Journal of Positive School Psychology http://journalppw.com

2022, Vol. 6, No. 9, 3912-3933

Factors That Contribute To Depression Among University Students In Malaysia During The Covid-19 Pandemic

Shubashini Rathina Velu[1*], Kayalvily Tabianan[2]

[1]*Prince Mohammad bin Fahd university Saudi Arabia.*
[2]*Inti International University, Persiaran Perdana BBN Putra Nilai, 71800 Nilai, Negeri Sembilan, Malaysia*

Abstract

It is well-known that prevalence of stress, anxiety, and depression is high among university undergraduate students in developed and developing countries. Students entering university are from different socioeconomic background, which can bring a variety of mental health risk factors. Mental health is one of the most significant determinants of life quality and satisfaction. Poor mental health is a complex and common psychological problem among university undergraduate students in developed and developing countries. Factors that lead to depression are indeed a serious and growing issue among undergrads. According to prior studies in Malaysia, the prevalence of depression has increased from 12 percent in 2011 to 29 % in 2020. The goal of this research would be to figure out how loneliness, insomnia, and alcohol consumption contribute to student depression. The respondents' responses towards the survey would be used to gather information. To assess the analytical significance, a sum of 361 undergraduates from Private University will indeed be involved. Smart PLS is being used to evaluate the information in accordance with the data's goals.

Keywords: depression, loneliness, insomnia, alcohol consumption, mental health risk, Private University.

1.0 Introduction

The outbreak of the global COVID-19 pandemic revealed that the world had been completely unprepared for it (Bartoszek 2020). The present COVID-19 pandemic seems to have a physical and psychological impact on individuals of diverse generations all over the globe (Faisal 2021). Covid-19 pandemic has indeed caused considerable disruptions in people's everyday life habits, making them nervous and maybe leading to mental illness (Bayram 2020). Despite from all of the other issues that individuals encountered during the epidemic, depression had become typical symptom that many individuals suffered (Hamaideh 2021). A recent survey shows that during the pandemic, about 4 in 10 adults in the U.S. have reported symptoms of depressive disorder, a share that has been largely consistent, up from one in ten adults who reported these symptoms from January to June 2019 (Misirlis 2020). As a word, the Covid-19 pandemic could be a significant problem that would also result in depression.

Before even the Covid-19 pandemic existed, depression was already persisted. Depressed issue seems to be a widespread ailment that affects 3.8 percent of the globe's total, with 5.0 percent of adolescents as well as 5.7 percent of individuals over 60 years of age suffering from depression (Ettman 2020). Approximately 280 million people in the world have depression and this has been proved through a survey in 2017 done by WHO (Sher 2020). Depression seems to be distinct from regular mood swings as well as short-term emotional states towards daily stressors. Once depression becomes persistent and of medium or extreme severity, depression

can develop into a major health problem (Faisal 2021). Depression could result to death in the worst-case scenario (Sher 2020). Annually, about 700,000 individuals perish by suicide, considering depressive episodes as a major possible issue. During this Covid-19 pandemic, the global prevalence estimate was 28.0% for depression (Nochaiwong, Ruengorn, Thavorn, & Hutton 2021). As a result, the number of people affected by depression has been rapidly increasing once the pandemic started (Ettman 2020).

Numerous researches within Malaysia clearly demonstrate that perhaps the public was depressed prior to and throughout the pandemic. According to a survey done by Izzudin (2018) before the pandemic, across the Asia Pacific region, lifetime rate of developing depression ranges from 1.1% to 19.9% with a median of 3.7%. In Malaysia, it is the most common mental illness reported with approximately 2.3 million people being affected at some point of their lives. Within the Malaysian population, the prevalence of depression is estimated to be between 6.7-14.4%. The Patron of the Malaysian Psychiatric Association (MPA) said according to the 2017 National Health and Morbidity Survey, 29% of Malaysians had depression and anxiety disorder in 2020 compared with 12% in 2011 (Ettman 2020). The survey done by experts prove that on the prevalence of depression among Malaysians showed a 50% increase in the number of depressed patients from 2011 to 2015 (Nochaiwong, Ruengorn, Thavorn, & Hutton 2021). Depression was anticipated being the second most common health concern impacting Malaysians around 2021, after the issue of cardiovascular problems. According to the Covid-19 pandemic, around 30% of Malaysian grown-ups (18-25 years old) as well as almost 18% of Malaysian teenagers (13-17 years old) have been determined toward being depressed (Nahas 2019). During the CMCO period a recent study reports a rise in the prevalence of depression (42.3%) among Malaysian adults (Zainudeen, Hamid, Azizuddin & Sany 2021).

As a result, the effect of depression should indeed be investigated forward in order to determine the likely reasons of cognitive problems throughout the Covid-19 pandemic, since it is essential to maintain individual's wellbeing.

According to prior studies, a number of factors can influence depression including family history of depression and exposure to psychosocial stress (Thapar, Collishaw, Pine & Thapar 2017). The current research, on the other hand, will focus into loneliness, alcohol intake, and insomnia that lead to depression among university students during Covid 19 pandemic (Bartoszek 2020; Coakley 2021; Gavurova 2020). Several research have looked into the elements that contribute to depression in different generations, particularly youngsters and middle-aged to elderly persons.

Nevertheless, since this research were conducted in western countries such as the United States, there are limited research within Malaysia which explore into the effects of insomnia, alcohol intake, and loneliness upon depression, particularly within college students (Bartoszek, Walkowiak, Bartoszek & Kardas 2020; Misirlis, Zwaan & Weber 2020; Coakley, Lardier, Holladay, Amorim, Mechler & Zuhl 2021). As a result, the current survey will highly concentrate upon university students.

In addition, in a research project that focused into the depression in adolescent profiles, mental health can be seen strongly associated with substance use, particularly alcohol use, in young adults (Steptoe 2015; Stanton, Khalesi, Williams, Alley, Thwaite, Fenning & Vandelanotte 2020). There have also been earlier studies which relied primarily upon loneliness and insomnia when exploring depression (Barg, Ashmore, Wittink, Murray, Bogner & Gallo 2006; Donovan, Wu, Rentz, Sperling, Marshall & Glymour 2016; Buysse, Angst, Gamma, Ajdacic, Eich & Rössler 2008;

Roane & Taylor 2008). As a consequence, the findings are much less detailed because the results from each research was too general and same with other research (Onitilo, Nietert & Egede 2006; Meng, Yu, Liu, He, Lv, Guo, Bian, Yang, Chen, Zhang, Chen, Wu, Pan & Li 2020). In attempt to provide a fresh viewpoint upon the factors that drive to depression, the current study will examine the effects of loneliness, insomnia, and alcohol intake within university students in Malaysia during the Covid-19 pandemic.

Prior to social distancing, loneliness was growing steadily, increasing 7% in the last year, from one half of Americans reporting loneliness in 2018 to three out of five in 2019 (Cigna, 2020). According to a survey on UK adults which took place nine months into Covid-19 restrictions, 24% adults in the UK said they had feelings of loneliness during the pandemic (Hager 2021). Moreover, another survey conducted by researchers at Making Caring Common said 36% of respondents to a national survey of approximately 950 Americans reported feeling lonely "frequently" or "almost all the time or all the time" in the prior four weeks, compared with 25% who recalled experiencing serious issues in the two months prior to the pandemic (Grassano 2021). Perhaps most striking is that 61% of those aged 18 to 25 reported high levels during the pandemic (Grassano 2021). The unsettling statistic is even more troubling when combined with June 2021 data from the Centres for Disease Control and Prevention showing that 63% of young people in America reported experiencing substantial symptoms of anxiety and depression during the pandemic (Weissbourd 2021). Adrian (2020) said through her limitation that there were few similar studies to draw upon to support this methodological validity but it was based on general research (Bartoszek 2020). Nonetheless, there seems to be little study concerning the effect of loneliness on depression within Malaysian university students throughout the Covid-19 pandemic (Cigna 2020). As a result, it's necessary to research this aspect to learn more about how it influences learners' mental wellbeing during the pandemic.

Apart from it, according to a study done in US, researchers have proved that insomnia have affect over 30% of college students during the Covid-19 pandemic (Sher 2020). This is the phenomenon that hit's people all over the world as they experience insomnia linked to the stress of life during Covid-19. In the UK, an August 2020 study from the University of Southampton showed that the number of students experiencing insomnia rise from one in six to one in four, with more health problems (Misirlis, Zwaan & Weber 2020). In China, insomnia rates among students rise from 14.6% to 20% during peak lockdown (Coakley, Lardier, Holladay, Amorim, Mechler & Zuhl 2021). An "alarming prevalence" of clinical insomnia was observed in Italy and in Greece, nearly 40% of respondents in a May study were shown to have insomnia (Bartoszek, Walkowiak, Bartoszek & Kardas 2020). The word "insomnia" was Googled more in 2020 than it ever had been before. However, according to Liu (2021) there is still lack of research conducted in Malaysia regarding the effect of insomnia among university students during the Covid-19 pandemic thus the present study will be focusing more towards university students in Malaysia (Liu 2021).

Besides that, as a reduction tactic for coronavirus disease (COVID-19) transmission, stayat-home commands took place in certain US states. The New York Times indicated a 54 percent rise in nationwide alcohol revenues among students over the week ending March 21, 2020, opposed to a year before the pandemic, when online revenues risen 234 percent compared to 2019 (Coakley 2021). Three weeks later, the World Health Organization warned that alcohol use during the pandemic may potentially exacerbate health concerns and risktaking behaviours (Pollard, Tucker & Green 2020). Nevertheless, there is

very few research has been done on this particular factor mainly during this pandemic in Malaysia (Coakley 2021). However, the research conducted in Malaysia regarding the effect of alcohol intake among university students during the Covid-19 pandemic is still lacking so as a result, the current research will provide a clear framework for this problem, with an emphasis on Malaysia. As a result, the current study will delve deeper into it in order to have a better grasp of the subject.

Research Objective

1. To identify the relationship between loneliness and depression among university students during Covid 19 pandemic
2. To identify the relationship between insomnia and depression among university students during Covid 19 pandemic

To identify the relationship between alcohol intake and depression among university students during Covid 19 pandemic

Significance of Study

The study's findings are predicted to have the following implications:

There are several significant of study found. One of the significances is related to academia. Under significance to academia, the findings of this study contribute to a better understanding of the factors that lead to depression among university students during the Covid-19 pandemic, since there are nowadays studies (Bartoszek 2020; Debowska 2020; Ettman 2020) being conducted on factors that lead to depression among university students in other countries during the pandemic, yet few studies were conducted using university students in Malaysia regarding the factors of loneliness, insomnia and alcohol intake.

Under significance to industry, the findings of this study will be important because they will provide additional information about depression and the factors that cause depression in students during the Malaysian pandemic (Misirlis, Zwaan & Weber 2020). Depression is very high during Covid 19 pandemic in Malaysia.

The findings of this study would also convey knowledge on the elements that induce depression to university students. The government will learn how loneliness, insomnia, and alcohol consumption affect university students' depression and will take appropriate action to assist them (Raypole 2020). Furthermore, the research will provide university students with information that can help them overcome depression. This enables university students to begin therapy early in order to avoid significant consequences and improve their general health and well-being (Abel 2019). The study's findings will be extremely useful to colleges, as they will provide knowledge on how various circumstances impact the students' depression. This will allow colleges to focus on and emphasise student health and wellbeing, particularly during COVID-19. Universities may establish or expand counselling sessions to aid students in reaching mental as well as emotional well-being, hence safeguarding students' wellness.

2.0 Literature Review

2.1 Definition of Depression

According to American Psychiatric Association, depression is a common and serious medical illness that negatively affects how a person feels, the way they think, and how they act. It can lead to a variety of emotional and physical problems and can decrease the ability to function at work and at home (Torress, 2020). Moreover, depression is different from usual mood fluctuations and short-lived emotional responses to challenges in everyday life according to WHO. Especially when recurrent and with moderate or severe intensity, depression may become a serious health condition (Debowska, 2020). Depression has been divided into several

categories as per mentioned by the National Institute of Mental Health like Persistent Depressive Disorder, Postpartum Depression, Psychotic Depression, Seasonal Affective Disorder and Bipolar Disorder (Bayram, 2020). According to Laura's research, depression is an ongoing problem, not a passing one. This is made up of episodes with signs that might endure for at least two weeks. Besides that, depressive episodes can endure for weeks, months, or perhaps even years. Therefore, present study will follow the same concept of definition mentioned by Torress where this can negatively affect a person feeling, the way they think, and how they act thus lead to a variety of emotional and physical problems and decrease the ability to function at work and at home (Torress, 2020).

2.2 Definition of Loneliness

According to Centres Disease Control and Prevention, loneliness can be defined as the feeling of being alone, regardless of the amount of social contact (Hager, 2021). Loneliness seems to be a basic human feeling which is nuanced and personal to every individual. Since there is no clear source, the avoidance as well as medication of this potentially harmful mental condition might vary greatly. Since most people associate loneliness with being solo or even in a situation of isolation, loneliness does seem to be primarily a state of mind. Individuals who are lonely always feel incomplete, unloved, and undesired (Bartoszek, 2020). Individuals who seem to be alone typically seek social interaction, yet their mental state causes it extremely challenging for them to build relationships. Loneliness has been linked to social separation, weak interaction abilities, introverts, as well as depression, according to studies. Several researchers believe that loneliness isn't always about feeling lonely. Conversely, loneliness affects individuals' mental condition if individuals experience a feeling of being alone and detached (Morin, 2020). Therefore, present study will follow the same concept of definition mentioned by Morin where loneliness is not necessarily about being alone but being alone can also affect a person's state of mind.

2.3 Definition of Insomnia

Insomnia is indeed a common sleep problem which makes it difficult for an individual to feel sleepy, remain asleep, as well as wakes up very early and then not being able to return to sleep. Individuals may still feel tired when they wake up (Misirlis, 2020). Insomnia can sap not only energy level and mood but also a person's health, work performance, education and, quality of life (Robinson 2021). How much sleep is enough varies from person to person, but most adults need seven to eight hours at night. At some point, many adults experience shortterm (acute) insomnia, which lasts for days or weeks (Sher, 2020). It's usually the result of stress or a traumatic event. But some people have long-term (chronic) insomnia that lasts for a month or more. Insomnia may be the primary problem, or it may be associated with other medical conditions or medications (Bartoszek, 2020). Therefore, present study will follow the same concept of definition mentioned by Misirlis where insomnia is a common sleep disorder that can make a person hard to fall asleep, hard to stay asleep or cause someone to wake up too early and not be able to get back to sleep and also make individuals feel tired when they wake up.

2.4 Definition of Alcohol Intake

According to World Health Organization, alcohol is a psychoactive substance with dependence-producing properties that has been widely used in many cultures for centuries. According to Centres for Disease Control and Prevention, in the United States, a standard drink contains 0.6 ounces (14.0 grams or 1.2 tablespoons) of alcohol (Gavurova, 2020). The harmful use of alcohol causes a large disease, social and economic burden in societies. The harmful use of alcohol can also result in harm to other people, such as family members, friends, co-workers and strangers (Coakley,

2021). Moreover, the harmful use of alcohol results in a significant health, social and economic burden on society at large.

Alcohol consumption is a causal factor in more than 200 disease and injury conditions (Gavurova, 2020). The Dietary Guidelines for Americans recommends that adults of legal drinking age can choose not to drink, or to drink in moderation by limiting intake to 2 drinks or less in a day for men or 1 drink or less in a day for women, on days when alcohol is consumed (Pollard, Tucker & Green, 2020). Therefore, present study will follow the same concept of definition mentioned by Coakley where the harmful use of alcohol can cause several diseases, social and economic burden in societies thus the harmful use of alcohol can also result in harm to other people, such as family members, friends, co-workers and strangers.

2.5 Factors that lead to depression

Depression is caused by a variety of circumstances. Loneliness, insomnia, and alcohol intake will be investigated as variables that contribute to depression among university students in this study.

2.5.1 Loneliness and Depression

Studies found that there was a high correlation between loneliness and depression because lonely individuals always have negative perceptions of things, are susceptible to negative emotions, and often show hostility, and hostility is significantly related to depression (Cacioppo et al., 2020; Demir & Kutlu, 2019; Ren et al., 2020). On the one hand, among the negative effects of depression, loneliness is the most common (Ling, 2019). When individuals have negative emotions such as anxiety and depression, they tend to experience more feelings of loneliness, loss of help, and desire to be understood. However, on the other hand, loneliness is very detrimental to mental health where a high level of the feeling of loneliness is thought to stimulate depressive symptoms (Wei et al., 2021; Demir & Kutlu, 2020). A longitudinal study also found a gender-dependent impact of loneliness on depressive symptoms. For females, loneliness could significantly predict the increased depressive symptoms, while for males, loneliness could not (Liu et al., 2019). As a result, there seems to be a strong link among loneliness and depression.

2.5.2 Insomnia and Depression

According to Health Condition and Disease, depression and insomnia are closely linked (Nahas, 2019). People with insomnia, for example, may have a tenfold higher risk of developing depression than people who get a good night's sleep. And among people with depression, 75% have trouble falling asleep or staying asleep (Hopkins, 2021). Both insomnia and depression are major public health problems. It has been reported that insomnia is associated with an increased risk of depression and/or anxiety disorders (Ford & Kamerow, 2020; Gillin, 2018). Many observational studies have focused on whether insomnia has an influence on depression risk (Ford & Kamerow, 2020; Vollrath, Wicki, & Angst, 2019; Roanna & Taylor, 2018). In 2019, Baglioni et al. (2019) performed a meta-analysis to investigate the association between insomnia and the risk of depression, and the results showed that an overall odds ratio (OR) for insomnia to predict depression was 2.60 (95% confidence interval (CI):1.98–3.42) (Baglioni, Battagliese, Feige, Spiegelhalder, Nissen, Voderholzer, Lombardo & Riemann, 2019). In addition, the previous research only conducted a subgroup analysis by different age groups of participants (Bartoszek, 2020). The incidences and the risk factors for depression might vary with the definitions of depression and the exposure changes, or vary in samples from different gender, follow-up durations, and geographic regions (Robinson 2021). Including more studies and enlarging the sample size would be important for strengthening the reliability of describing the association between insomnia and depression risk. As a result, there

is indeed a strong link that suggests insomnia can contribute to depression.

2.5.3 Alcohol Intake and Depression

According to Gavurova (2020), there is a strong link between alcohol use and depression (Gavurova, 2020). Nearly one-third of people with depression have alcohol problem. Often, the alcohol comes first when a person undergo depression (Coakley, 2021). Research shows that younger adults who suffer from depression are more likely to have higher problems with alcohol compare with older adults (Stephanie, 2020). Moreover, women are more than twice as likely to start drinking heavily if they have history of depression. Experts say that women are more likely than men to overdo it when they're down (Hager, 2021). Drinking will only make depression worse. At least 30% to 40% of adults consume alcohol to escape from depression (Juergens, 2021). Previous trauma is also a risk factor for alcohol use and depression. This is true for adults as well as children and young adults (Coakley, 2021). Studies have consistently shown that alcohol use increases both the duration and the severity of depression (Juergens, 2021). It also increases the likelihood, frequency, and severity of suicidal thoughts (Sher, 2020). According to a study done by Coakley (2021), alcohol has been said can also cause other stressors in adults' life such as career and study issues that can worsen depression (Coakley, 2021). If the depressed person than turns to alcohol to make themselves feel better, a vicious cycle will be started that can be extremely difficult for them to break out of (Juergens, 2021). As a result, it demonstrates that there is a substantial link between alcohol consumption as well as depression upon an individual's life (Pollard, Tucker & Green, 2020; Davidson, 1995).

2.6 Underpinning Theory

Beck's cognitive theory considers the subjective symptoms such as a negative view of self, world, and future defining features of depression. The model assumes that psychopathological states represent extreme or excessive forms of normal cognitive, emotional, and behavioural functioning (Halverson, 2020). Additionally, the cognitive theory posits that depression can be distinguished by their cognitive content, with thoughts of personal loss and failure specific to depression and cognitive content involving physical or psychological threat and danger specific to anxiety (Gerow, 2018).

The lack of early behaviourism to consider thinking and emotions thoroughly led to the development of cognitive theories (Halverson, 2020). The cognitive side, on the other hand, didn't deny behavioural fundamentals. Alternatively, such ideas attempted to assimilate mental occurrences into a behavioural structure. Cognitive Behavioural Theories (commonly known as "cognitive theories") are so-called because they deal with mental processes including thought process and sensation (Nemade, 2021). These are referred to as "cognitive behavioural" since they handle mental processes within the perspective of the learning theory, which served as the foundation for basic behavioural theory. As a result, cognitive theory is relevant to the current study since insomnia, loneliness, and alcohol consumption are personal characteristics that may be linked to depression among students, affecting their health.

Individuals experiencing depression think diversely than individuals who aren't depressed, as per cognitive behavioural theory. They get depressed as a result of this cognitive dissonance (Gerow, 2018). Individuals who are depressed, for instance, have a pessimistic outlook on themself, their surroundings, as well as the future. As a result, individuals have a proclivity to perceive information negatively. They also prefer to hold themselves responsible for any unpleasant events that occur. Individuals suffering from this condition can quickly view issues as worse than they are because of their pessimistic thought and judging attitude (Nemade, 2021). As a result,

such persons are more likely to generate depressed symptoms in reaction to stressful scenarios.

Loneliness seems hypothesized to lead to cognitive impairment across a variety of mechanisms, involving physical inactivity, depression signs, sleep disruption, and elevated blood pressure within university students (Harrington & Sliwinski, 2020). Insomnia has also been one of the personal variables that induces depression, according to Spielman & Glovinsky (2010). Miller and Hester (1989) found a number of social factors, one of which is alcohol consumption that leads to depression among university students. In cognitive theory, these elements can be applicable towards the personal as well as social aspects that influence an individual's behaviour (Eysenck, 1998). According to the theory, one's behaviour as well as mental wellbeing can be influenced by the surroundings and individual characteristics (Psychol, 2010). According to McAlister, Perry, and Parcel (2008), the variables that contribute to depression define the underlying cause of depression. As a result, the theory contributes to the understanding of students' mental health, which is impacted by the factors that lead to depression which is the loneliness, insomnia, and alcohol intake. Hence, the cognitive theory can indeed be utilised to explain the link between the variables in this study.

2.7 Conceptual Framework

Figure 1 illustrates the independent and dependent factors. The factors that cause depression within university students during the pandemic were the three independent variables.

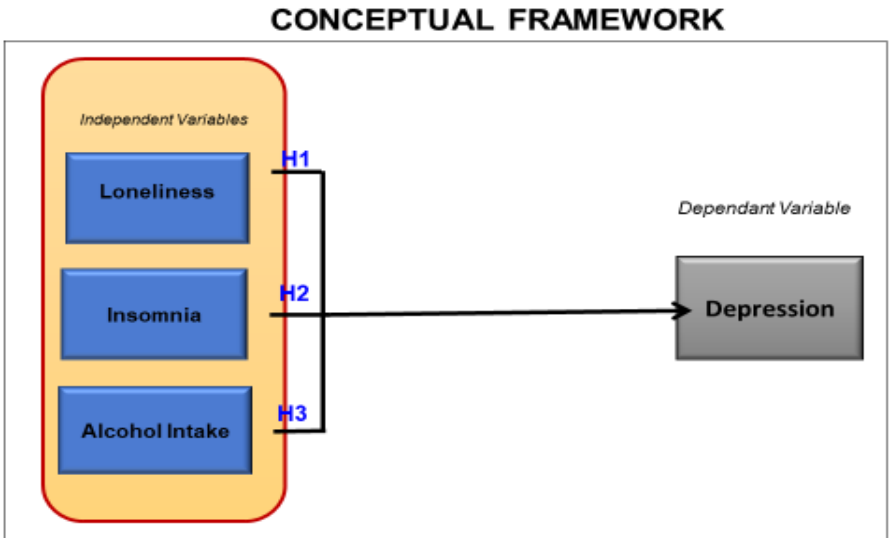

Figure 1: Conceptual Model

The current study provides a theoretical framework as well as a detailed explanation of the interaction among the three independent variables which is loneliness, insomnia, and alcohol consumption which contribute to one dependent variable which is depression. First, there is a relationship between loneliness and depression. When individuals have negative emotions such as anxiety and depression, they tend to experience more feelings of loneliness, loss of help, and desire to be understood (Ling, 2019). Second, there is a relationship between insomnia and depression. People with insomnia, for example, may have a tenfold higher risk of developing depression than people who get a good night's sleep (Hopkins,

2021). Third, there is a relationship between alcohol intake and depression. At least 30% to 40% of adults consume alcohol to escape from depression (Juergens, 2021). To summarise, all three IVs have a strong connection to depression.

2.8 Hypotheses

The following hypothesis has been proposed:

H1: there is a significant relationship between loneliness and depression

H2: there is a significant relationship between insomnia and depression

H3: there is a significant relationship between alcohol intake and depression

3.0 Research Methodology

The purpose of this research is to identify the factors that cause depression among university student during the pandemic. In this study, a quantitative research design would be used to see if loneliness, insomnia, and alcohol intake are the factors that contribute to depression within college students at Inti International University because data from large samples can be processed and analysed using reliable and consistent procedures through quantitative data analysis (Bhandari, 2020). Individuals are used as the unit of analysis in this study since the intention is to uncover the elements that cause to depression from the perspectives of private university students. Since the respondents have differing perspectives on depression-related issues, the data acquired from each of them is likely to varied as well.

One of the most crucial aspects of statistical analysis involves identifying the appropriate sample size. Higher sample sizes, on the other side, give reduced margins of inaccuracy and are therefore highly representative, but an excessively high sample size might considerably enhance the costs and duration required to perform the research (Faber & Fonseca, 2014). This research's target audience is around 6000 undergraduates from Privatel Universities. According to Krejcie & Morgan (1970), 361 would be the research sample size. Hence a total of 400 questionnaires was distributed towards the intended audience. Table 1 represent the sample sizes.

Table 1: Sample Size

Table 3.1

Table for Determining Sample Size of a Known Population

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

Note: N is Population Size; S is Sample Size *Source: Krejcie & Morgan, 1970*

3.1 Factor Analysis

According to Knekta, Runyon & Eddy (2019), factor analysis is a collection of methods used to examine how underlying constructs influence the responses on a number of measured variables. By condensing a huge quantity of variables towards a few interpretable underlying elements, researchers can examine ideas which are difficult to examine straightforwardly. The purpose of factor analysis is to assist researchers in identifying and understanding the nature of the latent constructs underlying the variables of interest (Rahn, 2020). The pilot test, primarily comprises of 36 questionnaire surveys, would be used to conduct factor analysis throughout the current study. Factor analysis, particularly comprises KMO and Bartlett's test of sphericity, would be used to evaluate if the facts gathered are appropriate for analyzation as well as factorable (Mohd Matore, Khairani, & Adnan, 2019).

According to Babaee (2010), The Kaiser-Meyer-Olkin measure of sampling adequacy tests whether the partial correlations among variables are small. The value of KMO test should be greater than 0.5 (KMO > 0.5) to support the validity of the used variables. Bartlett's test of sphericity tests whether the correlation matric is an identity matrix, which would indicate that the factor model is inappropriate. The significance level for the Bartlett's test should not be greater than 0.05 (Sig. < 0.05). Furthermore, communalities are calculated for every component, which become analogous to variable loadings. The proportion of variability in reactions upon an element compensated for by all elements in the developed framework is referred to as communality (Knekta et al., 2019). Although the sampling size is big, the prediction of factor loadings isn't really reliable unless the communalities remain minimal, according to Izquierdo, Olea, and Abad (2014). All elements must contain a communality of at least 0.3. Hadi, Abdullah, and Sentosa (2016), across the other perspective, believe that a minimum level of 0.3 indicates that the element doesn't really connect adequately with another element around its component. Low communality toward an element implies that the approach doesn't really adequately address the item's variation and also that the component might also be eliminated (Knekta et al., 2019). According to Hair, Black, Babin, Anderson, and Tatham (2006), the communality level that researchers refer too is within every factor which must be 0.5 or higher in order for the factor solution to represent half of the variation of the initial variable.

Eigenvalues is also one of the procedures for element extraction towards subsequent analysis that aids in deciding the lower number of components that must be kept (Hadi et al., 2016). Elevated eigenvalues are quite beneficial for understanding the data because they measure the quantity of material stored inside a factor (Knekta et al., 2019). The criteria in component analyses would be that the Eigenvalues must be greater than one. Since there seem to be three independent aspects within this study, three components must have Eigenvalues greater than one in order for the factors to be persisted.

3.2 Pilot Test: Reliability Test

Reliability is the degree to which measurements are free from error, thus, yield consistent results. In other words, reliability concerns the extent to which an experiment, test, or any measuring procedure yields the same results on repeated trials. Functionally, the inner validity of a scales, that measures the level to which the items are homogeneous, is specified as a reliability test. Werts et al. (1974) created a compounded reliable measurement, that indicates the amount of quantify variance related to the underlying characteristic and provides an alternative understanding of reliability (Werts et al., 1974).

According to the research done by Bujang, Omar & Baharum (2018), Cronbach's alpha is a measure of the internal consistency or

reliability between several items, measurements or ratings. In other words, it estimates how reliable are the responses of a questionnaire (or domain of a questionnaire), an instrumentation or rating evaluated by subjects which will indicate the stability of the tools. Lee Cronbach invented Alpha around 1951 to establish a measurement of a study's or scale's inner consistency; this is presented as a value within 0 and 1. (Cronbach, 1951). Internal consistency refers to the level toward which every one of the elements inside an assessment evaluate the similar notion or structure, and therefore is linked towards the test's inter-relatedness. To assure legitimacy, a test's internal consistency must be validated before it could be used for study or assessment (Tavakol & Dennick, 2011).

Furthermore, reliability predictions demonstrate how much measuring inaccuracy there is in a test. Simply defined, the correlation of test within itself would be the understanding of reliability. The accepted value of Cronbach's alpha is 0.7 to 0.9; however, values above 0.6 are also accepted but if it is less than 0.6 the item or construct will be eliminated (Griethuijsen et al., 2015; Taber, 2018). As a result, Cronbach's alpha test is employed across this pilot test to confirm that the questionnaire utilised in this study is reliable.

3.3 Data Collection

Because the current project employs snowball sampling, possible volunteers who've been familiar towards the researcher were addressed and notified about the project's objective before information is gathered. They were requested to spread the message regarding the research article to other possible target individuals they may know, in order to increase the number of respondents. After that, possible target members were urged to enrol additional individuals till necessary sample of respondents has been obtained. The research questionnaires Google Form links would be delivered towards the target audience throughout data gathering for all of them to perform across the Online platform. The assessment took place in December 2021. Participants were informed that they may not require to reveal the identity of the individual they had chosen to participate in the study. They have also been informed that whatever data they submitted for this project would be confidential. Participants willingly participate in the survey. Following the collection of information from respondents, Smart PLS would be used to produce as well as interpret the information in preparation for future study.

4.0 Data Analysis

In this study, all the loading for each item are above 0.70 (Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, 2014)and they fall within the satisfactory range. Table 2 below shows that the loadings for each item fall within the satisfactory value. Internal consistency reliability is determined by the composite reliability (CR). As depicted in Table 2, the CR values for each construct are well above the 0.70 threshold. Hence this affirms that the internal consistency reliability is satisfactory. Convergent validity is determined by the average variance extracted (AVE), which is the degree to which the indicators reflect a convergent construct compared to indicators measuring other constructs (Pea, 1993). The value shown in Table 2 are all above 0.5 for the AVE range which shows a significant convergent validity level for the study. Figure 2 shows the overall measurement model.

Table 2. Factor Loadings and CR for independent and dependent variables

Construct	Items	Loading	Composite Reliability	Average Variance Extracted (AVE)

Loneliness	LONE 1	0.762	0.851	0.589
	LONE 2	0.829		
	LONE 3	0.763		
	LONE 5	0.711		
Insomnia	ISO1	0.743	0.82	0.603
	ISO3	0.808		
	ISO4	0.778		
Alcohol Intake	AI2	0.847	0.89	0.731
	AI3	0.882		
	AI5	0.834		
Depression	DEP1	0.845	0.916	0.731
	DEP2	0.857		
	DEP3	0.847		
	DEP4	0.872		

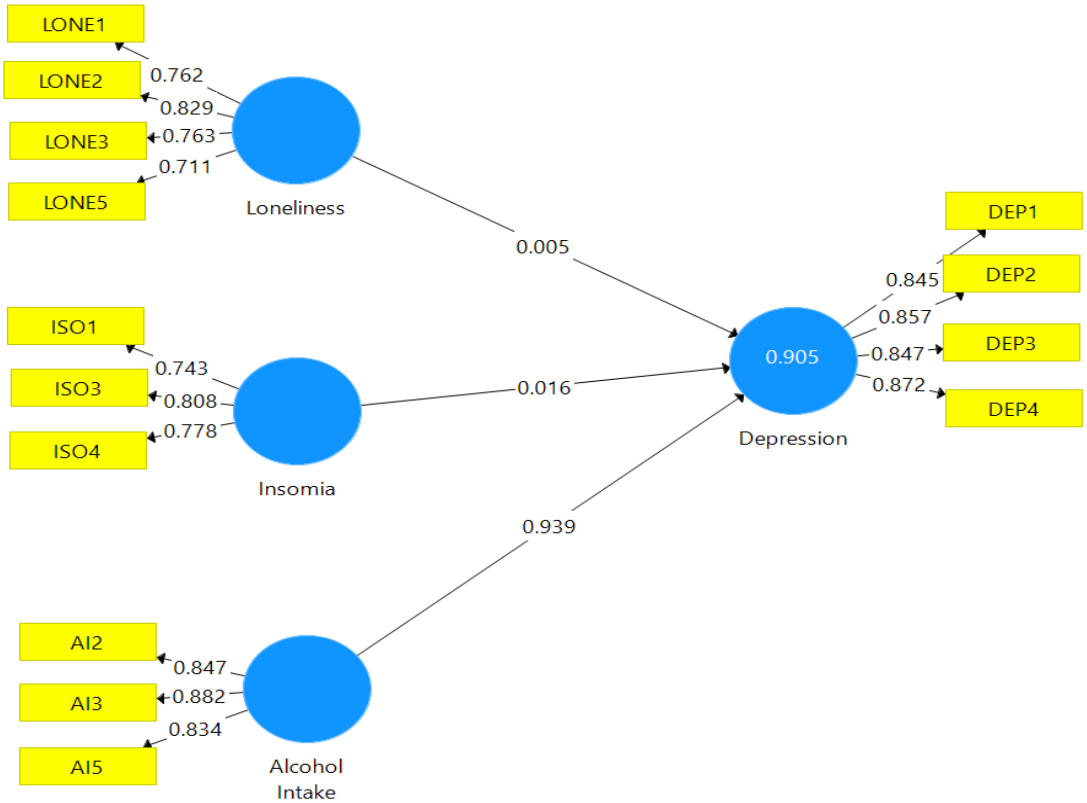

Figure 2. Overall Measurement model

4.1 Discriminant Validity

In this study, discriminant validity is evaluated according to the Fornell and Larcker and HTMT criterion. Specifically, discriminant validity needs a test to not correlate very highly with measures that it should differ(Voorhees et al., 2016) (Hair Jr. et al., 2017).. In the event discriminant validity cannot be established, a construct will affect the variation of not only the observed variables that they are theoretically connected to. As a result, it cannot be ascertained if findings confirming hypothesised structural paths are valid or caused by statistical inconsistencies (Shiu et al., 2011). A latent variable's AVE must be higher compared to squared correlations between the latent variable and the remaining variables. Hence, the square root of AVE on the diagonal must be more in comparison to correlation of the off-diagonal. Therefore, in this study, all the values, as stated in Table 3, clearly indicated that there were no issues of discriminant validity violation.

Table 3: Discriminant validity (Fornell-Larcker)

	Alcohol Intake	**Depression**	**Insomnia**	**Loneliness**
Alcohol Intake	**0.855**			
Depression	0.951	**0.855**		
Insomnia	0.54	0.527	**0.776**	
Loneliness	0.557	0.538	0.588	**0.767**

4.2 Assessment of Structural Analysis

Identifying a moderator of an independent variable's effect on a dependent variable helps to understand better the mechanism underlying this effect under different. This may subsequently lead to a better understanding of the baseline relationship and advancement of existing theoretical knowledge. Table 6 below shows the interaction between independent variables and dependent variable. if the T value > 1.645, p-value <0.05 it shows a positive interaction between the independent and dependent variable. Based on the table 4 it shows the H1 and H2 is rejected because p value > 0.05 and T value < 1.645 (**H1**: there is a significant relationship between loneliness and depression, **H2**: there is a significant relationship between insomnia and depression while H3 is accepted **H3**: there is a significant relationship between alcohol intake and depression with T-value 64.998 and p value = 0.

Table 4: Path Coefficient

	Original Sample (O)	**Sample Mean (M)**	**Standard Deviation (STDEV)**	**T Statistics (|O/STDEV|)**	**P Values**
Alcohol Intake -> Depression	0.939	0.94	0.014	64.998	0
Insomnia -> Depression	0.016	0.016	0.021	0.761	0.447
Loneliness -> Depression	0.005	0.005	0.021	0.254	0.8

Based on table 5 it shows that alcohol intake has a significant relationship with depression because the significance level of mean falls between [LL = 0.967, UL =0.911]did not span aa zero in between indicating there was significant relationship between the independent variable and dependent variable (Preacher & Hayes, 2008). However insomnia and loneliness [LL = -0.024 and UL =0.059], -[0.035 and UL=0.047] span across zero indicated that there is no association between loneliness ,insomnia . This is probably these issues may not have medical condition and may lead to other serious outcome and not only depression.

Table 5: Path Coefficient Bias Corrected

	Original Sample (O)	**Sample Mean (M)**	**Bias**	**2.50%**	**97.50%**
Alcohol Intake -> Depression	0.939	0.94	0	0.911	0.967
Insomnia -> Depression	0.016	0.016	0	-0.024	0.059
Loneliness -> Depression	0.005	0.005	0	-0.035	0.047

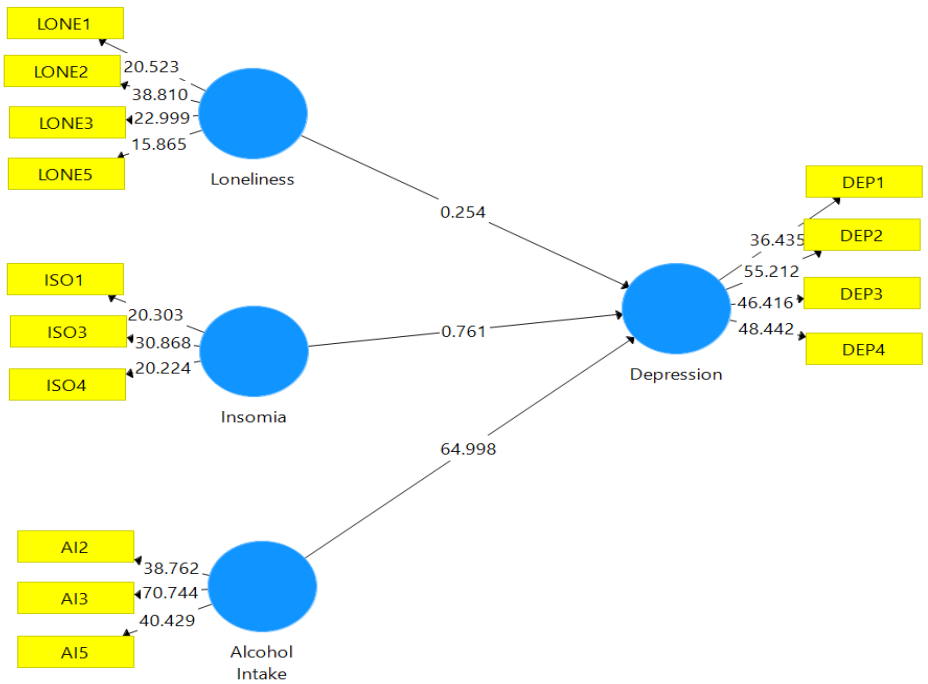

Figure 3: Overall structural model (based on t-value)

5.0 Conclusion

In a study, ethical considerations are critical in ensuring that subjects' freedoms are protected. Ethical standards must be obeyed when doing research since they help to achieve the major goals of the study, that are to acquire awareness and improve its effectiveness as well as integrity (Akaranga & Makau, 2016). Once this component is lacking, studies may indeed be condemned to collapse (Bryman & Bell, 2007). One of its most important ethical considerations seems to be informed permission to do the research, which is defined as an individual voluntarily, deliberately, as well as intellectually providing his or her assent in a conscious thought, as per Armiger (1977). Furthermore, the individual's permission to participate in this project has been obtained only after a thorough explanation of the research guidelines (Arifin, 2018). Individuals always have the ability to make decisions, which allows them to choose whether or not to partake. The research's objective, as well as the research's advantages, must be presented to individuals who take part in this study.

In addition, the researcher must protect as well as emphasise the participant's dignity while still maintaining the participant's privacy (Bryman & Bell, 2007). An information paper must be supplied, and it must be presented using the proper language as well as in right manner which the attendees can acknowledge. It must be comprehensive, straightforward, and wellwritten, or otherwise a poor consent document might result, affecting data accuracy owing to uncertainty and fail to offer enough security for both subjects and researchers (Arifin, 2018). Plagiarism detection software has also offered to help researchers spot similarities within articles published and verify originality.

References

1. Babaee, N. (2010), Investigating Effective Factors and Presenting a Practical Guideline to AdoptionofMobile Ticketing, Sweden: Lulea University of Technology, http://www.divaportal.org/smash/get/diva2:1016782/FULLTEXT01.pdf
2. Babor, T. F., Biddle, J. C. H., Saunders, J. B. & Monteiro, M. G., (2001), AUDIT: the Alcohol Use Disorders Identification Test: guidelines for use in primary health care, Department of Mental Health and Substance Dependence, 1-41, https://www.who.int/publications/i/item/audit-the-alcohol-use-disorders-identificationtest-guidelines-for-use-in-primary-health-care
3. Bartoszek, A. (2020), Mental Well-Being (Depression, Loneliness, Insomnia, Daily Life Fatigue) during COVID-19 Related Home-Confinement — A Study from Poland, International Journal of Environmental Research and Public Health, 1-12, doi:10.3390/ijerph17207417.
4. Bayram, N. (2020), The prevalence and socio-demographic correlations of depression, anxiety and stress among a group of university students, Soc Psychiatry Psychiatr Epidemiol, 667–672, doi:10.1007/s00127-008-0345-x
5. Bener, A., Alsulaiman, R. & Agatangelou, T., (2017), Depression, Hopelessness and Social Support among Breast Cancer Patients: in Highly Endogamous Population, US National Library of Medicine, 18(7), 1889–1896, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5648395
6. Bharti, (10 October, 2013), Why eigenvalues are greater than 1 in factor analysis? CrossValidated, https://stats.stackexchange.com/questions/72439/why-eigenvalues-are-greater-than-1-infactor-analysis/80318
7. Bujang, M. A., Omar, E. D., & Baharum, N. A., (2018), A Review on Sample Size Determination for

Cronbach's Alpha Test: A Simple Guide for Researchers, Malays J Med Sci, 25(6), 85–99, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6422571

8. Chagas, M. H. N., Tumas, V., Rodrigues, G. R., Filho, A. S., Hallak, J. E. C. & Crippa, J. A. S., (2013), Validation and internal consistency of Patient Health Questionnaire-9 for major depression in Parkinson's disease, PubMed, 5(42), 645-649, https://pubmed.ncbi.nlm.nih.gov/23761457
9. Coakley, K. E. (2021), Mental Health Severity Is Associated with Increases in Alcohol Consumption in Young Adult Students during the COVID-19 Pandemic, Alcoholism Treatment Quarterly, 328-341, https://www.tandfonline.com/doi/full/10.1080/07347324.2021.1917325
10. Dan Russell, L. A. (2010), Developing a Measure of Loneliness, Taylor & Francis Online, 290-294, https://www.tandfonline.com/doi/abs/10.1207/s15327752jpa4203_11
11. Davis, R. B. & Mukamal, K. J., (2006), Hypothesis Testing, Circulation, 114 (10), 1078–1082, https://www.ahajournals.org/doi/full/10.1161/circulationaha.105.586461
12. Debowska, A. (2020), A repeated cross-sectional survey assessing university students' stress, depression, anxiety, and suicidality in the early stages of the COVID-19 pandemic in Poland, Psychological Medicine, 3(17), 1-4, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7556906/pdf/S003329172000392Xa.pdf
13. Dennick, R. & Tavakol, M., (2011), Making sense of Cronbach's alpha, Int J Med Educ, 2, 53-55, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4205511
14. Drs. Robert L. Spitzer, J. B. (2005), PATIENT HEALTH QUESTIONNAIRE-9 (PHQ-9), Pfizer Inc, 1-2, https://www2.gov.bc.ca/assets/gov/health/practitioner-pro/bcguidelines/depression_patient_health_questionnaire.pdf
15. Eaves, L. & Bentham, C., (2021), The Impact of Cognitive-Behavioral Interventions on Sleep Disturbance in Depressed and Anxious Community-dwelling Older Adults: A Systematic Review, Taylor & Francis Online, 1-23, https://doi.org/10.1080/15402002.2021.1933488
16. Ettman, C. K. (2020), Prevalence of Depression Symptoms in US Adults Before and During the COVID19 Pandemic, JAMA NETWORK, 7(15), 1-12, doi:10.1001/jamanetworkopen.2020.19686
17. Eze, N. M., Njoku, H. A., Eseadi, C., Akubue, B. N., Ezeanwu, A. B., Ugwu, U. C. & Ofuebe, J. I., (2017). Alcohol consumption and awareness of its effects on health among secondary school students in Nigeria. US National Library of Medicine, 96(48), 1-10, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5728797
18. Faisal, R. A. (2021), Mental Health Status, Anxiety, and Depression Levels of Bangladeshi University Students During the COVID-19 Pandemic, International Journal of Mental Health and Addiction, 1-16, https://link.springer.com/content/pdf/10.1007/s11469-020-00458-y.pdf
19. Fan, Y., Chen, J., Shirkey, G., John, R., Wu, S. R., Park, H., & Shao, C., (2016), Applications of structural equation modeling (SEM) in ecological studies: an updated review, SpringerOpen(19), 5(19), 1-12,

https://doi.org/10.1186/s13717-016-0063-3

20. Fawaz, M. & Samaha, A., (2020), E-learning: Depression, anxiety, and stress symptomatology among Lebanese university students during COVID-19 quarantine, Wiley Periodicals LLC, 56, 52–57 doi:10.1111/nuf.12521
21. Fonseca, L. M. & Faber. J (2014), How sample size influences research outcomes, Dental Press Journal of Ortodontics, 27-29, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4296634
22. Frost, J., (2018), How to Interpret P-values and Coefficients in Regression Analysis, Statistics By Jim, https://statisticsbyjim.com/regression/interpret-coefficients-p-values-regression
23. Galloway, A. & Halla, L., (2005), Non-Probability Sampling, ScienceDirect, 2(35), 859-864, https://www.sciencedirect.com/science/article/pii/B0123693985003820
24. Gani, N. I. A., Rathakrishnan, M., & Krishnasamy, H. N., (2020), A PILOT TEST FOR ESTABLISHING VALIDITY AND RELIABILITY OF QUALITATIVE INTERVIEW IN THE BLENDED LEARNING ENGLISH PROFICIENCY COURSE, Journal of Critical Reviews, 7(5), 140-143, http://dx.doi.org/10.31838/jcr.07.05.23
25. Gavurova, B. (2020), Relationships between Perceived Stress, Depression and Alcohol Use Disorders in University Students during the COVID-19 Pandemic: A Socio-Economic Dimension, International Journal of Environmental Research and Public Health, 1-25, doi:10.3390/ijerph17238853
26. Ghazawy, E., Ewis, A. A., Mahfouz, E. M., & Khalil, D. M., (2020), Psychological impacts of COVID-19 pandemic on the university students in Egypt, ResearchGate, 36(4), 1-10, https://www.researchgate.net/publication/347980813_Psychological_impacts_of_COVID-19_pandemic_on_the_university_students_in_Egypt
27. Glen, S., (11 May, 2016), Kaiser-Meyer-Olkin (KMO) Test for Sampling Adequacy, Statistics How To, https://www.statisticshowto.com/kaiser-meyer-olkin/
28. Glen, S. (2021), Coefficient of Determination (R Squared): Definition, Calculation, StatisticsHowTo.com, Elementary Statistics, https://www.statisticshowto.com/probabilityand-statistics/coefficient-of-determination-r-squared
29. Gordon, J., (20 July, 2021), Coefficient of Determination - Explained, The Business Professor: https://thebusinessprofessor.com/en_US/research-analysis-decision-science/coefficient-ofdetermination-definition
30. Hair, J.F., Hult, G.T.M., Ringle, C.M. and Sarstedt, M. (2014). A Primer on Partial Least Square StructuralEquation Modeling (PLS-SEM). In Sage, Thousand Oaks. https://doi.org/10.1108/EBR-10-2013-0128
31. Hair Jr., J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated on which method to use. International Journal of Multivariate Data Analysis. https://doi.org/10.1504/ijmda.2017.10008574
32. Hager, N. M. (2021), Loneliness and Depression in College Students During the COVID-19 Pandemic: The Role of Boredom and Repetitive Negative

Thinking, Research Square, 1-45, doi:10.21203/rs.3.rs-101533/v2

33. Hamaideh, S. H. (2021), Depression, anxiety and stress among undergraduate students during COVID-19 outbreak and "home-quarantine", WILEY, 1-9, doi:10.1002/nop2.918
34. Hawkley, L., (2021), loneliness, Brittanica: https://www.britannica.com/science/loneliness
35. Horton, N. (15 November, 2010), Generating standardized regression coefficients, R bloggers, https://www.r-bloggers.com/2010/11/example-8-14-generating-standardized-regressioncoefficients/
36. Howard, C. (27 August, 2019), Advantages and Disadvantages of Online Surveys, cvent, https://www.cvent.com/en/blog/events/advantages-disadvantages-online-surveys
37. Hussain, M. E. & Veqar, Z., (2017), Validity and reliability of insomnia severity index and its correlation with pittsburgh sleep quality index in poor sleepers among Indian university students, Int J Adolesc Med Health, 1-4, https://doi.org/10.1515/ijamh-2016-0090
38. Hughes J.M., Ulmer C. S., Gierisch J. M., Hastings S.N. & Howard M.O., (2018). Insomnia in United States military veterans: An integrated theoretical model. ScienceDirect, 118-125. Retrieved from https://www.sciencedirect.com/science/article/abs/pii/S0272735817301423
39. Joseph, R. (9 August, 2021), Correlation and P value, The Data School, https://dataschool.com/fundamentals-of-analysis/correlation-and-p-value/
40. Kadden, R. M. (1994), Cognitive-Behavioral Approaches to Alcoholism Treatment, Alcohol Health Res World, 18 (4), 279–286, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6876446/
41. Kamaludin, K., Chinna, K., Sundarasen, S., Khoshaim H. B., Nurunnabi, M., Baloch, J.M., Sukayt, A., Hossain, S. F.A., (2020). Coping with COVID-19 and movement control order (MCO): experiences of. ScienceDirect, 6, 1-7. https://doi.org/10.1016/j.heliyon.2020.e05339
42. Kroenke, K., Spitzer, R. L., & Williams, J. B. W., (2001), Validity of a Brief Depression Severity Measure, Journal of General Internal Medicine, 16(9), 606-613, https://onlinelibrary.wiley.com/doi/full/10.1046/j.1525-1497.2001.016009606.x
43. Li, L., Wu, C., Gan, Y., Qu, X., & Lu, Z., (2016), Insomnia and the risk of depression: a meta-analysis of prospective cohort studies, BMC Psychiatry, 375 (16), 1-16, https://bmcpsychiatry.biomedcentral.com/articles/10.1186/s12888-016-1075-3
44. Liu, Z. (2019), Association between perceived stress and depression among medical students during the outbreak of COVID-19: The mediating role of insomnia, Journal of Affective Disorders, 89–94, https://doi.org/10.1016/j.jad.2019.05.028
45. McCombes, S. (30 August, 2021), An introduction to sampling methods, Scribbr, https://www.scribbr.com/methodology/sampling-methods/
46. Meneses-Gaya, C. D., Zuadi, A. W., Loureiro, S. G. & Crippa, J. A. S., (2009), Alcohol Use Disorders Identification Test (AUDIT): An updated systematic review of psychometric properties, Psychology

& Neuroscience, 2(1), 83 - 97, doi: 10.3922/j.psns.2009.1.12

47. Pan, A., & Li, L., (2020), Association of Depression with All-Cause and Cardiovascular Disease Mortality Among Adults in China, JAMA Network Open, 3(2), 1-16, doi:10.1001/jamanetworkopen.2019.21043
48. Pea, R. D. (1993). Practices of distributed intelligence and designs for education. In Distributed cognitions psychological and educational considerations (Issue 1914).
49. Preacher, K. J., & Hayes, A. F. (2008). Assessing mediation in communication research. In The Sage sourcebook of advanced data analysis methods for communication research.
50. Misirlis, N. (2020), International students' loneliness, depression and stress levels in COVID-19 crisis, The role of social media and the host university, Journal of Contemporary Education Theory & Research, 20-25, doi:10.5281/zenodo.4256624
51. Molebatsi, K., Motlhatlhedi, K. & Wambua, G. N., (2020), The validity and reliability of the Patient Health Questionnaire-9 for screening depression in primary health care patients in Botswana, BMC Psychiatry, 20 (295), 1-10, https://bmcpsychiatry.biomedcentral.com/articles/10.1186/s12888-020-02719-5
52. Morin, A. H. (2020). Teacher support and the social classroom environment as predictors of student loneliness. Social Psychology of Education, 23(6), 1687–1707. https://doi.org/10.1007/s11218-020-09600-z
53. Nahas, A. R. (2019), Prevalence of Depression Among Health Sciences Students: Findings from a Public University in Malaysia, US National Library of Medicine, 170–175, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6537646/
54. Neto, F. (2014), Psychometric analysis of the short-form UCLA Loneliness Scale (ULS-6) in older adults, Eur J Ageing, 11(4), 313-319, https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5549168/
55. Ngo, T. H. D., & Puente, L., (2012), The Steps to Follow in a Multiple Regression Analysis, SAS Global Forum, 333, 1-12, https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.373.2807&rep=rep1&type=pdf
56. Nochaiwong, S., Ruengorn, C., Thavorn, K., Hutton, B., Awiphan, R., Phosuya, C., Ruanta, Y., Wongpakaran, N., & Wongpakaran, T. (2021). Global prevalence of mental health issues among the general population during the coronavirus disease-2019 pandemic: a systematic review and meta-analysis. Scientific Reports, 11(1). https://doi.org/10.1038/s41598-021-89700-8
57. Pflugerer, G. (23 March, 2020), What is KMO and Bartlett's test of sphericity? FIND ANY ANSWER, https://findanyanswer.com/what-is-kmo-and-bartletts-test-of-sphericity
58. Pollard, M. S., Tucker, J. S., & Green, H. D. (2020). Changes in Adult Alcohol Use and Consequences During the COVID-19 Pandemic in the US. JAMA Network Open, 3(9), e2022942. https://doi.org/10.1001/jamanetworkopen.2020.22942
59. Pozzo, M. I., Borgobello, A., & Pierella, M. P., (2019), Using questionnaires in research on universities: analysis of experiences from a situated perspective, REIRE, 12 (2), 1-16, http://doi.org/10.1344/reire2019.12.227010

60. Rahn, M. (2008), Factor Analysis: A Short Introduction, Part 1, The Analysis Factor: https://www.theanalysisfactor.com/factor-analysis-1-introduction/
61. Raypole, C. (2 July, 2020), Loneliness and Depression: What's the Connection? healthline, https://www.healthline.com/health/loneliness-and-depression
62. Rudenstine, S., McNeal, K., Schulder, T., Ettman, C. K., Hernandez, M., Gvozdieva, K. & Galea, S., (2021). Depression and Anxiety During the COVID-19 Pandemic in an Urban, Low-Income Public University Sample. Journal of Traumatic Stress, 34, 12-22, doi:10.1002/jts.22600
63. Russell, D., Peplau, L. A. & Ferguson, M. L., (1978), Developing a measure of loneliness, Journal of Personality Assessment, 42, 290-294, https://fetzer.org/sites/default/files/images/stories/pdf/selfmeasures/Self_Measures_for_Loneliness_and_Interpersonal_Problems_UCLA_LONELINESS.pdf
64. Samuels, P., (2016), Advice on Exploratory Factor Analysis, ResearchGate, 1-8, https://www.researchgate.net/publication/304490328_Advice_on_Exploratory_Factor_Analysis
65. Saunders, M. N. & Lewis, P., (2012), "Research Methods for Business Students" Chapter 4: Understanding research philosophy and approaches to theory development, ResearchGate, 8, 128-171, https://www.researchgate.net/publication/330760964_Research_Methods_for_Business_Students_Chapter_4_Understanding_research_philosophy_and_approaches_to_theory_development
66. Schoonenboom, J. & Johnson, R. B., (2017). How to Construct a Mixed Methods Research Design. SpringerLink, 69, 107–131, https://link.springer.com/article/10.1007/s11577-017-0454-1
67. Sher, L. (2020), The impact of the COVID-19 pandemic on suicide rates, An International Journal of Medicine, 707–712, https://doi.org/10.1093/qjmed/hcaa202
68. Shrestha, A. K. (2015), Is it mandatory to have the value of Cronbach's alpha above 0.70? ReseachGate, https://www.researchgate.net/post/Is_it_mandatory_to_have_the_value_of_Cronbachs_al pha_above_70
69. Smith, G., (2015), 10 - Multiple Regression, Academic Press, 381 -386, https://doi.org/10.1016/C2014-0-04762-4
70. Smith, P. G., Morrow, R. H., & Ross. D. A., (2015), Field Trials of Health Interventions, 3rd edition, UK: OXFORD University Press, https://www.ncbi.nlm.nih.gov/books/NBK305515/
71. Stanton, R., To, Q. G., Khalesi, S., Williams, S. L., Alley, S. J., Thwaite, T. L., Fenning, A. S., & Vandalenotte, C., (2020). Depression, Anxiety and Stress during COVID-19: Associations with Changes in Physical Activity, Sleep, Tobacco and Alcohol Use in Australian Adults. International Journel of Environmental Research and Public Health, 17(11), 1-13, https://www.mdpi.com/1660-4601/17/11/4065/htm
72. Suhr, D. D. (2020), Exploratory or Confirmatory Factor Analysis? Statistics and Data Analysis, 200(31), 1-17, https://support.sas.com/resources/papers/proceedings/proceedings/sugi31/200-31.pdf
73. Shiu, E., Pervan, S. J., Bove, L. L., & Beatty, S. E. (2011). Reflections on discriminant validity: Reexamining the Bove et al. (2009) findings. Journal of Business Research.

https://doi.org/10.1016/j.jbusres.2010.04.004

74. Thandevaraj, E. J., Gani, N. A. N. & Nasir, M. K. M., (2021). A Review of Psychological Impact on Students Online Learning during Covid-19 in Malaysia. Creative Education (12), 1296-1306, https://doi.org/10.4236/ce.2021.126097
75. Thapar, A., Collishaw, S., Pine, D. S. & Thapar, A. K., (2012). Depression in adolescence. ScienceDirect, 379(9820) 1056067, https://www.sciencedirect.com/science/article/abs/pii/S0140673611608714
76. Timothy J. Legg, P. L. (2019). What is depression and what can I do about it? Medical News Today, 16.
77. Torres, F. (October, 2020), What Is Depression? American Psychiatric Association, https://www.psychiatry.org/patients-families/depression/what-is-depression
78. Voorhees, C. M., Brady, M. K., Calantone, R., & Ramirez, E. (2016). Discriminant validity testing in marketing: an analysis, causes for concern, and proposed remedies. Journal of the Academy of Marketing Science. https://doi.org/10.1007/s11747-015-0455-4
79. Wang, P., Wang, J., Yan, Y.,Si, Y., Zhan, X., & Tian, Y., (2021). Relationship Between Loneliness and Depression Among Chinese Junior High School Students: The Serial Mediating Roles of Internet Gaming Disorder, Social Network Use, and Generalized Pathological Internet Use, Frontiers in Psychology, 11, 1-13, https://doi.org/10.3389/fpsyg.2020.529665
80. Warne, R. T. & Larsen, R., (2010), Estimating confidence intervals for eigenvalues in exploratory factor analysis, Behavior Research Methods, 42(3), 871-876, doi:10.3758/BRM.42.3.871
81. Watkins, M. W., (2018), Exploratory Factor Analysis: A Guide to Best Practice, Journal of Black Psychology, 44(3), 219-246, https://doi.org/10.1177/0095798418771807
82. Watson, S, (15 November, 2020), Alcohol and Depression, WebMD: https://www.webmd.com/depression/guide/alcohol-and-depresssion
83. Woon, L. S.-C., Abdullah, M. F. I. L. B., Sidi, H., Mansor, N. S., & Jaafar, N. R. N., (2021). Depression, anxiety, and the COVID-19 pandemic: Severity of symptoms and associated factors among university students after the end of the movement lockdown, PLOS ONE, 1-18, https://doi.org/10.1371/journal.pone.0252481
84. Young, B., Lewis, S., Katikireddi, S. V., Bauld, L., Stead, M., Angus, K., Campbell, M., Hilton, S., Thomas, J., Hinds, K., Ashie, A., & Langley, T. (2017). Effectiveness of Mass Media Campaigns to Reduce Alcohol Consumption and Harm: A Systematic Review. Alcohol and Alcoholism, 53(3), 302–316. https://doi.org/10.1093/alcalc/agx094
85. Yildirim, M. & Guler, A., (2020), Factor analysis of the COVID-19 Perceived Risk Scale: A preliminary study, Taylor & Francis Online, 1-8, https://www.tandfonline.com/doi/full/10.1080/07481187.2020.1784311
86. Yunus, W. M. A. W. M., Badri, S. K. Z., Panatik, S. A., & Mukhtar, F., (2021). The Unprecedented Movement Control Order (Lockdown) and Factors Associated with the Negative Emotional Symptoms, Happiness, and Work-Life Balance of Malaysian University Students During the Coronavirus Disease (COVID-19)

Pandemic. Frontiers in Psychiatry, 11, 1-15, https://doi.org/10.3389/fpsyt.2020.566221

87. Zainudeen, Z. T., Abd Hamid, I. J., Azizuddin, M. N. A., Abu Bakar, F. F., Sany, S., Zolkepli, I. A., & Mangantig, E. (2021). Psychosocial impact of COVID-19 pandemic on Malaysian families: a cross-sectional study. BMJ Open, 11(8), e050523. https://doi.org/10.1136/bmjopen-2021-050523
88. Zeileis, A., & Neto, F. C., (2010), Beta Regression in R, Journal of Statistical Software, 34(2), 1-24, https://www.jstatsoft.org/article/view/v034i02
89. Zhang, C., Yang, L., Liu, S., Ma, S., Wan, Y., Cai, Z., Du, H., Li, R., Kang, L., & Su, M., (2020), Survey of Insomnia and Related Social Psychological Factors Among Medical Staff Involved In the 2019 Novel Coronavirus Disease Outbreak, Frontiers in Psychiatry, 11(3), 1-9 doi:10.3389/fpsyt.2020.00306
90. Ziglari, L., (2017), Interpreting Multiple Regression Results: β Weights and Structure Coefficients, General Linear Model Journal, 43(2), 13-22, http://www.glmj.org/archives/articles/Ziglari_v43n2.pdf