THE RELATIONSHIPS OF MINDFULNESS, GRATITUDE AND RISK-BASED DECISION MAKING AMONG UNDERGRADUATE STUDENTS

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The Relationships of Mindfulness, Gratitude and Risk-Based Decision Making among Undergraduate Students

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DECLARATION

I, Amirah Zulaikha Binti Zafrul Azlan, hereby declare that the content presented in this Final Report Research Project are my own which was done at Universiti Sains Malaysia unless stated otherwise. I also declare that this Final Report Research Project has not been previously or concurrently submitted for any other degree at USM or any other institutions.

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(Student's Signature)   (Date)

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ABSTRACT

Risk-based decision making refers to a process that usually ensures optimal choices are chosen and are in line with the goals and perceptions of those concerned. People tend to use inaccurate information to make their decisions quickly. Past research found mindfulness and gratitude led individuals to become reluctant to take higher risks. It was highlighted in many of the limitations that studies did not look at student groups despite being at risk of making rash decisions considering they are at the starting stage for their development and career growth. Therefore, this study aims to examine the relationships between mindfulness, gratitude and risk-based decision making among undergraduate students. Undergraduate students (N = 164) from the School of Health Sciences, Medical Sciences and Dental Sciences, Universiti Sains Malaysia (USM) were recruited for this cross-sectional survey study. The Mindfulness Attention Awareness Scale (MAAS), Gratitude Questionnaire-Six-Item Form (GQ-6) and Domain-Specific Risk-Taking (DOSPERT) Questionnaires were used. The data was analysed using Linear Regression and Multiple Linear Regression. Results showed no relationship between mindfulness and risk-based decision making and a significant relationship between gratitude and risk-based decision making among students. Overall, the findings suggest that students with a higher level of gratitude would make lesser risk-based decisions. Mindfulness showing no relationship with risk-based decisions could be due to the field of studies of the students, related to the health. They may have been frequently exposed to risk-based decision during treatment planning of their patients, limiting mindfulness. To conclude, the study offers a further understanding of the need to advocate the practicality of being grateful, such as implementing skills training or therapeutic programs to reduce making risky decisions.

ABSTRAK

Pembuatan keputusan berasaskan risiko merujuk kepada proses yang biasanya memastikan pilihan optimum dipilih dan selaras dengan matlamat dan persepsi. Umumnya, ramai orang cenderung menggunakan maklumat yang kurang tepat untuk membuat keputusan mereka dengan cepat. Kajian terdahulu mendapati ketarasedar dan kesyukuran menyebabkan individu menjadi enggan mengambil risiko yang lebih tinggi. Ia diketengahkan dalam banyak batasan bahawa kajian tidak melihat kumpulan pelajar walaupun mereka berisiko membuat keputusan terburu-buru kerana dianggap berada di peringkat permulaan perkembangan dan pertumbuhan kerjaya mereka. Oleh itu, kajian ini bertujuan untuk mengkaji hubungan antara ketarasedar, kesyukuran dan pembuatan keputusan berasaskan risiko dalam kalangan pelajar sarjanamuda. Pelajar (N = 164) dari Pusat Pengajian Sains Kesihatan, Sains Perubatan dan Sains Pergigian, Universiti Sains Malaysia (USM) telah dipilih dalam kajian tinjauan keratan rentas ini. Skala *Mindfulness Attention Awareness Scale* (MAAS), *Gratitude Questionnaire-Six-Item Form* (GQ-6) dan *Domain-Specific Risk-Taking* (DOSPERT) telah digunakan. Data dianalisis menggunakan Regresi Linear dan Regresi Linear Berbilang. Keputusan menunjukkan tiada hubungan antara ketarasedar dan pembuatan keputusan berasaskan risiko dan hubungan yang signifikan antara kesyukuran dan pembuatan keputusan berasaskan risiko dalam kalangan pelajar sarjanamuda USM. Secara keseluruhan, dapatan menunjukkan pelajar yang mempunyai tahap kesyukuran yang lebih tinggi akan membuat keputusan berasaskan risiko yang lebih rendah. Ketarasedar yang tidak menunjukkan hubungan dengan pembuatan keputusan berasaskan risiko mungkin disebabkan oleh bidang pengajian pelajar, yang berkaitan dengan kesihatan. Pelajar mungkin sering terdedah kepada pembuatan keputusan berasaskan risiko semasa

mereka merancang rawatan pesakit mereka dan menghadkan ketarasedar. Secara kesimpulan, kajian ini menawarkan pemahaman lanjut tentang keperluan untuk menyokong kepraktisan bersyukur, seperti melaksanakan latihan kemahiran atau program terapeutik untuk mengurangkan pembuatan keputusan berisiko.

Katakunci: ketarasedar; kesyukuran; pengambilan risiko; pembuatan keputusan; elak risiko: psikologi positif

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LIST OF ABBREVIATIONS

df	Degrees of freedom
M	Mean
r	Correlation coefficient
SD	Standard deviation
SPSS	Statistical Package for the Social Sciences

CHAPTER 1

INTRODUCTION

1.1   Introduction

Individuals of any age make decisions that can impact their health, wealth, and overall well-being (Bruine de Bruin et al., 2020). Making wise choices would benefit them in achieving greater results. This study explores how making decisions could be improved with individuals taking less risks or being more considerate with the risk for outcomes when making decisions.

In chapter 1, an overview of the study will be presented. Firstly, the background of the study is elaborated, followed by the problem statement, the research objectives, the research questions and the significances of the study. Next, the research variables

are stated conceptually and operationally, followed by theoretical approaches and the conceptual framework. Lastly, the hypotheses are presented.

1.2   Background of the Study

Decision making is the process of selecting one of many options to produce the desired outcome (Eisenfuhr, 2011). Risk-based decision making can be understood as a process that usually ensures optimal choices are chosen and that they are in line with the goals and perceptions of those concerned (Sobjerg et al., 2021; Williams & Noyes, 2007). The optimal decisions do not mean the best decision is chosen. Instead, it focuses more on ensuring that all available information to the decision-maker is considered and used as appropriate to the decision at hand, leading people to choose less risky options often.

In general, many people tend to use inaccurate information to make their decisions quickly or as an unconscious means of mitigating the uncertainty associated with the decision making process (Guo et al., 2017; Raglan, 2014; Milkman et al., 2009). They do not consider how some decisions brings along the risk that may cause an impactful loss. Additionally, the number of people being asked to make decisions that are likely to be biased due to lack of knowledge, time constraints, too much information available, or some other restriction is increasing (Huang, 2017). The subject of mindlessly making a decision should be emphasised because not only can it affect personal outcomes, but it may also implicate society, showing the importance of making the most favourable decisions (Milkman et al., 2009).

To resolve these rising concerns, researchers have been looking into how mindfulness could assist individuals in being more thorough during decision making. The reason for that is because many researchers have looked into the growing field of mindfulness on its positive role and practical application in improving people's daily functioning, and many found favourable outcomes (Brown et al., 2007). Mindfulness can be understood as living at the current moment. Essentially, it entails the individual to be more attentive and aware of each moment and engage in what is going on around the said individual with openness and without judgment (Huang, 2017). The question of how would mindfulness affect personal daily decision making arises. Understanding how being aware and being more attentive may provide more information on how people can be more careful in making their decisions.

In an organizational context, past studies have found that the decision making process that considers risk can be influenced by mindfulness in various areas, including framing the decision, collecting and processing the information, generating a conclusion, and learning from feedback (Huang, 2017). Supporting this, Zhang, Chen, Lu, and Ni (2021) show that one of the most critical components of management in an organization is being mindful with decision making in a business setting. However, a limitation for these researches is that they are focused on a business and management context that may limit mindfulness with risk-based decision making from a more general perspective. Furthermore, many studies on mindfulness with decision making tend to look from an industrial perspective.

Previous reviews have suggested that looking into mindfulness with an additional positive emotion, such as gratitude, may provide more information on personal risk-based decision making (Zhang et al., 2020; Huang, 2017). The relationship between these two constructs, namely decision making and mindfulness with gratitude, is not much explored. Gratitude is generally understood as a sense of feeling to bring happiness, peace of mind, physical wellbeing, and stronger, more fulfilling personal relationships to an individual (Emmons & McCullough, 2003). However, many of the general arguments in mainstream literature about the influence of gratitude on decision making are theoretical and have yet to be objectively verified, despite their intuitive appeal (Emmons & McCullough, 2003). Recently, studies on decision making have found that being grateful can play a role in the individual's risk-based decision making. Zhang, Chen and Ni (2020) conducted a study to investigate the effect of gratitude on risk preferences and how decision making is influenced. Their results show that gratitude led the individuals to become more risk-averse or reluctant to take higher risks.

Similarly, DeSteno and colleagues (2014) also found that gratitude is related to improving self-control and decreasing impatience which meant that it contributes to reducing risk-taking behaviour. These two studies present that gratitude does have an influence on decision making capabilities. However, despite advancements in these two studies, more research on how gratitude affects risk-based decision making is still needed due to the lack of literature (Zhang et al., 2020). This is especially prominent in gratitude research. Understanding how being grateful may provide more information on how people can be more considerate in making their personal decisions.

Hence, the current review shows how mindfulness and gratitude could affect risk-based decision making, but a further understanding of how these variables affect decision making is still needed. Additionally, there have yet any available studies that compassed on the topic of decision making, mindfulness, and gratitude together, highlighting the gap for literature. Therefore, this study's main objective is to determine the relationship between mindfulness, gratitude, and risk-based decision making.

1.3   Problem Statement

The questions of why are people not making more considerate and thoughtful decisions arises because risk-based decision making has been the subject of a great deal of interest in recent times, with its ability to encode and incorporate the uncertainties inherent in today's fast-paced life. There are a few possible reasons for this. Currently, the studies looking into the relationship between mindfulness, gratitude, and risk-based decision making are still very limited.

There is a lack of awareness of the importance of making the most optimum decisions. As mentioned in the study's background, because individuals tend to rely on inaccurate information to make hasty judgments, there are not many that are aware that choosing or making risky decisions could be prevented (Guo et al., 2017; Raglan, 2014; Milkman et al., 2009). Risk-based decision making is of great importance in the behavioural sciences because almost every person's decisions are taken into consideration of risks they may encounter (Chen et al., 2020; Mishra, 2014). However,

the pieces of literature available under risk-based decision making are contrasting in the field of studies. As of current, there is more research looking into organizational benefits with mindfulness, such as the effect of mindfulness on the leadership role or the role of mindfulness on a lawyer's decision making skills to benefit law firms (Mishra, 2014; Karelaia & Reb, 2015).

It is important to study how decision making is influenced because just like how good decisions are made, such as successfully choosing the right career choice, presenting an appropriate proposal for an organization or marrying the right partner. The decision choices may cause loss and result in living with a regretful decision for the rest of a person's life (Karelaia & Reb, 2015). To the best of the researcher knowledge, no studies have been done to investigate the relationships between mindfulness, gratitude and decision making together. The majority of the researchers studied mindfulness, gratitude and decision making as separate variables. Therefore, it leaves a substantial gap regarding this topic.

Even in decision making research, the relevant groups often seen are businessmen, doctors, leaders, and attorneys (Milkman et al., 2009). It was highlighted in many of the limitations that studies did not look at student groups despite being at risk of making rash decisions. In particular, students in an undergraduate degree or professional programs are among the group for whom the inability to make optimal decisions can be highly costly. Hence, it raises the question of why this group is not getting much attention with decision making, especially undergraduate students. They

are considered to be at the starting stage for their development and career growth (Milkman et al., 2009).

As mentioned, decision making plays an important role as it could be potentially life- framing. Young adults may lack the ability to make sound decisions (Rolison & Scherman, 2003). They may not give enough thought to the prospective repercussions of their acts, and they may believe they are immune to repercussions. In this study's context, undergraduate students may also evaluate different alternatives than older age groups, such as when compared to postgraduate students or doctoral students. Older adults are less inclined to take risks and, as a result, are more risk-averse. Young adults recognize different repercussions, value consequences differently, and rate the likelihood of outcomes differently (O'Brien & Hess, 2020; Rolison & Scherman, 2003). Furthermore, while considering dangerous conduct, their decisions may also be reliant on their peers. Thus, understanding the undergraduate student's response towards risk-based decision making while they are young adults is important as it can affect their lifelong decisions.

Additionally, there are problems of lackluster in improving life among Malaysians. Recently, the AIA Group Limited (2021), a multinational insurance corporation, conducted research that included more than eighty wellness experts to investigate what actions individuals will go for to help them live healthier and adopt better lives called the 'Healthier Together' project. Eight behaviour was listed, and a survey was carried out to 6000 participants across Asian Pacific countries, including

Malaysia, Australia, Thailand, Hong Kong, Mainland China, and Singapore. Results showed that the most significant action on the list was having an "optimistic attitude," which was 2.3 times more popular than the rest of the listed actions. In comparison to other countries, Malaysia stands out because gratitude was picked most often, showing its critical role in driving self-improvement.

However, only 46% of Malaysians practised three or fewer of the listed actions in the survey, showing that there is an inconsistency between knowing what makes them live a better and fulfilled life than having them actually doing it (AIA Group Limited, 2021). With the current study, it has been mentioned that gratitude led individuals to become more risk-averse or reluctant to take higher risks (Zhang et al., 2020). The statistics from AIA would suggest that Malaysians could be more prone to making decisions rashly because they do not act on being grateful despite saying that gratitude is important for self-improvement. Furthermore, many mindfulness studies with decision making and gratitude tend to use population from western countries. There are also research gaps on how these variables link to the Malaysian context. Research should also consider cultural factors because cultural perspectives may differ in findings. Hence, it is important to understand the present relationship between gratitude and risk-based decision making among Malaysians. Thus, in this case, the current study aims to focus on Malaysian undergraduate students with risk-based decision making outcomes.

Also, there is a lack of program initiatives to improve non-organisational people's decision making. Mindful decision making is already established to improving business decisions and assisting businesses to avoid costly investment mistakes. As a result, senior managers and executives have actively been told to participate in mindful training to increase their risk-based decision making skills. But that is only done in the context of industry settings (Liu et al., 2018). Providing mindful training programs for university students could assist in developing individuals who are more risk-averse and are more aware of the future consequences of their rash decisions.

The current study would look at the influence of mindfulness and gratitude on Malaysian undergraduate students to understand their tendency to reacting when facing risky decision making. The present study will contribute to Malaysia's general body of literature on how Malaysians associate mindfulness and gratitude with decision making. Thus, this study's primary objective is to determine the relationship between mindfulness, gratitude, and risk- based decision making, hoping to raise awareness of the positive relationship between mindfulness and gratitude and contribute to the body literature in Malaysia.

1.4   Significance of the Study

The significance of the study focuses on two groups. They are the significance towards students and significance towards researchers. The current research aims to give more

understanding among university undergraduate and postgraduate students to be more considerate when making any decisions while thinking of the possible risks. Students who may have trouble taking their time making their decisions or mindlessly making decisions may be encouraged to consider or learn more about mindfulness and gratitude to make a more optimal decision. Furthermore, the study may show the importance of having more mindful training workshops in universities for the students, specifically in Malaysia. As stated in the problem statement, mindful training is being made essential in business organisations to help workers improve their decision making skills. Hence, universities could also provide a place for the students to get the incentive to join workshops and enhance their decision making skills.

As mentioned in the problem statement, Malaysians may have a lacklustre in improving their life. Hence, the findings of this study may assist future researchers to further look into the related variables to this problem while also focusing on how risk-based decision making among Malaysians could be improved. This may provide more understanding of the cross-cultural differences that is present. Furthermore, the currently available literature regarding this topic is limited, especially in personal decision making, as more research focuses on specific industries such as law and business. The current study may contribute to the body of literature on the subject of risk-based decision making, mindfulness and gratitude. Also, they could adopt the current study's findings by adapting some concepts and use the information regarding the cultural differences that may be present when making personal decisions. Future researchers could also find the quantitative results on this topic and correlate them with other mediating variables such as different positive emotions or cognition.

1.5   Research Questions

The research questions of the current study are as follows:

1. What is the relationship between mindfulness with risk-based decision making among undergraduate students?

2. What is the relationship between gratitude with risk-based decision making among undergraduate students?

3. What contributes to risk-based decision making between mindfulness and gratitude among undergraduate students?

1.6   Research Objectives

General

For the current research, the general objective is to examine the relationships between mindfulness, gratitude and risk-based decision making among undergraduate students.

Specific

1. To identify the relationship between mindfulness and risk-based decision making among undergraduate students.

2. To identify the relationship between gratitude and risk-based decision making among undergraduate students.

3. To identify whether mindfulness and gratitude contribute to risk-based decision making among undergraduate students.

1.7   Definition of Variables

The current study's variable, mindfulness, gratitude and risk-based decision making are defined conceptually and operationally. The definition are as follows.

1.7.1   Conceptual Definition

Mindfulness

Mindfulness can be defined by the practice of bringing a certain level of concentration to moment-to-moment experience (Bishop et al., 2006). According to Bishop and colleagues (2006), there is a two-component model of mindfulness. The first dimension entails self-regulating attention to keep it focused on direct experience, allowing for more accurate awareness of mental experiences in the present moment. The second dimension entails cultivating a certain attitude toward one's present-moment encounters, one's tendency that is marked by curiosity, openness, and being accepting. In other words, the model proposes that mindfulness induces the feeling of being aware of what is going on in the present moment. Mindful individuals are also not attempting to induce a certain mood, such as relaxation, or alter their feelings in any manner. Rather, the individual attempts to pay attention to each thought, emotion, and experience that appears in the stream of consciousness.

Gratitude

Gratitude is generally described as the attitude of seeing life as a gift and understanding the importance of voicing gratitude (Watkins et al., 2004). This also includes the probability of feeling thankful for good outcomes that occur from something other than another person's behaviour, such as improvement in self-regulation or self-control (Zhang et al., 2020). In relation to the study, the definition of gratitude is focused on self-control behaviour to understand if being grateful reduces decisional impulsivity, which relates to choosing riskier options.

Risk-based decision making

Decision making can be defined as an individual making a choice between different courses of action (Eilon, 1969). Concerning the current research, the decision making is based on the concept of risk-related decisions, specifically the risks that are possible to occur in daily life. Risk-based decision making is used in various ways to emphasize the likelihood of unfavourable outcomes, the optimal outcomes or the ambiguity associated with future benefits (Williams & Noyes, 2007).

1.7.2 Operational Definition

Mindfulness

This study refers to the Mindfulness, Attention and Awareness Scale (MAAS) to measure the level of dispositional mindfulness among undergraduate students. The MAAS measures dispositional mindfulness by focusing on the present-centred attention–awareness (Brown & Ryan, 2003). In other words, MAAS measures the presence or lack of attention and awareness of what is going on in the present moment in the individual. It does not look at the attributes such as empathy, appreciation, acceptance, trust or any of the other mindfulness-related qualities. This questionnaire consists of 15 items and uses a 6 point Likert-scale ranging from '1' "Almost Always" to '6' "Almost Never". The final score for this scale is the overall average response score, with higher score indicating the higher level of mindfulness perceived by the individual. Thus, a high score on MAAS indicates a higher level for a person to practice mindfulness in their daily lives.

Gratitude

The current study refers to the Gratitude Questionnaire-Six-Item Form (GQ-6) to measure gratitude in the students. The GQ-6 measures dispositional gratitude by focusing on four aspects (McCullough et al., 2002). Firstly is intensity, and refers to how strongly a person feels glad after witnessing a pleasant event. Secondly is

frequency, which shows how frequently a person feels grateful, which may be generated by even the smallest favour or gesture of civility. Thirdly is span, which characterizes the number of life situations for which an individual is thankful at any given time. Lastly, it measures based on density which refers to the number of people to whom an individual is grateful for a positive life outcome. Some examples may include landing a good job or finishing a university course. This questionnaire consists of 6 items and uses a 7 point Likert-scale ranging from '1' "Strongly Disagree" to '6' "Strongly Agree". The final score for this scale is the overall average response score, with higher score indicating the higher level of gratitude perceived by the individual. Thus, overall a high score on the GQ-6 indicates a higher level for a person to be grateful in their daily life.

Risk-based decision making

The current study refers to the Domain-Specific Risk-Taking (DOSPERT) to measure the tendency for an individual to choose a risky decision (Blais & Weber, 2006). The DOSPERT was developed to predict how a person or group will deal with risky decisions in the future. The DOSPERT focuses on present behaviour to explain choices (in a brief form) and assess if the individual tends to be risk-seeking or risk-averse in the Expected Utility-sense or the most significant gain. Specifically, DOSPERT measures personal decisions in categories of different variables known to affect risk-taking which includes, financial choices, recreational choices such as sky diving or bowling, social decisions such as confronting co-workers or family members, health or safety decisions such as putting on the seat belt or smoking and ethical decisions such

as cheating during exams (Weber et al., 2002). This questionnaire consists of 30 items and uses a 7 point Likert-scale ranging from '1' "Extremely Unlikely" to '6' "Extremely Likely". The final score for this scale is the overall average response score, with higher score indicating the higher level of risk perceived by the individual. Thus, higher scores on DOSPERT indicates that the person tends to choose a riskier option when making their decisions.

1.8   Hypotheses

The hypotheses of the current study were developed based on the previous literature elaborated. The following are the research hypotheses.

$H0_1$: There is no significant negative correlation between mindfulness and risk-based decision making among undergraduate students.

$H0_2$: There is no significant negative correlation between gratitude and risk-based decision making among undergraduate students.

$H0_3$: Mindfulness and gratitude does not contribute to risk-based decision making among undergraduate students.

CHAPTER 2

LITERATURE REVIEW

2.1   Introduction

Chapter 2 focuses on the background information regarding being mindful, grateful, and making decisions related to risk. This chapter begins with a review of past literature on mindfulness and its association with risk-based decision making. The second part of the review covers gratitude and its association with risk-based decision making. Lastly, an overview of the association between mindfulness, gratitude and risk-based decision making was presented. The review was based on the hypothesis of this research to develop a better understanding of mindfulness, gratitude and risk-based decision making.

2.2   Mindfulness and Decision Making

Decisions related to risks is not a person confronting a risky situation such as jumping off a cliff per se. Risk-based decision making covers almost every individual's decisions in their daily life, taken some consideration of risks that they may encounter with the specific event, which places great importance in the behavioural sciences (Mishra, 2014). It is important to study how decision making is influenced because just like how good decisions are made, such as an individual successfully choosing the right career choice, presenting an appropriate proposal for an organization or marrying the right partner.

The decision choices may also cause a loss to the individual, resulting in them living with regret for the rest of their lives because they were not thoroughly attentive about the possible risks in the decision's outcomes, also known as the post-decision regret (Karelaia & Reb, 2015). Similarly, in the context of legal practice and maintaining professionalism, individuals are confronted with many options, a great deal of risk, along with a variety of factors, and important consequences (Huang, 2017). Hence, when making choices, the people involved must choose carefully and select the most valuable solution to ensure professional efficiency and decrease accidental mistakes with the involving party.

Mindfulness, or also generally known as the state of where an individual is being aware and is attentive to the things that are happening around them at the present moment, has been receiving an escalating amount of interest amongst researchers

coming from various backgrounds such as business, medical, legal and psychology (Schmitzer-Torbert, 2020; Milkman et al., 2009). The widespread media coverage of scientific data and empirical evidence from psychology and neuroscience academic studies showing that mindfulness has many benefits is one of the explanations for its recent popularity. It has been found that mindfulness was able to improve attention, cognitive skills, mental management, concentration and creativity, life satisfaction, psychological wellbeing, working memory and many more (Huang, 2017; Liu et al., 2018).

Thus, over the last decade, many researchers have looked into the growing field of mindfulness because of its positive role and its practical applications in improving people's functioning in their daily lives (Karelaia & Reb, 2015). According to previous researchers, mindful people would weigh all pertinent information available to them when making any decisions (Zhang et al., 2021). They would have a higher level of self-awareness, which helps them behave morally and limits immoral conduct or behaviour. A reason for that is mindfulness entails concentrating on the current moment and removing distracting thoughts that may interfere with one's present moment (Hafenbrack et al., 2014).

Furthermore, practising mindfulness can help people make more thoughtful decisions by giving them real options in any scenario to respond actively, deliberatively, and thoughtfully rather than reacting instinctively, reflexively, and unconsciously (Huang, 2017). Past studies on gambling also support that giving attention to the recent experience has been found to maximize the effect of probability on gambling choices, which can potentially suppress risky behaviour by grounding the decision-maker

because being mindful helps them to clear out any unnecessary thoughts or distractions (Zhang et al., 2020).

Similarly, a study by Lakey and colleagues on gamblers showed that when the gambler had the tendency to act with mindfulness, it lessened their overconfidence and increased their consideration of the decisions made by looking at multiple perspectives and future consequences, which reduces risk-seeking behaviours (Zhang et al., 2021). However, focusing only on one thing at a time is not an easy thing to do, as being distracted while making a decision is common. Generally, a lot of individuals experience the drifting away of thoughts from what is happening to and around them as their mind wanders off to think back into their past or into the future.

The automatic internal stream of consciousness, also known as mind-wandering, explains that some people focus on events that occurred in the past, what will happen in the future, or may never happen at all (Hafenbrack et al., 2014). By doing so, a person may choose a decision that does not benefit them because they do not realize the risk and consequences of their decision as they are distracted by their wandering thoughts or worries. Thus, it would be understandable that mindful people, in contrast, would be more considerate of the results of their decisions because they would be more focused and attentive during decision making (Huang, 207).

2.3 Mindfulness as the Emotional State

Being more aware of the present moment has also been found in previous studies to bring more happiness to the individuals as compared to someone who keeps thinking about the past or future (Hafenbrack et al., 2014; Zhang et al., 2020). This is because they would be less bothered by worries about things that are not currently happening. With being happy, a positive emotional state comes along. Past studies have shown that people who are more positive were linked with being risk-averse, while people who were more negative were prone to be higher risk-takers (Mishra, 2014). Hence, being mindful suggests an increase in happiness in life and being more thorough during decision-making because individuals would focus on the situation in its present moment.

Although mindfulness is often linked to a positive emotional state, there are conflicting findings with a positive state and risk-based decision making. The state of a person being positive cannot simply lead the decisions. Instead, decision making is dependent on the state of the person, whether it be positive or negative, to solve the problem (Mishra, 2014). Being fearful is an example of someone being in a negative emotional state. The fear is intended to increase exposure to risks or danger, which can help enable the feeling of need for escape or the search for protection, which encourages the person to be risk-averse (Mishra, 2014). This context suggests that the worries and wandering of thoughts may also help a person become more focused hence choosing the less risky option during decision making, similar to the purpose of being attentive in mindfulness.

From another perspective, the paradoxical benefit for mindfulness is despite the fact that mindfulness involves constant observation in a non-judgemental way for the present moment, which may be interpreted as passive behaviour, it also contributes to improved judgement and higher self-determination for lesser reactive or impulsive behaviour (Huang, 2017). This means that it encourages people to be more non-judgmental, more careful in making choices and being linked to lesser decision avoidance (Karelaia & Reb, 2015). Similarly, worrying is not directly beneficial; it is normally exhausting, and it can also obstruct decision making.

On the other hand, worrying can encourage an individual indirectly if it motivates them to take constructive steps to prevent anything they are concerned about from happening when they know that something should be done (Huang, 2017). Thus, even during a negative state, a person can still be attentive, aware of their surroundings and be risk-averse when making decisions. Raglan (2014) also explained how anxiety, a part of the negative state, was linked with risk aversion. Individuals diagnosed with anxiety disorders were found to avoid risk in a decision making task.

A few studies have also shown that people with high anxiety levels were more risk- averse than people with lower anxiety levels. (Raglan, 2014; Huang, 2017). Highly anxious people make choices dependent on minimizing future risk as much as possible, even though it means sacrificing potential benefits (Hafenbrack et al., 2014). However, the limitation of these results is the study's participants were making their decisions based on their need to counter their worries and uncertainties rather than being attentive and aware of the possible consequences of their decision.

During decision making, the presence of anxiety tends to lead to physiological reactions that make it much harder for someone to concentrate on their choices properly (Raglan, 2014). Perhaps it was due to the participants being clinically diagnosed that makes it hard for them to stay attentive to the decision choices at the present moment and for the results to be generalized to the population. Linking to how mindfulness is generally defined, which is to be aware and attentive to the current situation, people with a negative state in an average population would be suggested to choose the less risky decisions.

To sum, the paradoxes of mindfulness show that despite the individuals' state or emotions, they would be more prone to being risk-averse to pick personal decisions that will benefit themselves. Still, it also depends on the situations that they face and the current circumstances. Langer can support this (as cited in Huang, 2017, p.76) who noted that when a person is mindful, they first see the scenario from many viewpoints then, see the information provided in the situation as something new, following that, they pay attention to the sense in which they are the ones perceiving the information. Consequently, they construct new categories in which information can be interpreted.

2.4   Mindfulness as a State and Trait

State mindfulness and trait mindfulness do not carry the same definition (Karelaia & Reb, 2015; Zhang et al., 2021). In general, mindfulness can be simple practices that are carried out in everyday routines, such as showering and eating and in modes of

meditation. To specify, state mindfulness is one that usually requires a certain amount of concentration in the present moment and is often related to a particular intervention or exercise such as meditation or yoga (Huang, 2017). For example, mindfulness meditation may include sensory awareness, which focuses on physical experiences like breathing, physiological sensations, and mental phenomena such as emotions and thoughts.

On the other hand, trait mindfulness, also known as dispositional mindfulness, is similar to but not identical to mindfulness meditation (Karelaia & Reb, 2015). They are more related to the personality or characteristics of the individual to be able to pay and sustain open and non-judgmental attention to present-moment experiences. Thus, trait mindfulness is more commonly used to measure mindfulness because it applies to the individual's tendency to be mindful in everyday activities (Huang, 2017). Trait mindfulness is not tied to any specific meditation or workout routine; hence, previous studies suggest that mindfulness should be measured as a trait in future research in understanding the role of mindfulness (Karelaia & Reb, 2015). Hence, the current study will measure mindfulness as a trait.

To measure mindfulness, the Mindfulness Attention Awareness Scale (MAAS) developed by Brown and Ryan (2003) would be used in this study. The MAAS is a widely used scale to measure trait mindfulness that has demonstrated good psychometric properties. The benefit of MAAS is that it was also developed for individuals who are new to mindfulness or who are already familiar with it, which suggests that it can be used in different populations generally (Ruiz et al., 2016). Furthermore, the MAAS has been shown in many studies that it has good validity when