ○ Perak (8)
- ○ Perlis (9)
- ○ Sabah (10)
- ○ Sarawak (11)
- ○ Selangor (12)
- ○ Terengganu (13)
- ○ Wilayah Persekutuan (Kuala Lumpur, Putrajaya and Labuan) (14)

Q13 Marital Status:

- ○ Single (1)
- ○ Married without children (2)
- ○ Married with children (3)

Q14 Weekly Working Hours:

- ○ Less or equal to 48 hours (1)
- ○ More than 48 hours (2)

Q15 Non-work domain inclination (You may choose more than one option):

- ☐ Family & family responsibilities (1)
- ☐ Leisure activities (2)
- ☐ Friends (3)
- ☐ Personal care (4)
- ☐ Hobbies alone (5)
- ☐ Community activities (6)
- ☐ Volunteering work (7)
- ☐ Others (Please state) (8) _____

Page Break

Q16 Work –life balance measure (Brough et al., 2014)

When I reflect over my work and non-work activities (your regular activities outside of work such as family, friends, sports, study, etc.), over the past three months, I conclude that:

	1 (Strongly Disagree)	2 (Disagree)	3 (Neutral)	4 (Agree)	5 (Strongly agree)
1) I currently have a good balance between the time I spend at work and the time I have available for non-work activities.	○	○	○	○	○
2) I have difficulty balancing my work and non-work activities.	○	○	○	○	○
3) I feel that the balance between my work demands and non-work activities is currently about right.	○	○	○	○	○
4) Overall, I believe that my work and non-work life are balanced.	○	○	○	○	○

Page Break

Q19 Social Connectedness Scale (Lee & Robbins, 1995)

Directions: Following are a number of statements that reflect various ways in which we view ourselves. Rate the degree to which you agree or disagree with each statement using the following

scale (1 = Strongly Disagree and 6 = Strongly Agree). There is no right or wrong answer. Do not spend too much time with any one statement and do not leave any unanswered.

	1 (Strongly Disagree)	2 (Disagree)	3 (Mildly Disagree)	4 (Mildly Agree)	5 (Agree)	6 (Strongly Agree)
1) Even among my friends, there is no sense of brother/sisterhood.	○	○	○	○	○	○
2) I feel disconnected from the world around me.	○	○	○	○	○	○
3) Even around people I know, I don't feel that I really belong.	○	○	○	○	○	○
4) I feel distant from people.	○	○	○	○	○	○
5) I have little sense of togetherness with my peers.	○	○	○	○	○	○
6) I catch myself losing a sense of connectedness with society.	○	○	○	○	○	○
7) I don’t feel related to most people.	○	○	○	○	○	○
8) I don't feel I participate with anyone or any group.	○	○	○	○	○	○

Q18 Depression, Anxiety and Stress Scale – 21 (Lovibond & Lovibond, 1995)

Please read each statement and select a number 0, 1, 2 or 3 on how much the statement applies to you

over the past week. There are no right or wrong answers. Do not spend too much time on any statement.

	0 (Did not apply to me at all)	1 (Applied to me to some degree, or some of the time)	2 (Applied to me to a considerable degree or a good part of time)	3 (Applied to me very much or most of the time)
1) I found it hard to wind down.	○	○	○	○
2) I was aware of dryness of my mouth.	○	○	○	○
3) I couldn't seem to experience any positive feeling at all.	○	○	○	○
4) I experienced breathing difficulty (e.g. excessively rapid breathing, breathlessness in the absence of physical exertion).	○	○	○	○
5) I found it difficult to work up the initiative to do things.	○	○	○	○
6) I tended to over-react to situations.	○	○	○	○
7) I experienced trembling (e.g. in the hands).	○	○	○	○
8) I felt that I was using a lot of nervous energy,	○	○	○	○
9) I was worried about situations in which I might panic and make a fool of myself.	○	○	○	○
10) I felt that I had nothing to look forward to.	○	○	○	○
11) I found myself getting agitated.	○	○	○	○
12) I found it difficult to relax.	○	○	○	○
13) I felt down-hearted and blue.	○	○	○	○

14) I was intolerant of anything that kept me from getting on with what I was doing.	○	○	○	○
15) I felt I was close to panic.	○	○	○	○
16) I was unable to become enthusiastic about anything.	○	○	○	○
17) I felt I wasn't worth much as a person.	○	○	○	○
18) I felt that I was rather touchy.	○	○	○	○
19) I was aware of the action of my heart in the absence of physical exertion (e.g. sense of heart rate increase, heart missing a beat).	○	○	○	○
20) I felt scared without any good reason.	○	○	○	○
21) I felt that life was meaningless.	○	○	○	○

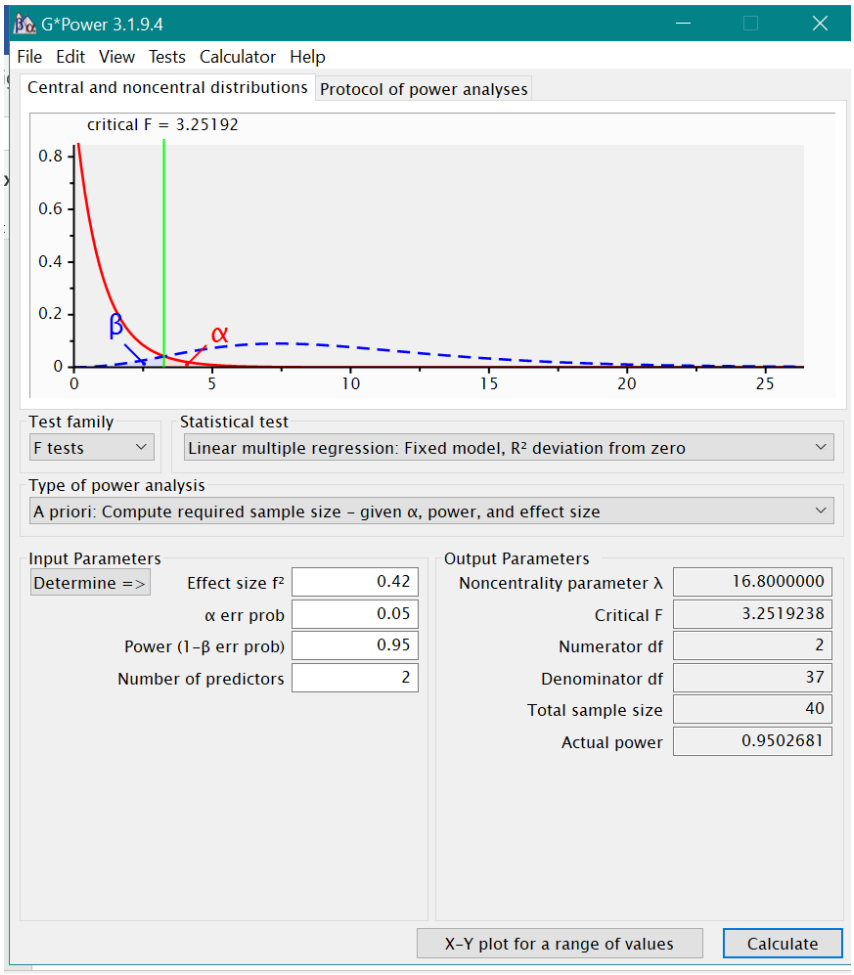
Page Break

Q20 Thank you for your participation!

End of Block: Default Question Block

Appendix C

Calculation of Sample Size by Using G*Power

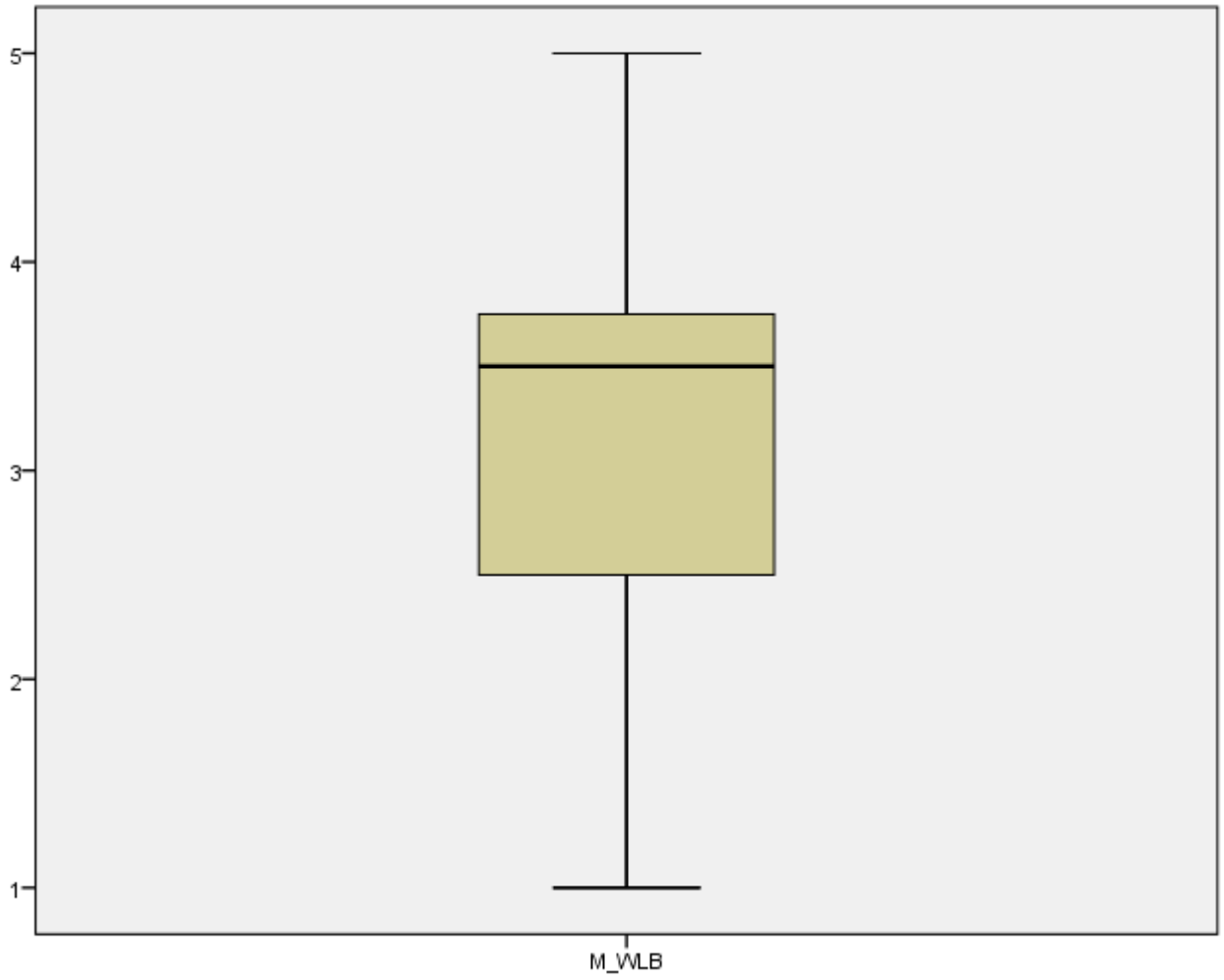


Appendix D

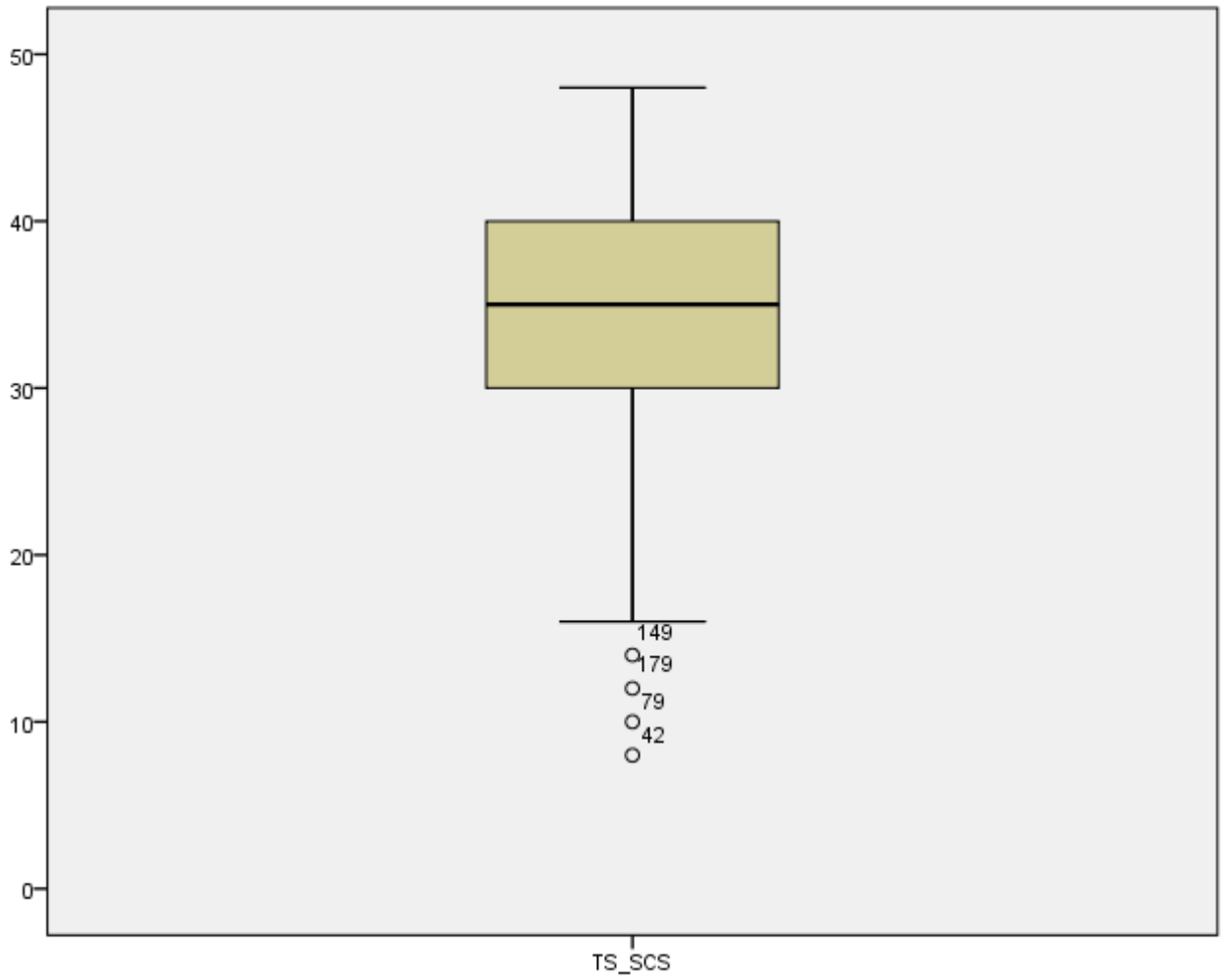
Boxplot for Each Variable

Before Deleted Data

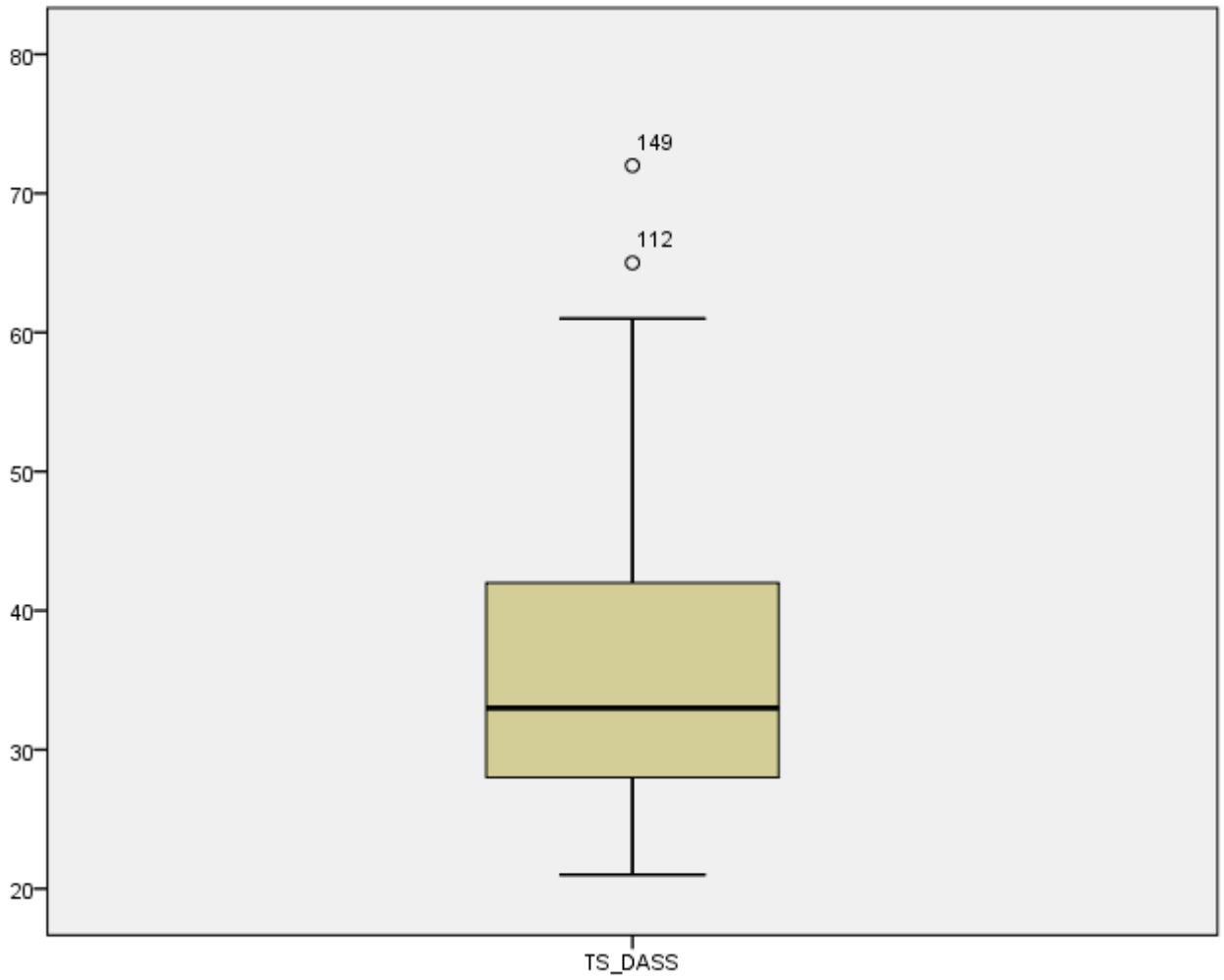
Work Life Balance



Social Connectedness

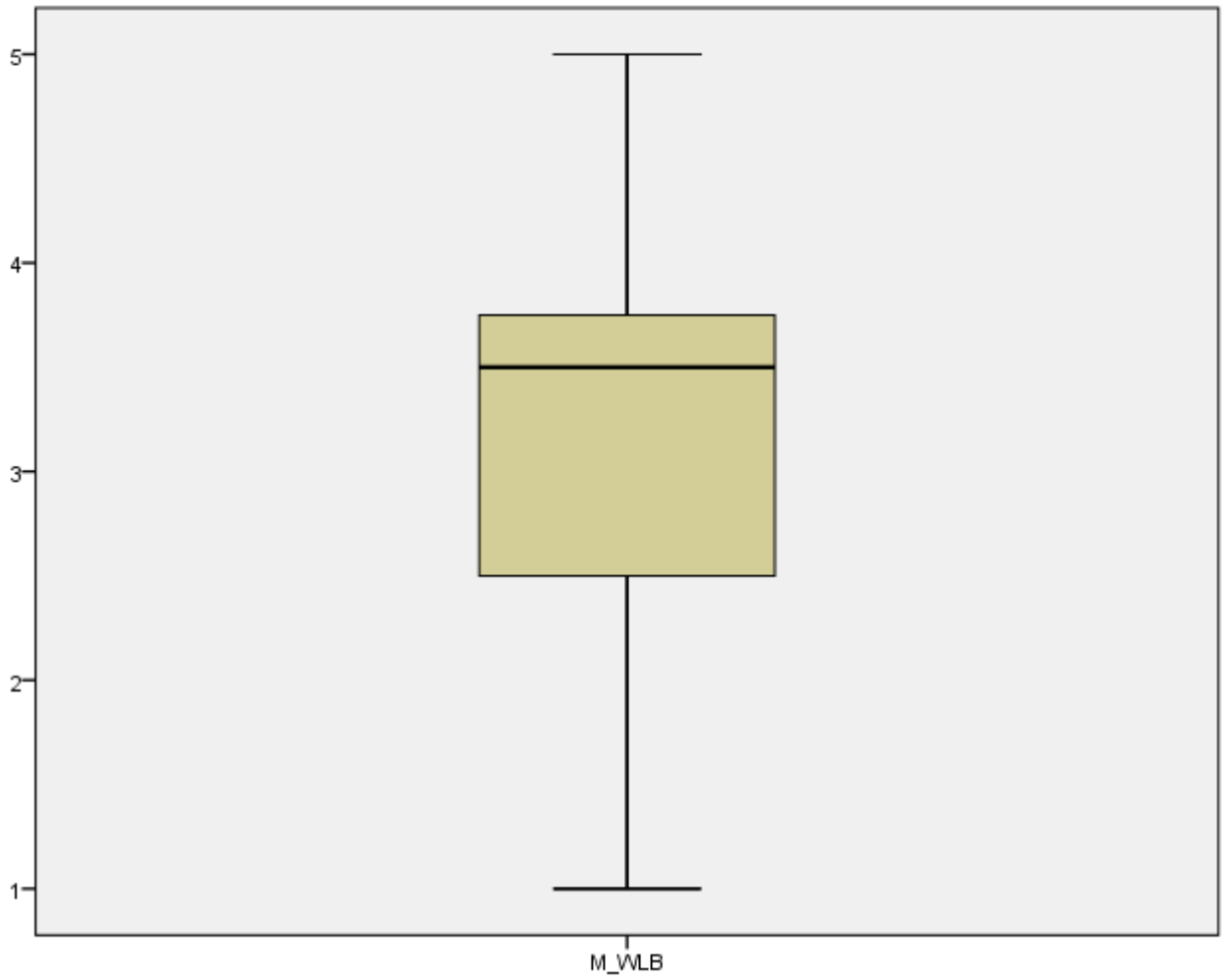


Level of Mental Health Problems

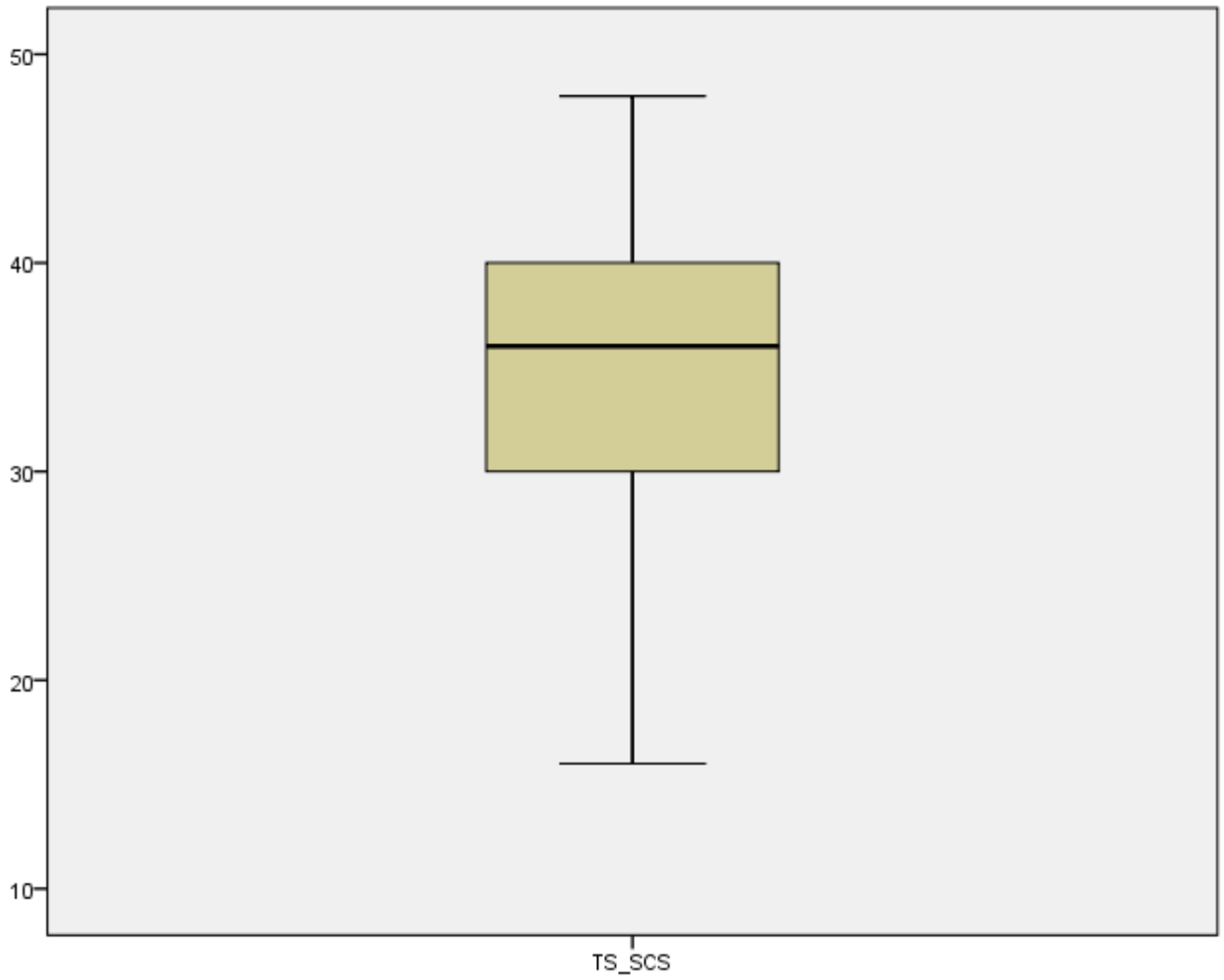


After Deleted Data

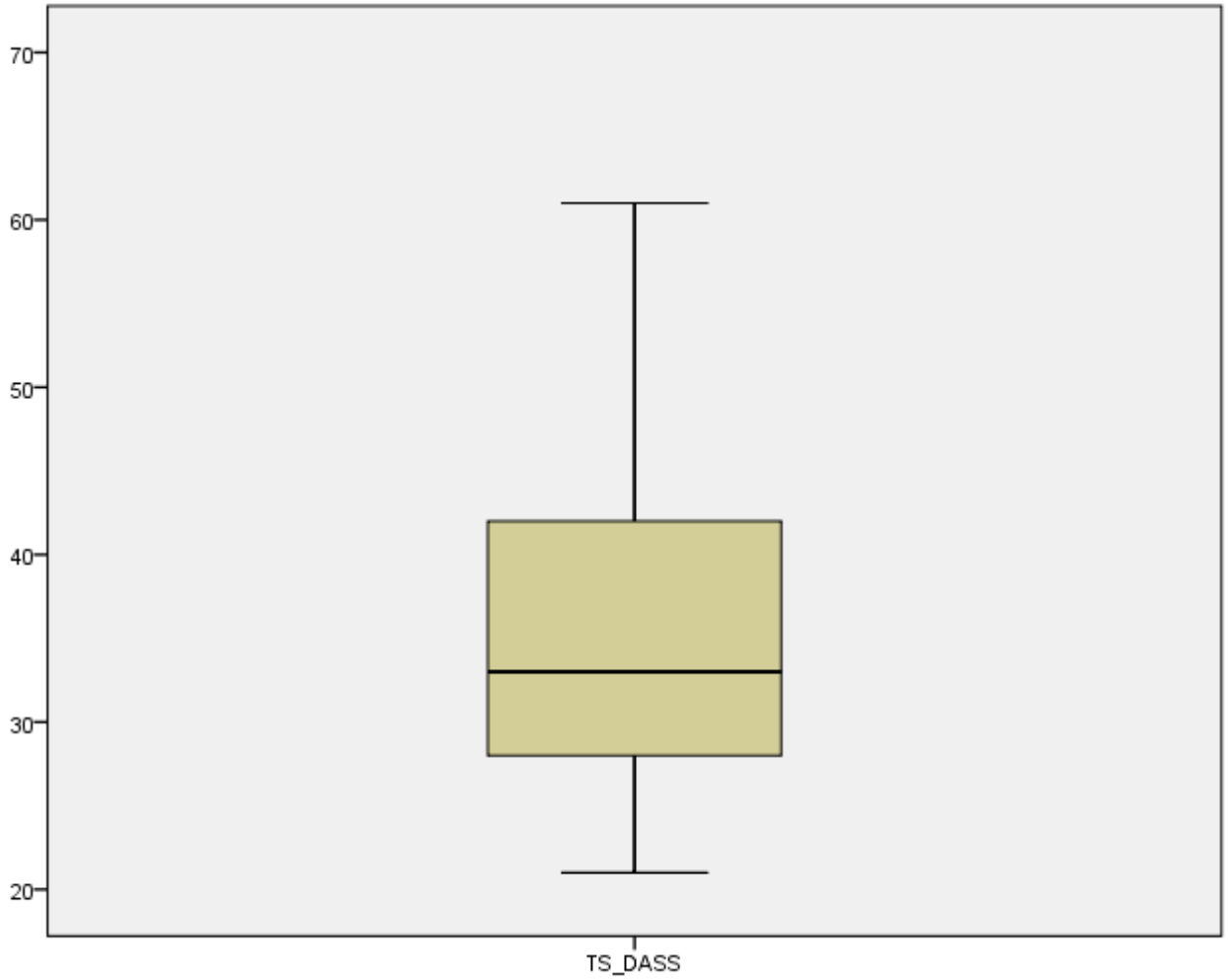
Work Life Balance



Social Connectedness



Level of Mental Health



Appendix E

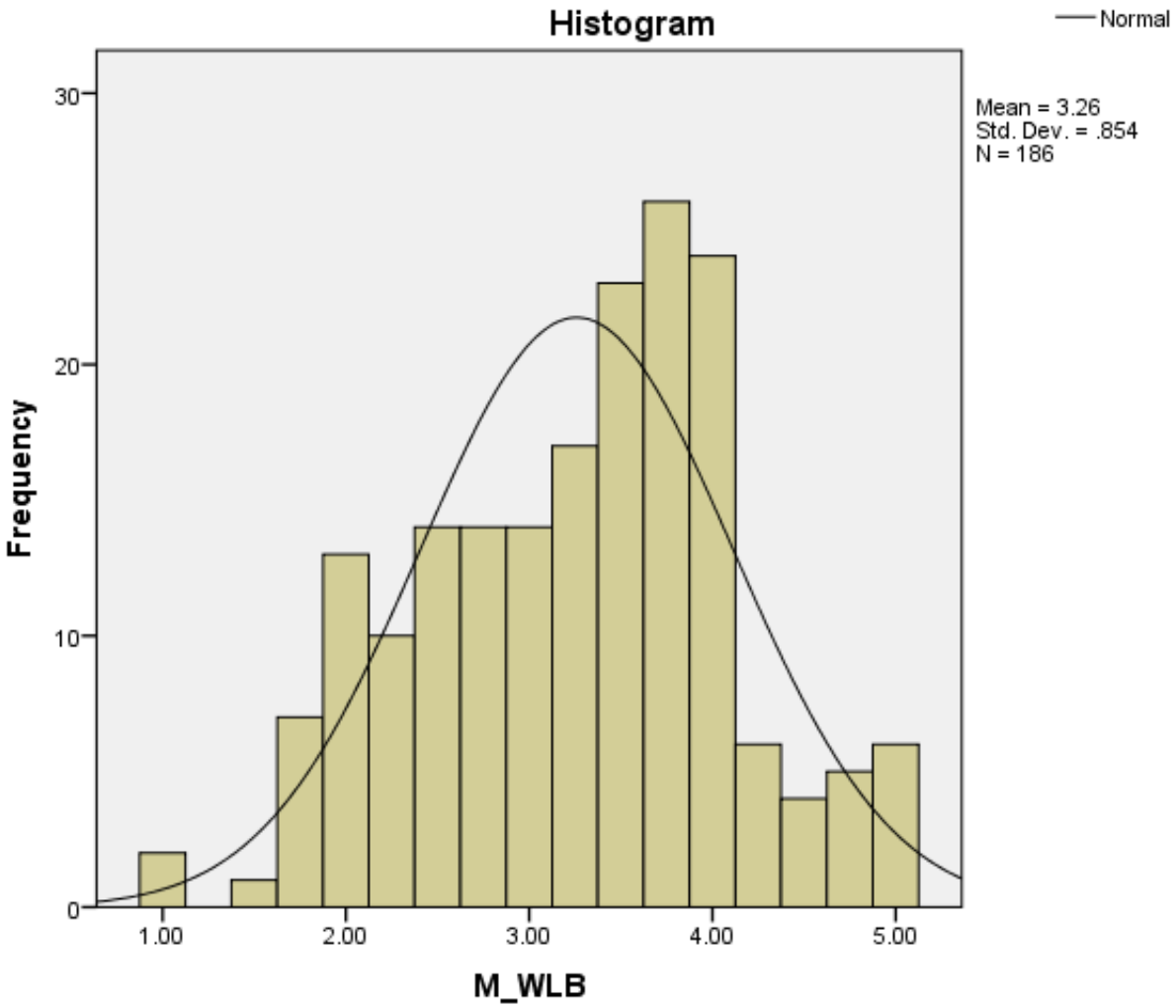
Skewness and Kurtosis

Variables	Skewness	Kurtosis
WLB	-.196	-.414
Social Connectedness	-.317	-.390
Level of Mental Health	.569	-.131

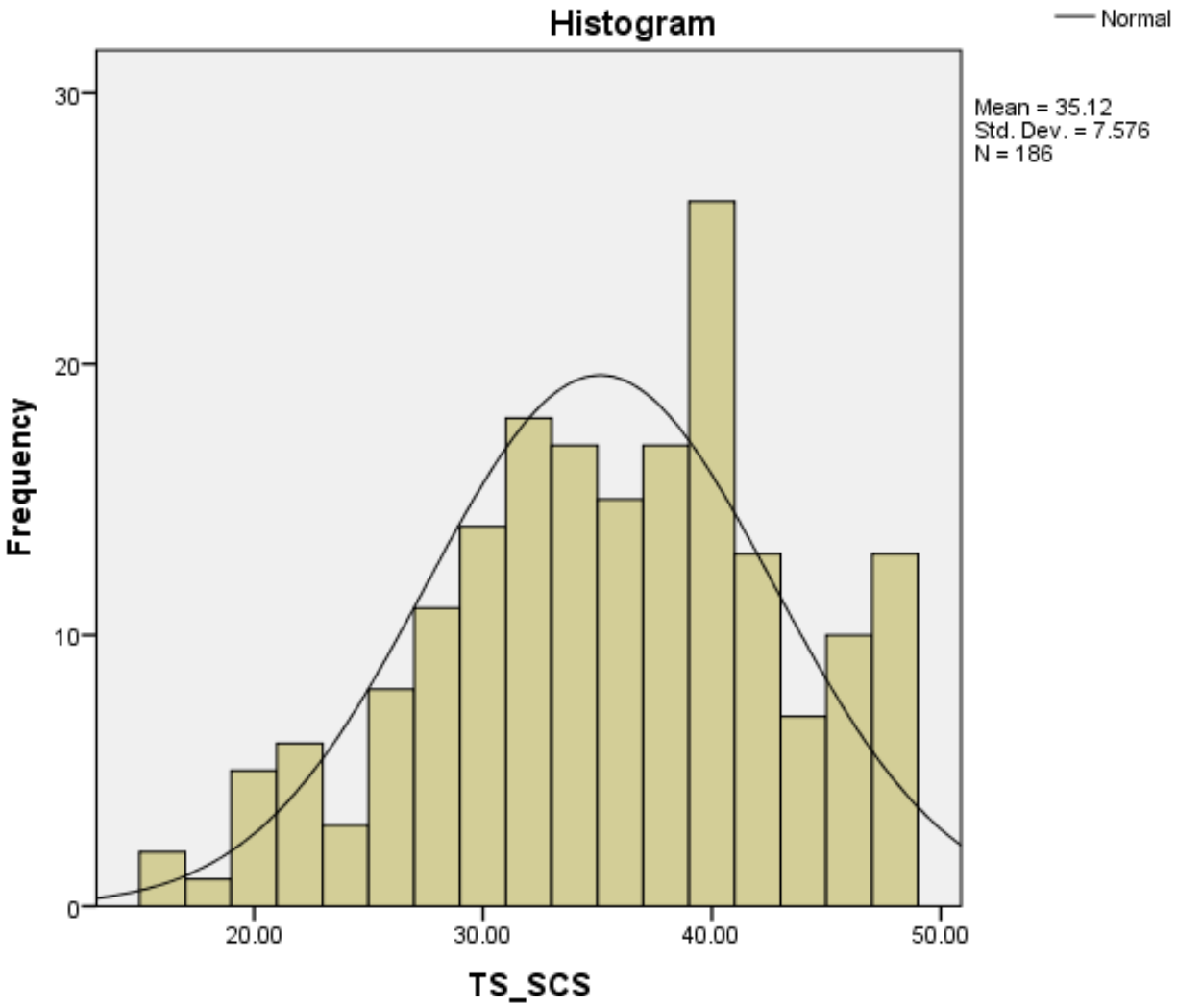
Appendix F

Histogram for Each Variable

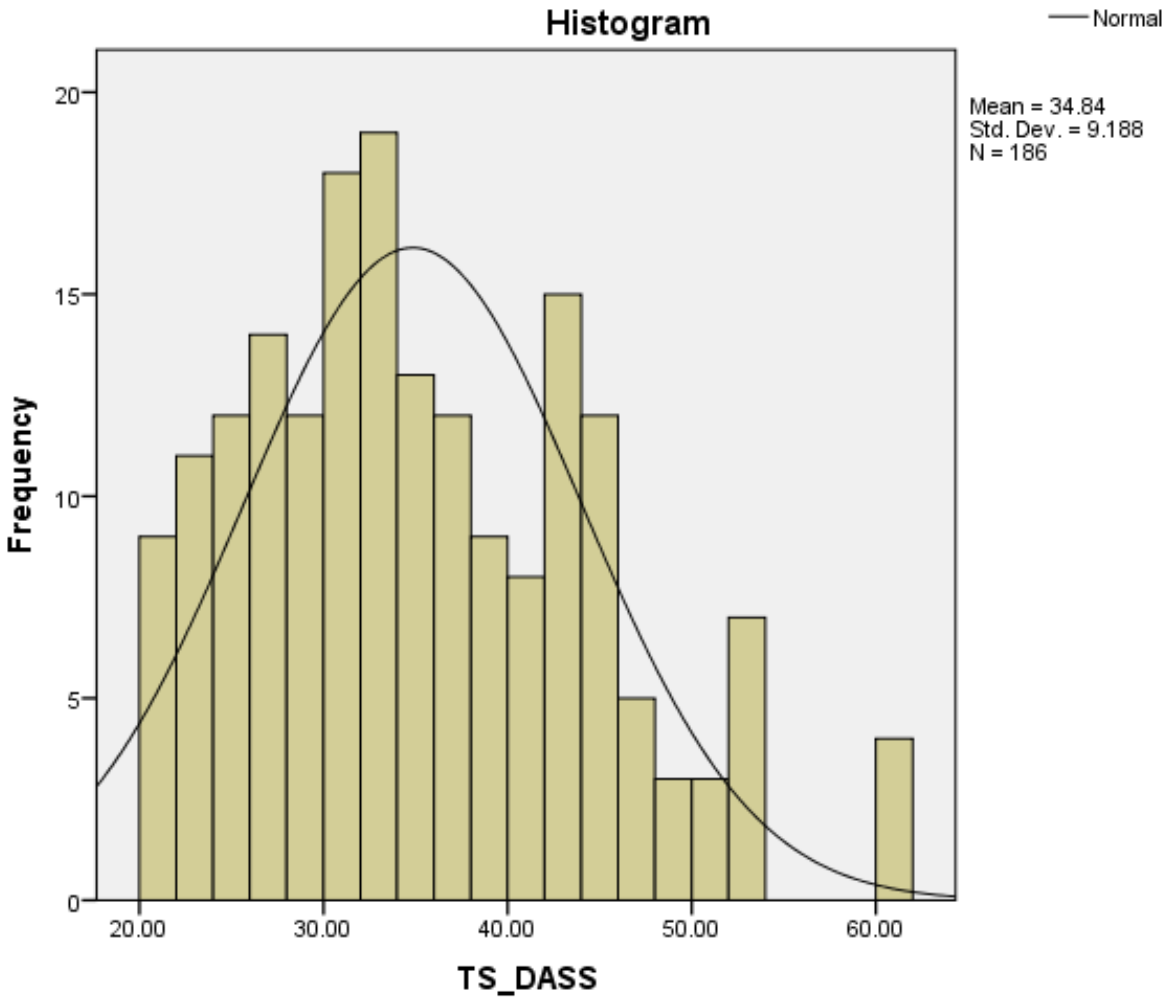
Work Life Balance



Social Connectedness



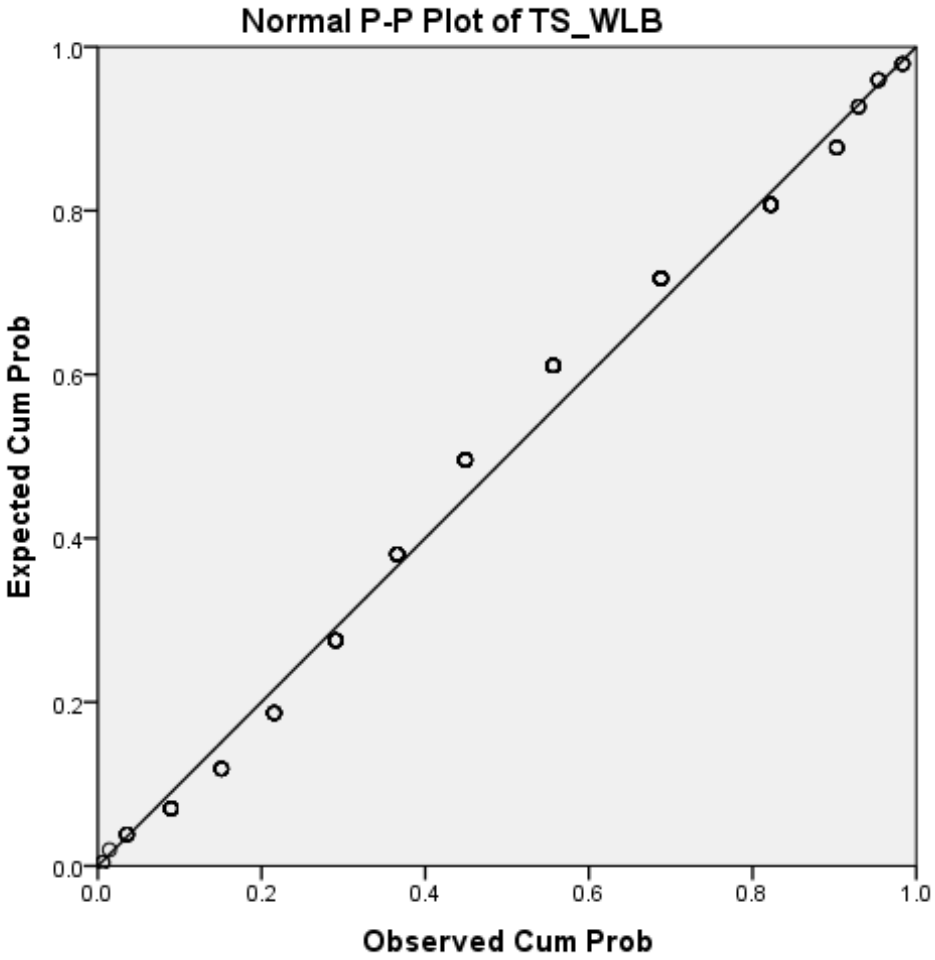
Level of Mental Health Problems


Histogram
Normal
Mean = 34.84
Std. Dev. = 9.188
N = 186
Frequency
0
5
10
15
20
20.00
30.00
40.00
50.00
60.00
TS_DASS

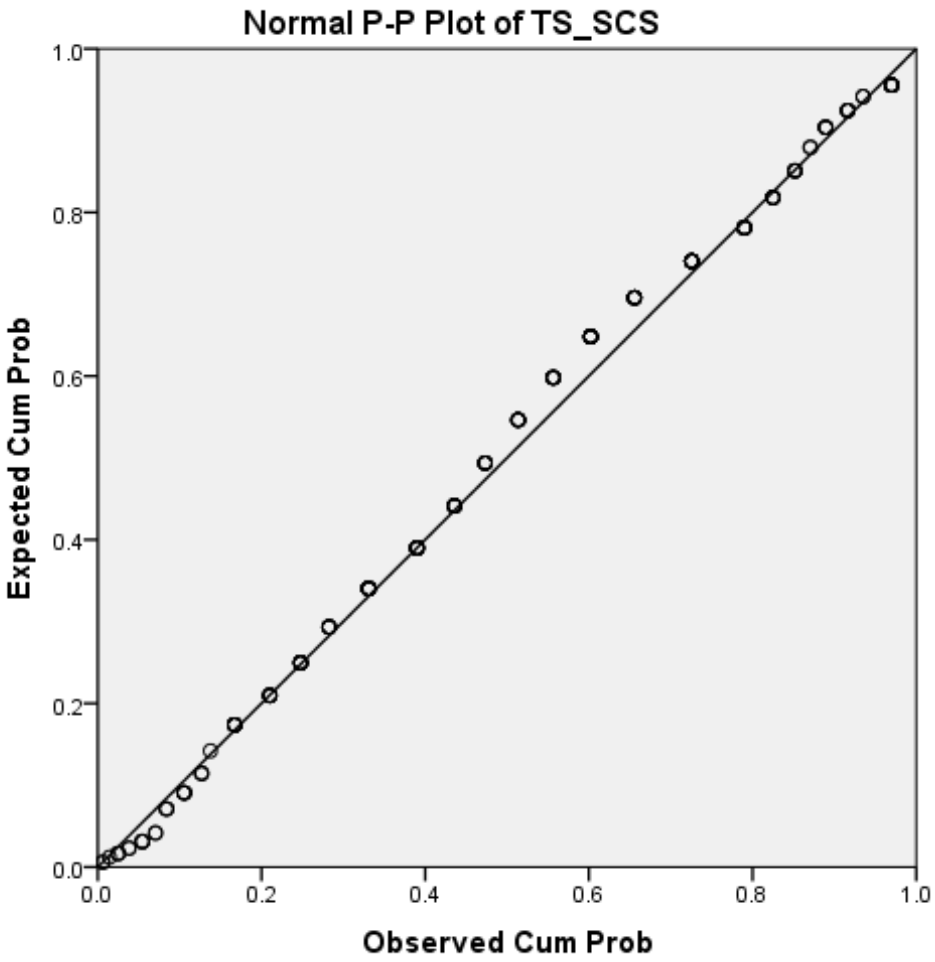
Appendix G

P-P Plot for Each Variable

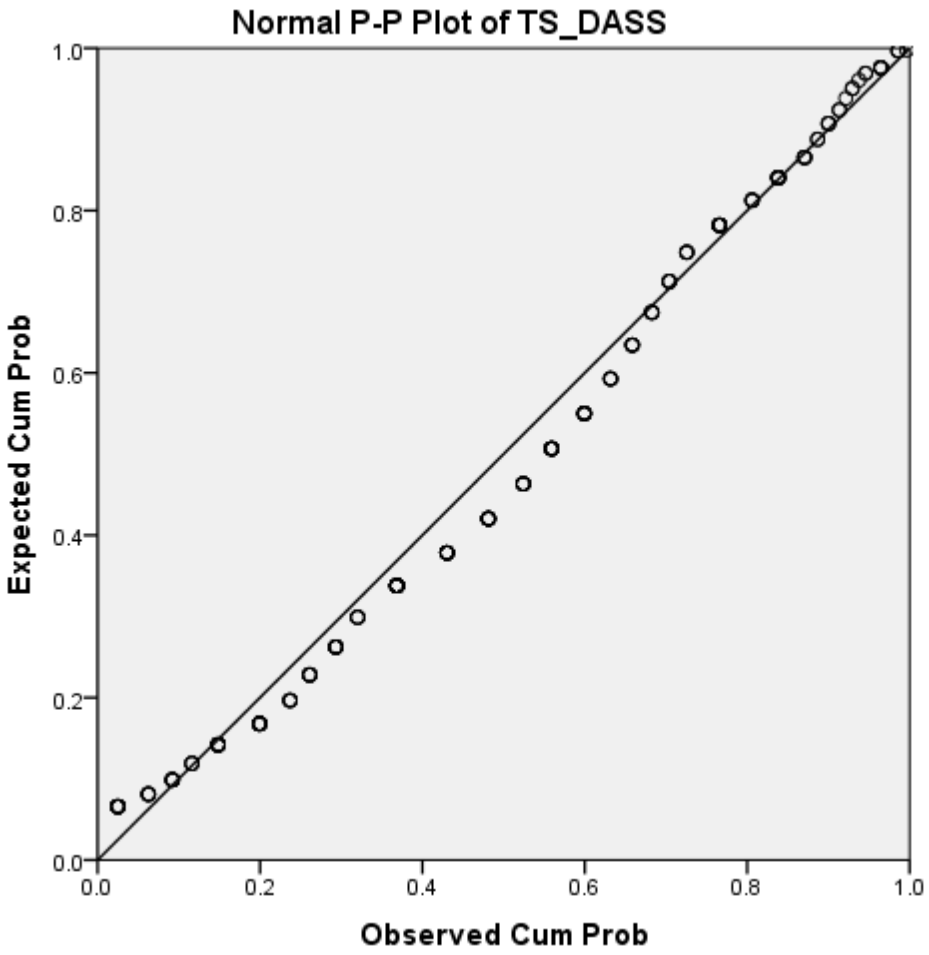
Work Life Balance



Social Connectedness



Level of Mental Health Problems



Appendix H

Kolmogorov-Smirnov (K-S) Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
NTS_DASS	.090	186	.001	.961	186	.000
M_WLB	.116	186	.000	.975	186	.002
M_SCS	.073	186	.018	.977	186	.004

a. Lilliefors Significance Correction

Appendix I

Variance Inflation Factor (VIF) Values and Tolerance Value

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	118.082	6.694		17.641	.000		
	M_WLB	-4.159	1.417	-.193	-2.936	.004	.967	1.034
	M_SCS	-7.936	1.277	-.409	-6.215	.000	.967	1.034

a. Dependent Variable: NTS_DASS

Appendix J

Durbin-Watson Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.483[a]	.233	.225	16.179	1.936

a. Predictors: (Constant), M_SCS, M_WLB

b. Dependent Variable: NTS_DASS

Appendix K

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.483[a]	.233	.225	16.179	1.936

a. Predictors: (Constant), M_SCS, M_WLB

b. Dependent Variable: NTS_DASS

Regression Model

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3641.244	2	1820.622	27.822	.000[b]
	Residual	11975.234	183	65.438		
	Total	15616.478	185			

a. Dependent Variable: TS_DASS

b. Predictors: (Constant), M_WLB, TS_SCS

Regression Coefficient

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	59.041	3.347		17.641	.000		
	TS_SCS	-.496	.080	-.409	-6.215	.000	.967	1.034
	M_WLB	-2.080	.708	-.193	-2.936	.004	.967	1.034

a. Dependent Variable: TS_DASS

Appendix L

Mediation Analysis

```
Run MATRIX procedure:

*************** PROCESS Procedure for SPSS Version 3.5.2 ***************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2018). www.guilford.com/p/hayes3

**************************************************************************
Model  : 4
    Y  : TS_DASS
    X  : TS_WLB
    M  : TS_SCS

Sample
Size:  186

**************************************************************************
OUTCOME VARIABLE:
 TS_SCS

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .1806      .0326    55.8323     6.2018     1.0000
184.0000      .0136

Model
             coeff         se          t          p       LLCI       ULCI
constant   29.8943     2.1681    13.7885      .0000    25.6168    34.1718
TS_WLB       .4007      .1609     2.4903      .0136      .0832      .7181

Standardized coefficients
           coeff
TS_WLB      .1806

Covariance matrix of regression parameter estimates:
           constant     TS_WLB
constant     4.7005     -.3375
TS_WLB       -.3375      .0259

**************************************************************************
OUTCOME VARIABLE:
 TS_DASS

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .4829      .2332    65.4384    27.8219     2.0000
183.0000      .0000

Model
             coeff         se          t          p       LLCI       ULCI
constant   59.0412     3.3469    17.6405      .0000    52.4377    65.6447
TS_WLB       -.5199      .1771    -2.9356      .0038     -.8693     -.1705
```

```
TS_SCS       -.4960      .0798    -6.2147      .0000     -.6535     -.3385

Standardized coefficients
           coeff
TS_WLB     -.1932
TS_SCS     -.4090

Covariance matrix of regression parameter estimates:
          constant     TS_WLB     TS_SCS
constant    11.2018     -.3193     -.1904
TS_WLB       -.3193      .0314     -.0026
TS_SCS       -.1904     -.0026      .0064

Test(s) of X by M interaction:
          F        df1        df2          p
      .1479     1.0000   182.0000      .7010

************************ TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:
 TS_DASS

Model Summary
          R       R-sq        MSE          F        df1        df2
p
      .2671      .0713    78.8188    14.1314     1.0000
184.0000      .0002

Model
             coeff         se          t          p       LLCI       ULCI
constant    44.2134     2.5760    17.1636      .0000    39.1311    49.2957
TS_WLB       -.7186      .1912    -3.7592      .0002    -1.0958     -.3415

Standardized coefficients
           coeff
TS_WLB     -.2671

Covariance matrix of regression parameter estimates:
          constant     TS_WLB
constant     6.6357     -.4765
TS_WLB       -.4765      .0365

************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************

Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI
c_ps       c_cs
     -.7186      .1912    -3.7592      .0002    -1.0958     -.3415
-.0782     -.2671

Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI
c'_ps      c'_cs
     -.5199      .1771    -2.9356      .0038     -.8693     -.1705
-.0566     -.1932

Indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
TS_SCS     -.1987      .1034     -.4252     -.0213

Partially standardized indirect effect(s) of X on Y:
          Effect     BootSE   BootLLCI   BootULCI
```

```
TS_SCS     -.0216      .0112     -.0463     -.0024

Completely standardized indirect effect(s) of X on Y:
           Effect     BootSE   BootLLCI   BootULCI
TS_SCS     -.0739      .0373     -.1537     -.0082

************************ ANALYSIS NOTES AND ERRORS ************************

Level of confidence for all confidence intervals in output:
  95.0000

Number of bootstrap samples for percentile bootstrap confidence intervals:
  5000

------ END MATRIX -----
```

UNIVERSITI TUNKU ABDUL RAHMAN
FACULTY OF ARTS AND SOCIAL SCIENCE
DEPARTMENT OF PSYCHOLOGY AND COUNSELLING

UAPZ 3023 Final Year Project II

Quantitative Research Project Evaluation Form

TURNITIN: ***'In assessing this work you are agreeing that it has been submitted to the University-recognised originality checking service which is Turnitin. The report generated by Turnitin is used as evidence to show that the students' final report contains the similarity level below 20%.'***

Project Title: Work-Life Balance, Social Connectedness and Mental Health among Working Adult in Malaysia	
Supervisor: Dr Chuang Huei Gau	
Student's Name: 1. Esther Ling 2. Ngoo Ee Ling 3. Tan Sin Yuan	Student's ID 1. 17AAB04361 2. 18AAB03039 3. 18AAB04217

INSTRUCTIONS:
Please score each descriptor based on the scale provided below:

1. Please award 0 mark for no attempt.

2. For criteria **7**:
Please retrieve the marks from "**Oral Presentation Evaluation Form**".

1. ABSTRACT (5%)	**Max Score**	**Score**
a. State the main hypotheses/research objectives.	5%	
b. Describe the methodology: • Research design • Sampling method • Sample size • Location of study • Instruments/apparatus/outcome measures • Data gathering procedures	5%	
c. Describe the characteristics of participants.	5%	
d. Highlight the outcomes of the study.	5%	
e. Conclusions, implications, and applications.	5%	
Sum	25%	/25%
Subtotal (Sum/5)	5%	/5%
Remark:		

2. METHODOLOGY (25%)	**Max Score**	**Score**
a. Research design/framework: • For experiment, report experimental manipulation, participant flow, treatment fidelity, baseline data, adverse events and side effects, assignment method and implementation, masking. (*if applicable with the study design) • For non-experiment, describe the design of the study and data used.	5%	
b. Sampling procedures: • Justification of sampling method/technique used. • Description of location of study. • Procedures of ethical clearance approval. (Provide reference number of approval letter)	5%	
c. Sample size, power, and precision: • Justification of sample size. • Achieved actual sample size and response rate. • Power analysis or other methods (if applicable).	5%	
d. Clear explanation of data collection procedures: • Inclusion and exclusion criteria • Procedures of obtaining consent • Description of data collection procedures • Provide dates/duration of recruitment repeated measures or follow-up. • Agreement and payment (if any)	5%	
e. Explanation of instruments/questionnaire used: • Description of instruments • Scoring system • Meaning of scores	5%	

• Reliability and validity		
Subtotal	25%	/25%
Remark:		
3. RESULTS (20%)	**Max Score**	**Score**
a. Descriptive statistics: • Demographic characteristics • Topic-specific characteristics	5%	
b. Data diagnostic and missing data: • Frequency and percentages of missing data. (if applicable) • Methods employed for addressing missing data. (if applicable) • Criteria for post data-collection exclusion of participants. • Criteria for imputation of missing data. • Defining and processing of statistical outliers. • Analyses of data distributions. • Data transformation (if applicable).	5%	
c. Appropriate data analysis for each hypothesis or research objective.	5%	
d. Accurate interpretation of statistical analyses: • Accurate report and interpretation of confidence intervals or statistical significance. • Report of *p* values and minimally sufficient sets of statistics (e.g., *dfs*, *MS*, *MS error*). • Accurate report and interpretation of effect sizes. • Report any problems with statistical assumptions.	5%	
Subtotal	20%	/20%
Remark:		
4. DISCUSSION AND CONCLUSION (20%)	**Max Score**	**Score**
a. Constructive discussion of findings: • Provide statement of support or nonsupport for all hypotheses. • Analyze similar and/or dissimilar results. • Rational justifications for statistical results.	8%	
b. Implication of the study: • Theoretical implication for future research. • Practical implication for programs and policies.	4%	
c. Relevant limitations of the study.	4%	

d. Recommendations for future research.	4%	
Subtotal	20%	/20%
Remark:		

5. LANGUAGE AND ORGANIZATION (5%)	**Max Score**	**Score**
a. Language proficiency	3%	
b. Content organization	1%	
c. Complete documentation (e.g., action plan, originality report)	1%	
Subtotal	5%	/5%
Remark:		

6. APA STYLE AND REFERENCING (5%)	**Max Score**	**Score**
a. 7th Edition APA Style	5%	/5%
Remark:		

***ORAL PRESENTATION (20%)**	**Score**		
	Student 1	Student 2	Student 3
Subtotal	/20%	/20%	/20%
Remark:			

PENALTY	**Max Score**	**Score**
Maximum of 10 marks for LATE SUBMISSION (within 24hours), or POOR CONSULTATION ATTENDANCE with supervisor. *Late submission after 24hours will not be graded	10%	

	Student 1	Student 2	Student 3
****FINAL MARK/TOTAL**	/100%	/100%	/100%

*****Overall Comments:**

Signature: _____ Date: _____

Notes:

1. **Subtotal**: The sum of scores for each assessment criterion
2. **FINAL MARK/TOTAL**: The summation of all subtotal score
3. Plagiarism is **NOT ACCEPTABLE**. Parameters of originality required and limits approved by UTAR are as follows:
   (i) **Overall similarity index is 20% or below**, and
   (ii) **Matching of individual sources listed must be less than 3%** each, and
   (iii) Matching texts in continuous block must **not exceed 8 words**

   Note: Parameters (i) – (ii) shall exclude quotes, references and text matches which are less than 8 words.

   Any works violate the above originality requirements will NOT be accepted. Students have to redo the report and meet the requirements in **SEVEN (7)** days.

*The marks of "Oral Presentation" are to be retrieved from **"Oral Presentation Evaluation Form".**
**IWot is compulsory for the supervisor/examiner to give the overall comments for the research projects with A- and above or F grading.

Action Plan of UAPZ 3023 (group-based)Final Year Project II for Jan & May trimester

Supervisee's Name: Esther Ling, Ngoo Ee Ling, Tan Sin Yuan

Supervisor's Name: Dr Chuang Huei Gau

Task Description	Duration	Date/Time	Supervisee's Signature	Supervisor's Signature	Supervisor's Remarks	Next Appointment Date/Time
Methodology, Data Collection & Data Analysis	W1-W2	February, 17 3pm			Add in a subtopic for pilot study justifiation Add in ethical consideration subtopic	
Finding & Analysis Discuss Findings & Analysis with Supervisor Amending Findings & Analysis	W3-W6	March 5, 3pm			Rearrangement of subtopic Reliability of analysis to be included as a subtopic To analyze DASS-21 as a whole of mental health	
Discussion & Conclusion Discuss Discussion & Conclusion with Supervisor Amending Discussion & Conclusion	W7-W9	Online consultation via Teams Chat			Things to take note for Chapter 5 A few editting and adding of information under hypotheses and limitations	
Submission of first draft*	Monday of Week 10	submit the first draft to Turnitin.com to check similarity rate				
Amendment	W10					
Submission of final FYP (FYP I + FYP II)*	Monday of W11	final submission to supervisor				
Oral Presentation		Oral Presentation Schedule will be released and your supervisor will inform you				

Notes:

1. **The listed duration is for reference only, supervisors can adjust the period according to the topics and content of the projects.**
2. ***Deadline for submission can not be changed, one mark will be deducted per day for late submission.**
3. **Supervisees are to take the active role to make appointments with their supervisors.**
4. **Both supervisors and supervisees should keep a copy of this record.**
5. **This record is to be submitted together with the submission of the FYP II.**

FACULTY/INSTITUTE* OF Arts and Social Science
UNIVERSITI TUNKU ABDUL RAHMAN

Date: 29th March 2021

SUBMISSION OF FINAL YEAR PROJECT /DISSERTATION/THESIS

It is hereby certified that Esther Ling (ID No: 1704361) has completed this final year project entitled "Work-life balance, Social connectedness and Mental Health among Working Adults in Malaysia" under the supervision of Dr Chuang Huei Gau (Supervisor) from the Department of Psychology, Faculty of Arts and Social Sciences.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,

ELG

Name: Esther Ling

FACULTY/INSTITUTE* OF Arts and Social Science
UNIVERSITI TUNKU ABDUL RAHMAN

Date: 29th March 2021

SUBMISSION OF FINAL YEAR PROJECT /DISSERTATION/THESIS

It is hereby certified that Ngoo Ee Ling (ID No: 1803039) has completed this final year project entitled "Work-life balance, Social connectedness and Mental Health among Working Adults in Malaysia" under the supervision of Dr Chuang Huei Gau (Supervisor) from the Department of Psychology, Faculty of Arts and Social Sciences.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,

Name: Ngoo Ee Ling

FACULTY/INSTITUTE* OF Arts and Social Science
UNIVERSITI TUNKU ABDUL RAHMAN

Date: 29th March 2021

SUBMISSION OF FINAL YEAR PROJECT /DISSERTATION/THESIS

It is hereby certified that Tan Sin Yuan (ID No: 1804217) has completed this final year project entitled "Work-life balance, Social connectedness and Mental Health among Working Adults in Malaysia" under the supervision of Dr Chuang Huei Gau (Supervisor) from the Department of Psychology, Faculty of Arts and Social Sciences.

I understand that University will upload softcopy of my final year project in pdf format into UTAR Institutional Repository, which may be made accessible to UTAR community and public.

Yours truly,

Name: Tan Sin Yuan

Universiti Tunku Abdul Rahman			
Form Title : Supervisor's Comments on Originality Report Generated by Turnitin for Submission of Final Year Project Report (for Undergraduate Programmes)			
Form Number: FM-IAD-005	Rev No.: 0	Effective Date: 01/10/2013	Page No.: 1of 1

FACULTY OF ARTS AND SOCIAL SCIENCES

Full Name(s) of Candidate(s)	Esther Ling / Ngoo Ee Ling / Tan Sin Yuan
ID Number(s)	1704361 / 1803039 / 1804217
Programme / Course	Bachelor of Social Science (Honours) Psychology
Title of Final Year Project	WORK-LIFE BALANCE, SOCIAL CONNECTEDNESS AND MENTAL HEALTH AMONG WORKING ADULTS IN MALAYSIA

Similarity	**Supervisor's Comments (Compulsory if parameters of originality exceeds the limits approved by UTAR)**
Overall similarity index: 7 **%** **Similarity by source** Internet Sources: 0 % Publications: 7 % Student Papers: 0 %	
Number of individual sources listed of more than 3% similarity: 0	

Parameters of originality required and limits approved by UTAR are as follows:
(i) Overall similarity index is 20% and below, and
(ii) Matching of individual sources listed must be less than 3% each, and
(iii) Matching texts in continuous block must not exceed 8 words
Note: Parameters (i) – (ii) shall exclude quotes, bibliography and text matches which are less than 8 words.

Note Supervisor/Candidate(s) is/are required to provide softcopy of full set of the originality report to Faculty/Institute

Based on the above results, I hereby declare that I am satisfied with the originality of the Final Year Project Report submitted by my student(s) as named above.

Signature of Supervisor

Name: Dr. Chuang Huei Gau

Date: 23/03/2021

Signature of Co-Supervisor

Name: _____

Date: _____