

GRATITUDE INTERVENTION FOR ANXIETY AND DEPRESSIVE SYMPTOMS

THE EFFECT OF GRATITUDE INTERVENTION ON  
ANXIETY AND DEPRESSIVE SYMPTOMS AMONG  
UNIVERSITY STUDENTS IN MALAYSIA

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## ABSTRAK

Kesyukuran sering dikaitkan dengan tahap simptom kemurungan dan keresahan yang lebih rendah. Dalam kajian ini, kami berminat untuk menguji satu protokol intervensi kesyukuran yang menggabungkan beberapa aktiviti berasaskan kesyukuran yang telah dikaji dan diselidik keberkesanannya dalam kajian-kajian yang lepas. Aktiviti-aktiviti ini dipilih dan dilakukan sedikit pengubahsuaian dan diselaraskan agar bersesuaian dengan protokol yang dibina. Tujuan kajian ini dijalankan adalah untuk menguji kesan intervensi kesyukuran yang mengambil tempoh selama empat minggu ini ke atas simptom-simptom kemurungan and keresahan, dan juga kesannya ke atas tahap kesyukuran, afektik positif, dan afektif negatif. Seramai 43 orang peserta yang terdiri daripada pelajar ijazah sarjana muda Universiti Sains Malaysia telah menyertai kajian ini. Peserta dibahagikan kepada dua kumpulan iaitu kumpulan intervensi dan kumpulan kawalan. Dalam kajian ini, tiga jenis soal-selidik diberi kepada peserta sebagai penilain pra-intervensi dan juga pasca-intervensi: 1) Terjemahan Bahasa Melayu *Depression Anxiety Stress Scale*, 2) *Positive and Negative Affect Schedule*, dan 3) *Six-item Gratitude Questionnaire*. Analisa bagi data yang diperolehi dalam kajian ini menunjukkan bahawa program intervensi kesyukuran ini dapat mengurangkan tahap simptom kemurungan dan keresahan dalam kalangan pelajar universiti. Bukan itu sahaja, intervensi ini juga turut dapat mengurangkan afeksi negatif serta meningkatkan tahap kesyukuran dan afeksi positif. Berdasarkan dapatan ini, kita dapat merumuskan bahawa intervensi kesyukuran ini mempunyai kesan yang positif ke atas kesejahteraan psikologi dalam kalangan pelajar universiti di Malaysia. Dapatan ini adalah selari dengan teori *builden-and-build* yang mencadangkan bahawa emosi positif seperti kesyukuran dapat mengembangkan cara pemikiran seseorang individu dan menggalakkan individu untuk meneroka sumber-sumber peribadi yang dapat membantu mereka untuk mengalami lebih banyak emosi positif. Kemahiran-kemahiran yang dibina daripada latihan kesyukuran ini dapat membantu individu untuk menghadapi kecelaruan

emosi dan juga cabaran dalam hidup. Dengan adanya kemahiran ini, individu, risiko untuk seseorang mengalami masalah keclaruan minda seperti kemurungan and keresahan mungkin dapat dikurangkan.

*Kata kunci:* Keresahan, kemurungan, intervensi kesyukuran, psikologi positif, afektif positif, afektif negatif



## ABSTRACT

Gratitude is related to lesser depression and anxiety level. In this study, we tested the effectiveness of a newly developed gratitude intervention protocol which combines several gratitude-based activities that have been thoroughly studied in previous research with some modifications on the available activities. The aim of this study was to measure the effect of the four-week gratitude intervention program on anxiety and depressive symptoms, positive affect, negative affect, and gratitude. Participants ( $N = 43$ ) were recruited among undergraduate students of one public university in Malaysia. A total of 22 participants were assigned to the gratitude intervention group, and another 21 participants were assigned to the control group. Instruments used to measure the outcome variables include the 21-item Malay translated Depression Anxiety Stress Scale (Malay-DASS), Positive and Negative Affect Schedule (PANAS), and the six-item Gratitude Questionnaire (GQ-6). The stated questionnaires were given as pre-assessment and post-assessment after completion of the 4-week intervention program. The results of the study show that the gratitude intervention program led to a significant reduction in depressive and anxiety symptoms, lower negative affect, as well as increase in positive affect and gratitude level. These findings suggest that gratitude intervention may be helpful to improve the psychological state of university students in Malaysia. These findings are in agreement with the broaden-and-built theory which suggest that gratitude as a positive emotion helps to broaden people's way of thinking instead of just focusing on the negatives which also encourage people to explore resources available that will help them to build more positive experiences. These skills developed from the experience of gratitude are important to help people cope with emotional difficulties and life adversities, which explain why the gratitude intervention caused reduction in depressive and anxiety symptoms.

*Keywords:* Anxiety, depression, gratitude intervention, positive psychology, positive affect, negative affect

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Background of study**

Recently, mental health has become a major concern in Malaysia as the rate of mental health problems have been increasing at an alarming rate. The National Health and Morbidity Survey (NHMS) 2015 reported that approximately one out of three (29.2%) individuals aged 16 years old and older were experiencing mental health problems. This marked an 11.2% increase since 2006. The latest report from NHMS (2019) stated that the prevalence rate of depression among adults in Malaysia is 2.3%, which is about half a million of the population. A total of 3.2% of this group were unmarried adults.

University students are one of the groups with high rates of mental health problems which include anxiety and depression. A study involving 425 students from International Islamic University Malaysia found that the prevalence of depressive disorder was 36.4% (Fata Nahas, Elkalmi, Al-Shami, and Elsayed, 2019). Another study involving 149 medical students

from a public university reported that the prevalence for anxiety and depression were 33% and 11% (Gan & Hue, 2019). The prevalence rates shown in these studies suggest that university students in Malaysia are prone to mental health problems such as anxiety and depression.

Furthermore, the Movement Control Order that took effect since 18<sup>th</sup> of March 2020 as a response to the Covid-19 pandemic in Malaysia has forced the citizens to adapt to a new norm where they are advised to stay at home. A lot of Malaysia residents are affected as some of them are forced to work from home; meanwhile, some universities decided to proceed with the teaching and learning by transitioning to remote learning. Having limited resources, experiences, and necessary skills to embark in online learning students are obligated to fulfill their responsibilities amid the pandemic which may results in deterioration of their mental health. A newspaper article reported that the restriction on movement and social contact might cause intense boredom, emotional instability and psychological issues and stresses on the fact that students are not exempted from these consequences (Abu Karim, 2020). The rise of mental health problems among young adults in Malaysia in addition to the Covid-19 pandemic which worsen the situation calls for initiatives to help affected individuals by introducing psychological coping skills which will be useful in dealing with emotional vulnerability.

Moreover, Malaysians have become more aware of mental health issue and more people are starting to seek professional help. Having a mental health awareness is important to encourage more people to get help. As suggested by Ibrahim et al. (2019), self-stigma could be a barrier to mental help-seeking attitude. A study measuring the effectiveness of mental health literacy program found that at three-month follow up, participants who were assigned to the intervention program reported reduced self-stigma and negative beliefs on mental health, as

well as increased self-seeking attitude (Ibrahim et al., 2019). This shows that with greater awareness of mental health, people are more likely to seek help.

These days Malaysians are starting to develop more awareness on this issue, which raise a concern on what are some of the intervention strategies to help them strengthen their resilience towards factors that increase their risk to develop mental health problems or its severity. In the Western countries, positive psychology intervention has become an emerging approach in dealing with mental health issue. Amongst the important topics studied in the positive psychology fields include gratitude, forgiveness, hope and optimism, as well as altruism. For this study, we are interested in focusing on gratitude as a form of positive psychology intervention.

Experts in positive psychology field have been doing a lot of works on studying the importance of gratitude on well-being, and a lot of studies from various research have been done to examine the effectiveness of gratitude-based intervention in reducing anxiety and depressive symptoms. Since there are a lot of evidence from prior studies regarding the efficacy of gratitude intervention on various populations, the current study aimed to investigate the effectiveness of this intervention on university students in Malaysia who exhibit symptoms of anxiety and depression based on their score on the Malay version of 21-item Depression Anxiety and Stress Scale (DASS-21).

## **1.2 Problem Statement and Study Rationale**

Gratitude intervention works as a psychotherapeutic intervention according to Emmons and Stern (2013). This is supported by a number of studies focusing on gratitude intervention. For

example, gratitude intervention is found to reduce depressive symptoms and the level of perceived stress, improve life satisfaction, lower repetitive negative thinking, and increase the level of gratitude (Cheng, Tsui, & Lam, 2015; Kwok, Gu, & Kit, 2018; Heckendorf, Lehr, Ebert, & Freund, 2019; Noor, Abdul Rahman, & Mohamad Zahari, 2018).

Regarding the effect of gratitude intervention on university students, one study by Kaczmarek et al. (2013) investigated who were more likely to self-initiate gratitude intervention in daily life. They found that among 226 college students participated in the study, 11.5% participants started the gratitude intervention. The results from the study also suggested that individuals endorsing strong intentions to change their lifestyle were more likely to start the gratitude intervention, and people who had greater trait curiosity exhibited greater intention to initiate the intervention. On the contrary, people with a higher level of depressive symptoms showed lesser intention. While this study contributed a new knowledge on which kind of students are more likely to initiate gratitude intervention, it did not measure the effectiveness of gratitude intervention on college students' psychological well-being.

Another study on university students compared three types of interventions namely constructive worry, imagery distraction, and gratitude intervention (Digdon & Koble, 2011). All these interventions were done in a self-help format disseminated via email. The study reported that each intervention reduced worry and pre-sleep arousal and helped to improve sleep. Similar to most studies on gratitude intervention, this study also provides support on the effects of gratitude intervention in improving students' well-being. Likewise, an implementation of gratitude intervention on college athletes lead was associated with higher scores of well-being and lower scores of ill-being compared to baseline. (Gabana et al., 2019).

The current problem is the distinctly limited studies on gratitude intervention for students in Malaysia. While gratitude intervention was found to have positive effects on various populations, it is important to specifically study its efficacy on university students in Malaysia in order to examine the possibility of gratitude intervention as an effort to deal with the increasing rate of psychological problems among these students. There is one study on gratitude intervention using Malaysian sample, but it involved university students from a single institution. Hence, the findings from this study cannot be generalized to university students from other institutions located in different parts of the country, such as at the east coast of Malaysia. Due to the scarce of evidence on effectiveness of gratitude intervention on students in Malaysia, the current study investigated the efficacy of gratitude intervention in improving psychological well-being and the causal effect of gratitude intervention in reducing psychological problems, increasing gratitude level and positive affect, and lowering negative affect among students of Universiti Sains Malaysia (USM).

### **1.3 Research questions**

Numerous researches have found that gratitude interventions are effective for various populations. The current study was interested in answering the question to whether or not the gratitude intervention is useful in improving students' psychological well-being. Thus, this research will address the following questions:

1. Does gratitude intervention effective in reducing the level of depressive symptom among USM students?
2. Does gratitude intervention effective in reducing the level of anxiety symptom among USM students?

3. Does gratitude intervention help to increase the level of gratitude in USM students?
4. Does gratitude intervention increase the level of positive affect in USM students?
5. Does gratitude intervention decrease the level of negative affect in USM students?

#### **1.4 Aim and Objectives**

The aim of this study was to determine the effect of gratitude interventions in improving the psychological well-being of undergraduate students from USM measured by the level of psychological problems, positive affect, negative affect, and gratitude level. The objectives of this study are:

General objective:

1. To measure the effect of gratitude intervention on the level of depressive symptom.
2. To measure the effect of gratitude intervention on the level of anxiety symptom.

Specific Objectives:

3. To measure the effect of gratitude intervention on gratitude level.
4. To measure the effect of gratitude intervention on positive affect.
5. To measure the effect of gratitude intervention on negative affect.

#### **1.5 Hypotheses of Study**

*Hypothesis 1:*

Participants who receive gratitude intervention would demonstrate significantly lower level of depressive symptom after the intervention compared to participants in the control condition.

***Hypothesis 2:***

Participants who receive gratitude intervention would demonstrate lower level of anxiety symptom after the intervention compared to participants in the control condition.

***Hypothesis 3:***

The gratitude intervention group would show an increase in the level of gratitude following intervention compared to the control group.

***Hypothesis 4:***

Participants in the gratitude intervention group show greater positive affect post-intervention compared to participants in control group.

***Hypothesis 5:***

Participants in the gratitude intervention exhibit lower negative affect following intervention compared to participants in the control group.



## 1.7 Overview of the present study

Gratitude is amongst a widely researched topic in the field of positive psychology. It is a disposition that is highly valued across religions and cultures, and in addition to that, gratitude is essential for a healthy and fulfilling life. In Islam for example, gratitude is mentioned several times in the holy book of Islam, Al-Quran. One of the verses states that, “If you are grateful, I will surely increase you in favor” (Al-Quran, 14:7). Although it seems simple, gratitude is a positive attitude that may provide a myriad of benefits to an individual’s life.

Gratitude is considerably different from other moral emotions such as empathy, sympathy, guilt, and shame, as it is described as an emotion that involves pleasant response of thankfulness to an outside agent after recognizing benefits received (Ellsworth & Smith, 1988; Weiner, 1986). Emmons and Shelton (2002) stated that gratitude, as a psychological state, is a felt sense of wonder, thankfulness, and appreciation for life. The feeling of gratitude can be expressed toward its recognized sources; whether human, nonhuman or impersonal sources.

In the current study, a protocol combining several research-based gratitude techniques was developed to form a set of four-week gratitude intervention programs. This protocol was planned and developed together with a certified clinical psychologist. In this protocol, some of the techniques were modified than the original techniques used in gratitude exercises. Hence, the objective of this study was to measure the effectiveness of this gratitude intervention protocol in improving the psychological state of university students in Malaysia.

A number of USM undergraduate students were recruited to participate in this study and they were assigned to one of the two conditions: 1) gratitude intervention, and 2) waitlist

control. Participants assigned to the gratitude intervention condition underwent the 4-week gratitude intervention program while the condition group did not receive any form of treatment until the 4-week gratitude intervention program was over.

Participants were given a Google Form link toward a set of self-report questionnaires measuring level of anxiety, depression, gratitude, positive and negative affect. The data was collected at baseline, which is before participants were given any form of treatment, and after completion of the 4-week gratitude intervention. The collected data were analyzed to measure the effect of gratitude intervention on the outcome variables, and the results were then discussed in Chapter 5 of this paper.

## CHAPTER 2

### LITERATURE REVIEW

#### 2.1 Positive Psychology

Positive psychology is a science of positive subject experience, positive individual traits, and positive institutions that guarantees to boost quality of life and forestall the pathologies that arise when life is barren and meaningless (Seligman & Csikszentmihalyi, 2014). This field studies the conditions and processes that help individuals and communities to flourish (Rashid & Seligman, 2018; Rashid, Summers, & Seligman, 2015). According to Norris (2021), the negativity bias as a part of human functioning often has a stronger impact than positivity which may eventually cause human beings to lack the positive features to make life worthwhile. Humans' tendency to have a negatively biased perspective influences their affective processing in a way which increase their likelihood to develop symptoms of mental health problems.

Studies using both event-related potential (ERP) and magnetic resonance imaging (MRI) information have found that the negativity bias emerges comparatively early in

processing, driving attention towards unpleasant versus pleasant stimuli. (Norris, Monteleone, & Cacioppo, 2019; Smith et al., 2003). With individuals' tendency to focus on unpleasant stimuli, they will be more likely to experience negative feelings and emotions. With negativity bias, people are more likely to attribute negative events to the intentions of external agents (Morewedge, 2009), meaning that people are more likely to blame external factors for a negative situation. Hilbig (2008) explained that negativity bias can be dangerous when people start to perceive the negative information they focused on as the truth which may lead to logical fallacy. On the contrary, positive psychology emphasizes the importance of positive emotion and positive experiences which help people to direct their focus on positive events as well. This might be able to prevent individuals to focus solely on negative information and reduce the risk of logical fallacy. This probably explains why a lot of positive psychology studies suggest that positive psychology interventions may protect individuals against the risk of developing mental health problems and unhealthy coping mechanism.

In relation to the current Covid-19 pandemic which has urged the need to address concerns related to mental health issue associated with the current condition, Waters and colleagues (2021) have highlighted the importance of positive psychology factors which play a vital role in buffering against mental illness and reinforcing mental health. Those who do not have direct exposure to the virus still are very much affected as they experience heightened fear of contracting the virus, losing jobs and financial instability, social isolation, as well as disturbances to daily life activities (Waters et al., 2021). As stated by Rajkumar (2020) and Wang et al. (2020), the aforementioned stressors are linked to greater levels of anxiety, depressive symptoms, and psychological distress. As a response to this concern, Waters et al. (2021) have argued that positive psychology provides a valuable lens in understanding how people can cope with and grow through times of crisis.

Positive psychology interventions involve various kinds of activities such counting one's blessings (Emmons & McCullough 2003), writing letters of gratitude (Boehm et al. 2011), and using signature strengths in a variety of situations (Seligman et al., 2005). Linley et al. (2013) wrote that positive interventions may be effective due to their influence on positive emotions, thoughts, and behaviors, as well as on need satisfaction. These outcomes will then influence happiness and positive affect.

### ***2.1.2 Gratitude and positive psychology***

Emmons & Shelton (2002) described gratitude as a psychological state as a felt sense of wonder, thankfulness, and appreciation for life which can be expressed towards others and towards impersonal and nonhuman sources. Gratitude is rooted from many of the world's religious traditions. However, it is not an unalloyed good: gratitude can be cultivated and enhanced by certain practices. According to Emmons and Shelton (2002), gratitude is associated with Maslow's concept of self-actualization as gratitude involves the sense of wonder and appreciation for life which was also one of the core characteristics of self-actualizing individuals. Maslow (1970) stated that self-actualizing individuals were able to constantly appreciate the basic good things of life no matter how dull the experiences may have become to everyone else. Having this capability helps people to find a sense of pleasure and a source of strength to face repetitive daily routine and tedious life.

Lambert, Graham, and Fincham (2009) made a distinction on the meanings of benefit-triggered and generalized gratitude. A benefit-triggered gratitude is defined as emotions that are rooted from an interpersonal transfer of a benefit from a "recipient" to a "giver." An example for benefit-triggered gratitude is when an individual is being grateful to a friend who

offered help with a task that the individual struggled with. Meanwhile, the generalized gratitude is defined as an emotion that arises from an awareness and appreciation of things the one finds valuable to him or herself, for example, when someone is being grateful for having a good physical health.

## **2.2 Gratitude According to the Broaden-and-Build Theory**

Fredrickson's broaden-and-build theory is a theory describing the form and function of a subset of positive emotions in order to better capture the unique effects of positive emotions (Fredrickson, 2004). According to Fredrickson (2004), positive emotions "appear to broaden people's momentary thought-action repertoires and build their enduring personal resources." It is suggested that positive emotions have a complementary effect which is related to neural states and routine action which help people to broaden their momentary thought-action and repertoires and widen the array of the thoughts and actions that come to mind. Hence, Fredrickson (2004) claimed that positive emotions have long-term adaptive benefits as broadening helps to build enduring personal resources. To conclude, the broaden-and-build theory suggested that positive emotions help to broaden thought-action repertoires which then builds enduring personal resources.

Based on the idea that positive emotions help individuals to broaden their mindset and build their personal psychological resources, it is expected that the positive emotions will help them to enhance their emotional and physical well-being (Fredrickson, 2004). Fredrickson (2004) also suggested it is possible the broadened mindset that people have developed over time may help them to cope with challenges and difficulties which should predict future experiences of positive emotions. In other words, the relationship between positive emotions

and broadened thinking may work both directions which eventually helps to improve psychological resilience and emotional well-being.

Furthermore, Seligman and Csikszentmihalyi (2014) identified three different qualities of happy life. Firstly, positive affect is often used as a descriptor for happiness and comprises the numerous emotional states that are used to understand positive emotions. This includes joy, interest, love, and pride. Experiencing more even levels of positive emotions is also one way to achieve happiness. The third aspect of a fulfilling life involves the individual's engagement in flow activities, which can be defined as when the person's skill sets are being properly utilized or when individuals bring out the best in them. This idea which was proposed by Seligman and Csikszentmihalyi (2014) is parallel to Frederickson's broaden-and-build theory in which that positive emotion and affectivity encourage people to explore and utilize their personal resources which helps them to employ helpful and effective coping skills, as well as building their resilience.

The act of gratitude involves acknowledging and focusing on positive things that have happened in one's life. Hence, the practice of gratitude may create a positive feeling of contentment which then encourages people to savor current circumstances in life and integrate new views of the self and the world (Fredrickson, 2004). Rashid and Seligman (2018) stated that gratitude is an experience of thankfulness which leads people to notice and appreciate the good things in life. Gratitude helps individuals to acknowledge the value of positives, therefore, it helps to broaden one's perspectives and builds other positive emotions and positive reasoning. Based on this theory, it is predicted that the practice of gratitude may increase the experience of positive emotions which serve as a protective factor against psychological problems such as stress, anxiety, and depression.

### **2.3 Gratitude as a Protective Factor**

How does gratitude actually help build a shield to reduce our vulnerability towards factors that could contribute to emotional distress? The underlying mechanism of how gratitude may improve well-being is still not completely explored, however, existing studies have suggested that gratitude is associated with resilience. In one longitudinal study involving 156 children between the ages of nine to twelve, the researchers investigated the association between middle childhood secure attachment and adolescents' trait gratitude (Scott et al., 2020). The findings in this study suggested that those with secure attachment are less likely to develop depressive symptoms with higher levels of gratitude as a resilience factor for those individuals. The study found that a more secure attachment is linked with a greater level of gratitude which may explain why individuals with secure attachment are less likely to develop depressive symptoms.

Gratitude is beneficial for psychological health as it helps individuals to develop a healthier and effective coping skills in overcoming problems and challenges. For example, a correlational study by Sun and colleagues (2020) involving 492 Chinese adolescents aimed to investigate the role of coping flexibility as a mediator between gratitude and anxiety and depression via a set of self-report questionnaires. Besides finding that gratitude was negatively correlated with anxiety and depression, Sun et al (2020) also found that coping flexibility mediated the relationship between gratitude and anxiety, as well as the relationship between gratitude and depression. With this findings, Sun et al (2020) elaborated that gratitude helps individuals to espouse a positive attitude toward life and positively reappraise negative events that they experience. In other words, having a more flexible coping mechanism from gratitude practice may reduce the risk of psychological problems or reduce its severity.



Another correlational study involving 913 undergraduate students from a southeastern United States university measured the beneficial outcomes of gratitude in reducing suicide risk. In this study, a set of self-report online questionnaires including the Suicidal Behaviors Questionnaire-Revised, Gratitude Questionnaire, Beck Hopelessness Scale, Beck Depression Inventory, Duke Social Support Index, Alcohol Use Disorders Identification Test, and Drug Abuse Screening Test, were used to measure level of hopelessness, depression, social support, and substance use as potential mediators of the link between gratitude and suicide (Kaniuka et al., 2019). Besides finding that gratitude is associated with lesser suicide risk, Kaniuka and colleagues (2019) also found that gratitude is negatively correlated to hopelessness, depression, and substance abuse, as well as associated with greater social support. With these findings, the author concluded that gratitude has beneficial outcomes to suicide risk by enhancing the protective factors such as hope and social support. At the same time, gratitude was linked to lower level of depression and substance use tendency which served as protective factors from suicidal behaviors.

The study on the connection between gratitude and resilience has also been studied on 162 university students at a public university in Malaysia. The aim of this study was to examine whether acceptance, forgiveness, and gratitude were important predictors of resilience (Hwei & Abdullah, 2013). The data were collected via a self-report survey which was sent to the participants in an electronic mail format. The results from this study showed that gratitude was a good predictor of resilience. Hwei and Abudullah (2013) noted that gratitude, which was a form of positive emotion, served as a protective factor which enhanced individuals' capability to grow and move forward from unpleasant life experiences.

Based on the findings from the studies presented above, we can acknowledge the important role of gratitude as a protective factor against the risk of psychological problems, or at least reduce its severity. There are a lot of evidence showing how gratitude works as a protective factor such as by increasing resilience and helping individuals to adopt effective coping styles when facing setbacks in life. This gives us a more solid and clear understanding on how practicing more gratitude can lead to lower level of depressive and anxiety.

## **2.4 Gratitude and Well-being**

Gratitude is a part of positive psychology. According to Emmons and Shelton (2003), gratitude is highly valued among Muslims, Christians, Buddhists, Hindus, and Jewish. For example, the Buddhists believe that thankfulness is a core aspect of a noble individual. Meanwhile, in Islam, gratitude is mentioned several times in the holy book, Al-Quran, urging the followers to be grateful for what they have and explaining the rewards for being thankful.

Gratitude can be defined as a disposition or as an emotional state resulting from recognition of failure, contemporary, or previous benefits received (McCullough et al., 2002). According to Emmons (2016), living gratefully can be achieved by affirming the good and recognizing its sources. Numerous studies examining the effect of gratitude revealed that it has positive impact on health and wellbeing such as reducing perceived stress and feelings of hopelessness, improving sleep quality, and lowering stress hormones and depression level. (Emmons, 2016; Wood, Maltby, Gillet, Linley, and Joseph, 2008). Sansone and Sansone (2010) noted that gratitude often promotes positive feelings, which then contributes to an individual's well-being.

Emotional well-being is comprised of one's declared happiness and satisfaction with life, as well as the ratio of positive to negative affect experienced (Bryant & Veroff, 1982; Lucas, Diener, & Suh, 1996; Shmotkin, 1998; Magyar & Keyes, 2019). Based on this idea, we can measure positive and negative affectivity to get some idea on one's emotional well-being. Magyar and Keyes (2019) stated that negative affectivity can be defined as "a tendency to worry and be anxious, to experience other unpleasant emotions, and to be pessimistic." A person's positive affect is a combination of high pleasantness and high arousal and includes such emotions as interested, engaged, and active. Negative affect is the opposite of positive affect and includes low arousal and low feelings of fear, anxiety, or distressed (Tay et al, 2019).

There are a myriad number of studies investigating the relationship between gratitude and well-being. For example, Watkins, Emmons, Greaves and Bell (2018) reported that dispositional gratitude predicted higher state joy over time and vice versa. The trait joy was found to be associated with greater subjective well-being over time. Meanwhile, study by Lin (2016) suggested there was partial mediation effects of social support and coping style between gratitude and well-being, which means that while there was a direct relationship between gratitude and well-being, an individual's social support and coping style may mediate the relationship. This support findings from Lin and Yeh (2014) study which found that gratitude had direct association with active coping styles, social support, and well-being. These findings provide evidence on the association between gratitude and well-being. Referring to these evidences, it can be assumed that with higher practice of gratitude, people can develop personal resources and skills to improve their well-being.

## 2.5 Underlying Mechanism of the Effect of Gratitude

It has been established that gratitude is strongly associated with psychological well-being. In response to this idea, numerous studies aimed to further explain the influence of gratitude. As an example, a study by Bryan, Young, Lucas, and Quist (2018) hypothesized that high ambivalence over emotional expression and high level of gratitude are associated with higher cognitive reappraisal. Bryan and colleagues (2018) conducted the study with the aim to examine the relationship between ambivalence over emotional expression and depressive symptoms, and the effects of gratitude and cognitive reappraisal. The study involved 352 undergraduates from a university in the United States with age ranging from 18 to 58 years old. The sample was selected using convenience sampling and the students received reinforcement in the form of extra course credit for their participation.

Bryan et al. (2018) eventually found that those who were higher in ambivalence over emotional expression and gratitude reported high cognitive reappraisals. The study also found that higher levels of gratitude helped to mediate the relationship between ambivalence over emotional expression and depressive symptoms. Bryan et al. (2018) stated that reappraisal is associated with less depression and more positive emotions. This is probably because cognitive reappraisal helps people to perceive emotion-eliciting event in a more positive light. Therefore, as gratitude helps to increase cognitive reappraisals, lower level of depression and higher positive emotions may be observed. However, causational relationship cannot be inferred due to the nature of the study design used. Further study is needed to gain new insight on the direction of the relationship between the variables.

Next, Lambert, Fincham, and Stillman (2012) tested a theory about the relationship between gratitude depressive symptoms through positive reframing and positive emotion. The

study consists of eight subsets of studies, one of them focusing on investigating the role of positive emotion as mediator between gratitude and depressive symptoms. Another subset determined the relationship between gratitude and depressive symptoms through longitudinal study design. The researchers proposed that gratitude should develop positive emotions that could reduce depressive symptoms and that positive emotions will mediate the effect of gratitude on depressive symptoms.

For the first study which aimed to investigate the direct relationship between gratitude and depressive symptoms, 746 participants answered an online survey for gratitude and depressive symptoms. The study found that there was indeed a direct relationship between the two variables. The other study which determining the mechanism of positive emotion in influencing the relationship between gratitude and depressive symptoms involved 753 participants. The study found that positive emotion is a significant mediator for the relationship. This means that high level of gratitude possibly increases the level of positive emotion which then reduces depressive symptoms. Nevertheless, similar to the study by Bryan et al. (2018), this study also employed correlational study design which means that causal relationship cannot be inferred from these findings.

Unsurprisingly, Emmons and Mishra (2010) stated that based on available studies, it seems like people who are already high in positive affect may have reached an “emotional ceiling” which makes them less susceptible to experiencing better well-being. Thus, the individuals who have high level of positive affect might not benefit from gratitude as much as people who initially have low level of positive affect (Froh, Kashdan, Ozimkowski, & Miller, 2009). This suggests that positive affect moderates the relationship between gratitude and well-being.

The reports from the studies above have suggested several potential mechanisms of the effect of gratitude. Based on the reported findings, it can be concluded that gratitude may enhance an individual's well-being by improving positive experience and affect, as well as improving people's way of thinking and perceiving events. Hence, having more functional thoughts and higher positive affect possibly helps to reduce psychological problems. To conclude, gratitude may work in enhancing well-being by helping people to experience more positive emotions and cognitive appraisal.

## **2.6 Gratitude as a Psychotherapeutic Intervention Technique**

Based on numerous studies on positive psychology focusing on gratitude, it has been established that gratitude is directly and indirectly associated with better psychological well-being. Emmons and Stern (2013) have argued that gratitude works as a psychotherapeutic intervention. Emmons and his colleague stated that grateful individuals experience higher levels of positive emotions, effectively cope with everyday stress, demonstrate greater resilience in the face of trauma-induced stress, higher speed of recovery from illness, and are more likely to have greater physical health (Emmons & Stern, 2013). Based on the vast number of findings demonstrating the positive impacts that gratitude has on individuals' overall well-being, Emmons and Stern (2013) suggested that a psychotherapeutic intervention based on gratitude may offer protection against psychiatric disorders. Hence, there are a lot of existing studies examining the efficacy of gratitude intervention on various psychological disorders and well-being on a variety of subjects.

For example, Cheng, Tsui and Lam (2015) studied the effectiveness of gratitude intervention on health care practitioners by investigating whether directing their attention to thankful events at work is helpful in reducing their stress level and depressive symptoms. Health care practitioners from five public hospitals were approached and a total of 102 practitioners agreed to participate in the study. The participants were divided into three groups: 1) gratitude, 2) hassle, and 3) nil-treatment group. Participants in the gratitude diaries group were instructed to write work-related gratitude, while participants in the hassle diaries groups had to write work-related hassle. The interventions took place for four weeks, and post-test follow-up was done after 3 months.

From the study, Cheng et al. (2015) reported that there was a decline in depressive symptoms and perceived stress in the gratitude group compared to the control group. Although this intervention only focuses on writing diaries twice a week, the results still suggested that it is effective in reducing depressive symptoms and lowering the level of perceived stress. The study also found that the effect for perceived stress persisted three months after the intervention. In contrast, its effect on depressive symptoms was not maintained as the rate of decline was reduced (Cheng et al., 2015). Nevertheless, Cheng et al. (2015) noted that the difference in depressive symptoms between the gratitude group and the control group was not statistically significant until follow-up. These findings suggested that diary keeping and opportunities for reflection can be ruled out as confounding variables because the hassle group did not have the same effect on the outcomes as the gratitude group, thus, supporting the effectiveness of gratitude intervention in reducing the level of psychological problem.

Despite the results obtained supporting the effectiveness of keeping gratitude diaries in reducing depressive symptoms and perceived stress, one limitation of the study that needs to

be taken into account is that the effect of gratitude treatment at three-month follow up may be due to the participants continuing to write diaries after the intervention period since the researchers did not assess this possibility. Another limitation of the study is that the sample does not represent professionals from different occupation categories and those who are working in different settings. Hence, the findings from this study cannot be generalized to a different population.

Next, Schotanus-Dijkstra, Pieterse, Drossaert, Walburg, and Bohlmeijer (2019) studied a positive psychology intervention which includes gratitude-based intervention. One of the objectives of this study was to examine the mediating role of six core well-being processes on mental well-being, anxiety, and depressive symptoms. The six core well-being processes are positive emotion, use of strengths, optimism, self-compassion, resilience, and positive relations. Participants were recruited from the general population in the Netherlands through advertisements in national newspapers and online newsletter of a psychology magazine. One must be eighteen years old or older in order to be eligible to participate in the study. The intervention was a combination of self-help and email support.

The findings of the study revealed that there was significant improvement in well-being processes for the intervention group compared to the waitlist control group. The study also demonstrated that improvements in each core well-being process (positive emotion, use of strengths, optimism, self-compassion, resilience, and positive relations) mediated improvement on mental well-being and anxiety and depressive symptoms. However, there were several limitations that limit the findings of this study. There is limited generalizability of the results since the sample only consisted of the population in the Netherlands. Furthermore, using a wait-list control group instead of an active control group might affect the results due to



motivation or expectation of participants in each group (Schotanus-Dijkstra et al., 2019). Schotanus-Dijkstra and colleagues (2019) also noted that there was a possibility that unknown confounding variables might affect the findings. Additionally, since this combines other components to the intervention in addition to gratitude, the extent to which gratitude-based intervention is effective in improving well-being is not clear.

Heckendorf, Lehr, Ebert, and Freund (2019) conducted a randomized controlled study to determine the efficacy of internet and app-based gratitude intervention on repetitive negative thinking for individuals with anxiety and depression. A total of 260 participants were recruited from the community in Germany by sharing a registration link in an online German news magazine. The participants were randomly assigned to two groups: intervention group or waitlist control group. Data were collected through self-report measures at baseline, after intervention, and at 3-month follow up, and finally at 6-month follow up for participants in the intervention group.

The study found that repetitive negative thinking was significantly lower for participants in the intervention group compared to participants in the waitlist control group and it maintained until the 6-month follow up. Heckendorf et al. (2019) also reported that immediate post-intervention scores for repetitive negative thoughts significantly mediate the effect of the gratitude intervention on anxiety and depression. The results for resilience as a mediator were not significant. The results of this study have large effect sizes and Heckendorf et al. (2019) suggested that one of the possible explanations is that this study involved the help of e-Coaches, while previous gratitude intervention studies mostly were in a self-help form. This means that there is a possibility that the effectiveness of gratitude intervention is elevated with professional guidance instead of practicing it without professional help. The second