CITY UNIVERSITY OF HONG KONG

The Relationship among Insomnia, Depressive Symptoms and General Happiness among Hong Kong Adolescents

A Report Submitted to

Department of Applied Social Studies

in Partial Fulfillment of the Requirements for

the Bachelor of Social Sciences in Psychology

by

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April, 2010

Abstract

Objectives: To study the relationship among insomnia, depressive symptoms and happiness among adolescents in Hong Kong.

Method: Questionnaire were delivered to and completed by 239, F.6 and F.7 students in three secondary schools and 321, college students in universities in Hong Kong. Participants were required to fill in the Insomnia Severity Index (ISI), the Depression Scales by Center for Epidemiologic Studies (CES-D) and the Happiness scale.

Results: 267 of participants met the clinical criteria for depression and another 267 respondents were in the clinical level of insomnia. The difference in depressive symptoms was significant between insomnia group and non-insomnia group (t=12.37, p<.001). People with higher happiness level experienced significantly less depressive symptoms (t=11.98, p<.001). The result shows that the combination of insomnia and happiness level had a significant effect of predicting the level of depressive symptoms (R^2=.49, F(2,561)=272.46, p<.001). There was significant gender difference in level of depressive symptoms (t=2.39, p<.05) and the educational background contributed to the significant difference in depressive experience (t=4.67, p<.001).

Conclusions: The findings suggested that the prevalence of depression and insomnia were high among Hong Kong adolescents as compared with Western findings. The implications of this study were discussed in light of mental health of adolescents and university students in Hong Kong.

Acknowledgements

I am gratefully thankful to my supervisor, John Tse, who provided kind guidance and support for me to develop and complete this research project. I would also like to thank the following individuals Mr. Dennis Yip, Mr. Lai Wing Yip, Mr. Ng Ho Fai, Ms. Hung Man Fong and Ms. Mavis He for their help with the data collection of this study.

City University of Hong Kong

Department of Applied Social Studies

Thesis Submission Declaration Form

Student Name:	**CHUNG Cheuk Chi**
Student No.:	
Title of Thesis/Dissertation:	The relationship among insomnia, depressive symptoms and general happiness among Hong Kong adolescents
Course Code:	SS4708
Programme:	BSSPSY
Supervisor's Name:	**John Tse**

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Chapter 1: Introduction and Literature Review

Introduction

According to the DSM-IV of depression disorder, one of the diagnostic criteria is sleep disturbance. It is strongly suggesting a relationship between insomnia and depression. Some research studies in the areas among insomnia and depression were carried out in western countries. However, few studies were carried out in the Chinese context and Hong Kong. Happiness obviously is contrast to depressive mood and depression (Chapline, 2006; Clark & Watson, 1991).

Moreover, happiness is described as a buffer of negative emotions and stress in aversive situation, as a protective factor for depression and as a predictor of depressive symptoms and insomnia (Baron & Kenny, 1986; Chang, Ford, Mead, Cooper-Patrick, & Klag, 1997; Lai, 2009; Wong & Lim, 2009; Veenhoven, 1988). Previous studies presented that there is negative association between depressive symptoms and self-perceived happiness, as well as between insomnia and happiness separately (Abdel-Khalek, 2006; Chaplin, 2006; Scott & Judge, 2006; Wong & Lim, 2009; van Hemert, van de Vijver, & Poortinga, 2002). To illustrate the relationship among depressive mood, sleeping quality and subjective happiness, present study is going to explore about the moderation effect of subjective happiness on depression and insomnia.

The purpose of present study is to study the relationship between depressive symptoms and insomnia, and the effect of happiness on the relationship between insomnia and depression among adolescents in Hong Kong. The results may have important implication for contributing to improve the prevention and intervention plan in psychopathology and counseling.

Literature Review

Insomnia

Nowadays, sleep problems are common in our society. Between 13% and 52 % of the population is suffering from different kinds of sleep insufficiency (Hamilton el at., 2007). Comparable to adult population, complaint about sleep disturbance from teenagers, such as university students, are also prevalent (Yang, Wu, Hsied, Liu, & Lu, 2003). These sleep disturbances include insufficient school-night sleep, restricted sleep time, morning drowsiness and spontaneous daytime naps, shifting of sleep phase of delaying the timing of going to sleep and waking up later in the morning, sleep debt, and insomnia (Wolfson, Wuinn, & Vannucci, 2006; Vela-Bueno, Fernandez-Mendoza, & Olavarrieta-Bernardino, 2009).

There are many reasons accounting for adolescents sleep deprivation. Academic stress was one of the factors attributing to adolescents engagement in sleep problems. For example, academic workloads and pressures, early school start times, demands from extracurricular activities, increase in numbers and significance of roles in school, biological changes due to puberty, and stress from family (Ginsberg & Gapen, 2008; Roane & Taylor, 2008; Wolfson et al., 2006). These sleep disturbances may not only affect adolescents working and studying, but also be prone to more serious sleep disorders, such as insomnia, damaging a person daily functioning, and even other psychological problems. Studies among teenagers in Asian countries and Chinese adolescents in China and Hong Kong also examined that pressure from academic work was one of the reasons for sleeping disturbance (Chung & Cheung, 2008; Liu, Zhao, Jia, & Buysse, 2008; Tagaya et al., 2004; Yang, Kim, Patel, & Lee, 2005). Due to the Chinese cultural background, the society and family have high expectation on the academic performance so the

adolescents in Hong Kong would experience higher pressures from academic issue than the in Western countries.

Complaints of insomnia are common among the sleep problems. According to the criteria in DSM-IV for insomnia, insomnia is a subjective complaint of difficulty falling or staying asleep or poor sleep quality for at least a month, including difficulty in falling sleep, awakening in the middle of the night with difficulty to fall back to sleep, and awakening earlier than the usual waking time and being unable to sleep again (Wolfson et al., 2006; American Psychology Association [APA], 2000).

Insomnia and other sleep problems are common among different population in various cultural backgrounds. About one third of the United States general population has presented with one or more symptoms listed on the criteria in DSM-IV (Ohayon, 2002, 2009). Between 8% and 18% of the general population has been suffering from the sleeping disturbance (Ohayon, 2002). Nearly 10–15% of adults presented with chronic insomnia (Wolfson et al., 2006). The problem of insomnia is prevalence in general population, as well as among the adolescents. The rate of insomnia in teenage population is comparable to the older group. There were 4% of teenagers having clinical insomnia according to the DSM-IV, and one-fourth of youths were affected by at least one insomnia symptoms in previous month (Ohayon, Roberts, Zulley, Smirne, & Priest, 2000). In different countries, there is similar prevalence in adolescent with insomnia symptoms. For example, in Florida, there were between 5% and 12% of youths with insomnia complaints (Karacan Thornby, & Anch, 1973); and between 12.7% and 18.6% of a French teenage sample were affected by insomnia (Ohayon, 1997).

The situation of insomnia in Chinese adolescents is comparable to those reported in Western countries. Liu, Uchiyama, Okawa, and Kurita (2000) estimated 16.9% of adolescents

sample in Chinese experienced insomnia symptoms including difficulties in falling sleep and maintaining sleep, and awakening early in the morning. Insufficient sleeps in Chinese youths may be related to similar reasons as those in Western teens with academic demands and biological changes during puberty (Liu & Zhou, 2002). Suen, Ellis, and Tam (2008) mentioned that half of the Hong Kong teenagers are categorized as "poor sleepers" and the number of university students in Hong Kong influencing by different kinds of sleeping problems is similar to the statistic in Taiwan. And the prevalence rate of insomnia was increased with age (Chung & Cheung, 2008; Li, Wing, Ho, & Hong, 2002). However, the situation of insomnia among Hong Kong adolescents remained unclear. Further research is needed to provide more information in the Hong Kong context.

Depression

The symptoms of depression include emotional, physiological, behavioral and cognitive aspects, such as depressed emotions, sense of hopelessness and helplessness, feeling of guilty, change in appetites, sleeping pattern, energy and activity level, and loss interest in daily activities and interacting with others (Nolen-Hoeksema, 2007; Radloff, 1977). According to the DSM-IV, people who experience at least five of those symptoms for more than two weeks meet the diagnosing criteria for major depression disorder (APA, 2000).

Depression is a growing disorder in the society, both in the Eastern and Western countries. It has been estimated that 16% of American general populations are diagnosed as having major depression (Kessler et al., 2003; Nolen-Hoeksema, 2007). For adolescents, between 8% and 29% of teenagers are diagnosed with different kinds of depression disorders (Garber & Horowitz, 2002; Lewinsohn & Essau, 2002; Nolen-Hoeksema, 2007). According to a

study in 2005 by Hong Kong Mood Disorders Center, about 8.3% of adults in Hong Kong had experienced different degree of depression and depressive symptoms. Moreover, based on a research done by a local social service agency, Christian Family Service Center, in 2004, it was reported that 4.2% of the adolescents have experienced depressive symptoms. Although the prevalence rate of depression among children and teenagers is not as high as the rate of adult population, suffering from depressive mood and other depressive symptoms, which may or may not fulfill the diagnostic criteria, are common problems in adolescence (Birmaher et al., 1996; Dahl & Harvey, 2007; Nolen-Hoeksema, 2007). Therefore, it is essential to have a good understanding of teenage depression and its related factors in local context for further prevention and intervention of the mental health issue.

Insomnia and Depression

There is evidence revealing an association between insomnia and negative outcomes, including psychological problems of depression (Liu & Zhou, 2002). Previous researches presented with the result that association between depression and insomnia are common studied in adult population (Ford & Kamerow, 1989; Roane & Taylor, 2008). Meanwhile, studies revealed that insomnia symptoms are strongly associated with depressive symptoms among teenage population (Roberts, Roberts, & Chan 2008; Dahl & Harvey, 2007; Wolfson et al., 2006). Some studies suggested that people with insomnia tended to experience depressive symptoms (Chang et al., 1997; Ford & Kamerow, 1989; Suen et al., 2008), while others calmed that people with depression had higher probability to experience insomnia (Liu et al., 2007; Ryan et al., 1987).

Undoubtedly, depressive symptoms have a strong relationship with insomnia. Pervious researches have explored the directional relationship between insomnia and depression but with mixed results and different conclusion. Study among teenager samples suggested depressive symptoms were predicting the onset of later sleep disturbances and strongly associated with the persistence of sleep difficulties (Patten, Choi, Gillin, & Pierce, 2000). Furthermore, prior studies examined that there is a bi-directional relationship between insomnia and depressive symptoms (Chorney, Detweiler, Morris, & Kuhn, 2008; Dahl & Harvey, 2007).

However, some studies suggested insomnia is predicting depression. Although a prospective study revealed that experiencing sleep problems in young age is a predictor for other psychopathology, like anxiety disorder, but not for depression disorders (Gregory et al., 2005), some studies revealed that one of the risk factors for depressive symptoms in both adulthood and adolescence is insomnia (Breslau, Roth, Rosenthal, & Andreski, 1996; Ford & Kamerow, 1989; Liu & Zhou, 2002; Roane & Taylor. 2008). Gregory, Rijsdijk, Lau, Dahl, and Eley (2009) examined a group a twins during childhood to find out the directional relationship between sleep complaints and depression symptoms revealed that sleep problems at early ages predicted later depression symptoms. Studying about the direction relationship among adolescents, prior insomnia was strongly related with the onset of depression (Johnson, Roth, & Breslau, 2006). With various and mixed result among insomnia and depression, further longitudinal studies may help to get a clearer picture for learning more about the etiology of these two problems.

Happiness

Happiness could be about pleasure, positive thinking, optimism, hope, and cheerful emotions. Based on the literatures, happiness is known as favorable quality of life and a part of

subjective well-being constructs **(**Abdel-Khalek, 2006**;** Cummins, 1998; Diener 1994; Proctor, Linley, & Maltby, 2009; Seligman, 2002; Veenhoven, 1995). Happiness is feelings of pleasure and fulfillment of human potentials (Franklin, 2010). Happiness can also be associated with appraisal, enjoyment of life, satisfaction, aspiration, positive affects, joy, favorable and pleasantness experiences; and these factors are used to evaluate of happiness of life subjectively (Proctor et al., 2008; Veenhoven, 2009). Happiness is about the mood, the feelings and also the thoughts; and there is no objective standard for happiness as it is a subjective evaluation of life (Veenhoven, 2009). In this article, happiness is referred to the participant's subjective perceived general happiness in the daily living.

As Proctor, Linley, and Maltby (2009) mentioned, most participants, across ages and nations, in happiness studies reported positively towards their life satisfaction and expressed that they are happy in various levels. One of the studies involving 43 nations found that the mean score of happiness on a scale of 0 to 10 is 6.33, implying that most people were experiencing more positive affect than neutral; and more than a half of people responded that they are pretty happy (Diener & Diener,1996; Myers & Diener, 1996; Proctor et al., 2009).

In Hong Kong, the average Happy Index for general population is 70.58 out of 100; and the result revealed that females are happier than males (Wong & Ho, 2006). For teenagers in Hong Kong, based on a study by Hong Kong Federation of Youth Group in 2001, half of the youth participants said that they have more experiences of happiness than otherwise; nearly twenty percent claimed that their experience of unhappiness overweight their experience of happiness; and about a quarter of participants revealed the amount of happy and unhappy experience are the same (Cheung, 2001).

Abdel-Khalek (2006) revealed the gender difference in self-rating of happiness that boys or men were significantly happier than girls or women across three stages, including secondary school students, university students and government employees. However, in Chaplin (2006) study, the result showed that females are happiness than males in both experienced and expressed level. The gender difference in subjectively perceived happiness remind unclear.

Happiness, Depression and Insomnia

People who are happier would act differently towards the difficult times and depressive mood. Happiness level is negatively and significantly associated with depression (Chaplin, 2006; Lai, 2009; van Hemert et al., 2002; Wong & Lim, 2009)**.** Various researches among adults, adolescents and children have similar results that participants who have low life satisfaction level would be higher in depressive mood **(**Headey Kelley, & Wearing, 1993; Gilman & Huebner 2006; Proctor et al., 2009). Moreover, Chaplin (2006) studied relationships between depressive symptoms and emotions, and confirmed that depressive mood was strongly related to happiness experience. Wong and Lim (2009) also found that there was a significant association between depression and total optimism, and optimism was significantly accounted for the unique variance in depression.

Previous studies revealed that happiness is a buffer to stress and negative emotions during unpleasant or aversive events (Baron & Kenny, 1986; Lai, 2009; Veenhoven, 1988). Those adversities are one of the sources of depressive mood and long term adverse experience would prompt to further development of depression and other mental disorders. As Lai (2009) found that participants who were in high optimism group were significantly in lower distress level, implying that they had less emotional disturbance, than the low optimism group. Some

studies also proposed that optimism and happiness is a significant predictor for depression and depressive symptoms (Lai, 2009; Lewinsohn, Redner, & Seeley, 1991; Proctor et al., 2009; Wong and Lim, 2009). Lewinsohn, Redner, and Seeley (1991) suggested that lower in life satisfaction and happiness is predicting onset of depression and other psychological disorders (Proctor et al., 2009).

However, few researchers studied on relationship between components of general happiness and insomnia. A significant negative relationship between life satisfaction and insomnia was revealed in past research **(**Abdel-Khalek, 2006**;** Scott & Judge, 2006**).** Instead, a research on relationship between positive affect and quality of life among older adult illustrated that positive affect is negatively correlated with sleep problems (Steptoe, O'Donnell, Marmot, & Wardle, 2008). A study about insomnia and well being in middle adulthood by Hamilton et al. (2007) also revealed that insomnia is significantly associated with subjective well being.

Therefore, this study is going to investigate whether the relationship between insomnia and depression would be significant and confirmed among Hong Kong teenage population targeted for this research. Secondly, according to previous examination, prior sleep disturbance or insomnia is a predictor for later experience of depressive symptoms. Thus, it is hypothesized there is significant difference between participants with and without insomnia on their prediction of that they will experience depressive symptoms in the following year. Finally, whether there is a moderation effect from perceived happiness on the relationship among insomnia and depressive symptoms. Moreover, as happiness is a protective factor for depression, it is hypothesized that participants with higher subjective perceived general happiness level would be less likely to predict that they will experience depression symptoms in the following years.

Hypotheses

(1) Participants with insomnia would have a higher score than participants with no insomnia in depression.

(2) Participants with higher level of general happiness would have a lower score than participants with lower level of subjective perceived general happiness in depression.

(3) College students would have higher score than senior secondary school students in both depression and insomnia.

(4) Female participants would have higher score than male in both insomnia and depression.

Chapter 2: Methodology

Participants

Five hundred and sixty Hong Kong adolescents voluntarily participated in this study (239 secondary school students and 321 university students). Secondary sample consisted of 121 boys and 118 girls while university sample had 42 male and 181 female. The mean age of the respondents in this study was 19.78 (*SD*=2.04). 51.5% of the secondary school sample came from F.6 and the rest came from F.7, while 31.5% of the university sample was year 1 students, 31.1% was year 2 students, 34.3% was final year study in bachelor programs, and the rest was associate degree students (details see Table 1).

Procedures

Three secondary schools were invited to participate in this study. In the first school, data of both F.6 and F.7 was collected. Solo F.6 students participated in the second school and solo F.7 students participated in the third school. A set of questionnaire was distributed by teachers and completed by students in three secondary schools during their school time. Brief instruction was written on the questionnaire and told the teachers who helped in coordinating the data collection. No time limit was provided.

Table 1

The Frequency of Demographic Details

Demographic Variables	All participants (*n*=564)	Secondary school sample (*n*=239)	University sample (*n*=325)

	Frequency	Frequency	Frequency
Gender			
Male	265	121	144
Female	299	118	181
Education level			
F.6	123	123	-
F.7	116	116	-
Year 1	102	-	102
Year 2	102	-	102
Year 3/ Final Year	111	-	111
Others	10	-	10

The data of university sample was collected by convenience sampling in universities campus, classes and through the Internet. A brief instruction about the questionnaires was given to participants. Participants were encouraged to complete the whole questionnaires by following the instructions. No time limit was imposed as secondary school sample. All questionnaires were collected immediately after being filled in. After checked all questions were answered, participants were being thanked for their cooperation.

Measures

Insomnia Severity Index The Insomnia Severity Index, ISI (Morin, 1993), was used for measuring the respondents' perception of their insomnia situation and how sleeping problems influence their daily living (Bastien, Vallieres, & Morin, 2001; Cukrowicz, Otamendi, Pinto, & Bernert, 2006; Morin & Espie, 2003). Participants were asked to provide information about their sleep problems, patterns and other impacts based on the situation within last two weeks. The ISI consists of seven items for participants to rate the severity of insomnia and how those situations

affect with their day time functioning (Morin & Espie, 2003; Morin, 1993; Hagen, Patel, & McCall, 2009). Participants indicated their responds by circling a score from 0 to 4 in each item. As current study targeted teenage population in Hong Kong, all items were translated into Chinese version.

By adding the ratings of all items for a total score, it ranges from 0 to 28. The higher score the participants obtained; the more serious the sleeping problems were indicated. Based on the guidelines for scoring and interpretation, participants were categorized into 4 different groups according to their score: 0-7 refers to no clinically significant insomnia, 8-14 means subthreshold insomnia, 15-21 refers to clinical insomnia in moderate severe level and 22-28 means severe clinical insomnia (Morin, 1993). And the clinical cut-off point of score 10 or above was obtained to define the insomnia group and score below 10 was defined as non-insomnia group for data analysis (Bastien et al, 2001; Cukrowicz et al., 2006).

With regard to present adolescents sample in Hong Kong, the Cronbach alpha of this scale was .84. It is comparable to a local study among adolescent population in Hong Kong with Cronbach alphas of .83 and a validation study of the ISI with Cronbach alpha of .74 (Bastien et al, 2001; Kan, 2008). The inter-item correlation ranged from .22 to .72. The ISI scale was reliable measure the insomnia level perceived by participants (Bastien et al, 2001).

Center for Epidemiologic Studies Depression Scale The Center for Epidemiologic Studies Depression Scales, CES-D Scale (Radloff, 1977) was also utilized to measure level of depressive symptoms and to be used in studying the relationships between depression and other factors (Radloff, 1977; Wong & Lim, 2009). Respondents were asked to rate 20-item by frequency of occurrence within one week before doing the questionnaire, 1 refers to the item occurs less than one day, 2 refers to the item occurs in 1 to 2 days, 3 means the item occurs in 3

to 4 days and 4 means the item occurs in 5 to 7 days. The Chinese Version of the CES-D obtained from web of 'Little Prince is Depressed' by Hong Kong Jockey Club Centre for Suicide Research and Prevention was used in present study.

Computed score for the CES-E by adding all ratings, among the total score ranges from 0 to 60. A higher score indicated that more depressive symptoms were experiencing. A cutoff point of 28 from a study among Taiwan adolescents was obtained to define participants within the clinical range in this study (Yang, Soong, Kuo, Chang, & Chen, 2004). The CES-D scale has a reliable internal consistency in both English and Chinese version (Chou, 2009; Radloff, 1977; Wong & Lim, 2009). For example, in a study about new adult immigrants obtained a high Cronbach alpha of .73 (Chou, 2009) and the Cronbach alpha of a study in Singaporean adolescents was .87. With regard to present adolescents sample in Hong Kong, a very high internal consistency was obtained ($\alpha = .95$). The inter-item correlation ranged from .14 to .68.

Happiness Scale The Happiness Scale (Fordyce, 1988) was used to assess the subjective general happiness level. It consists of two parts: rating the general happiness feeling within eleven statements indicating different level of happiness and filling in an equation weighting for the proportion of experiencing happiness, unhappiness and neutral. The total score was computed by adding up the general happiness feeling rating and proportion of experiencing happiness. The higher the score is, the happier the participants perceived subjectively. This is a reliable, stable and valid scale for measuring happiness across population with various ages, culture and socio-economic background (Fordyce, 1988).

The last part of the questionnaire collected background information from participants, including age, sex, years of study in secondary school and universities, program of study, and

their religious. Some demographic factors influence how the respondents experience the sleeping problems, depressive mood and happiness.

Chapter 3: Results

Descriptive Statistics and Simple Correlation

The mean score of the CES-D scale and the ISI scale was 16.31 (*SD*=11.67) and 9.66 (*SD*=5.05) respectively while the mean score of the happiness scale was 51.56 (*SD*=20.29). There were 267 participants met the criteria for clinical insomnia with cutoff score of 10 in the ISI scale. And there were also 267 participants met the criteria for clinical depression with cutoff score of 16 in the CES-D scale.

In correlation table of testing variable (see Table 2), it shown that insomnia level was positively associated with the depressive symptoms experienced (r=.58, p<.001). Subjective perceived general happiness was negatively associated with the insomnia level (r=-.48, p<.001) and the level of experience depressive mood (r=-.62, p<.001). There were moderate relationship between current sleep quality and insomnia level by the ISI scale (r=-.70, p<.001), between current depressive status and the level of depression symptoms by the CES-D scale (r=.62, p<.001), and between current happiness and subjective perceived general happiness by the Happiness scale (r=.73, p<.001).

By the Pearson's correlation test, insomnia, depression and happiness level was moderately correlated among non-depression participants (see Table 3). It shown that insomnia level was positively correlated with level of depressive symptoms (r=.53, p<.001). The happiness level was significantly associated with insomnia level (r=-.39, p<.001) and the depressive symptoms experience (r=-.46, p<.001). Current sleep quality was moderately correlated with insomnia level by the ISI scale (r=-.68, p<.001). Current depressive status was also significantly associated with the level of depression symptoms by the CES-D scale (r=.53,

$p<.001$). And there was positive relationship between current happiness and subjective perceived general happiness by the Happiness scale ($r=.65$, $p<.001$).

For depression group, significant correlation was solely found between level of depressive symptoms and happiness ($r=.30$, $p<.05$). And there was significant association between current sleep quality and insomnia level ($r=-.60$, $p<.001$), between current happiness and subjective perceived general happiness ($r=.59$, $p<.001$). And current depressive status was weakly correlated with the level of depressive symptoms ($r=.23$, $p<.05$) (see Table 4).

Table 2

Descriptive Statistics and Correlations of Variables among All Participants (n=564)

Measure	*M (SD)*	1	2	3	4	5	6	7	8	9
1. Current sleeping quality	5.89 (1.98)	-								
2. Insomnia level	9.41 (5.03)	-.70**	-							
3. Prediction of insomnia	29.25 (27.50)	-.49**	.57**	-						
4. Current depressive status	6.4 (2.35)	-.37**	.44**	.33**	-					
5. Level of depressive symptoms	16.27 (11.66)	-.43**	.58**	.40**	.62**	-				
6. Prediction of depressive status	32.25 (27.20)	-.42**	.49**	.62**	.56**	.68**	-			
7. Current happiness level	6.22 (1.87)	.50**	-.51**	-.38**	-.60**	-.65**	-.53*	-		
8. Happiness Level	51.61 (20.25)	.39**	-.48**	-.35**	-.50**	-.62**	-.54*	.73**	-	
9. Prediction of happiness	65.37 (23.47)	.24**	-.26**	-.08*	-.36**	-.38**	-.18*	.47**	.47**	-

*p<.05 ** p<.001

Table 3

Descriptive Statistics and Correlations of Variables among Non Depression Group (n=464)

Measure	*M (SD)*	1	2	3	4	5	6	7	8	9
1. Current sleeping quality	6.15 (1.88)	-								
2. Insomnia level	8.44 (4.47)	-.68*	-							
3. Prediction of insomnia	25.42 (25.09)	-.47*	.52*	-						
4. Current depressive status	4.12 (2.15)	-.30*	.33*	.31*	-					
5. Level of depressive symptoms	12.10 (7.56)	-.37*	.53*	.34*	.53*	-				
6. Prediction of depressive status	26.23 (23.40)	-.35*	.40*	.60*	.46*	.56*	-			
7. Current happiness level	6.67 (1.58)	.47*	-.43*	-.35*	-.54*	-.47*	-.39*	-		
8. Happiness Level	56.20 (18.08)	.34*	-.39*	-.30*	-.37*	-.46*	-.41*	.65*	-	
9. Prediction of happiness	68.44 (22.05)	.18*	-.20*	-.02	-.29*	-.29*	-.06	.40*	.42*	-

*p<.05 ** p<.001

Table 4

Descriptive Statistics and Correlations of Variables among Depression Group (n=100)

Measure	*M (SD)*	1	2	3	4	5	6	7	8	9
1. Current sleeping quality	4.70 (1.98)	-								
2. Insomnia level	13.93 (5.03)	.60**	-							
3. Prediction of insomnia	46.99 (31.17)	-.33**	.49**	-						
4. Current depressive status	6.85 (1.88)	-.22*	.22*	-.06	-					
5. Level of depressive symptoms	35.63 (6.72)	-.22*	.11	.05	.23*	-				
6. Prediction of depressive status	60.16 (23.60)	-.28**	.25*	.46**	.31*	.51**	-			
7. Current happiness level	4.14 (1.72)	.28**	-.15	.01	-.24*	-.39**	-.31*	-		
8. Happiness Level	30.32 (15.75)	.16	-.14	-.01	-31*	-.30*	-.33*	.59**	-	
9. Prediction of happiness	51.14 (24.68)	.14	-.02	.07	-.19	-.17	-.06	.38**	.34*	-

*$p<.05$, ** $p<.001$

Table 5

Means, Standard Deviations of Level of Depressive Symptoms by Insomnia Groups (n=564)

	No clinically significant insomnia (*n*=208)	Subthreshold insomnia (*n*=270)	Moderately severe clinical insomnia (*n*=80)	Severe clinical insomnia (*n*=6)	
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	*F*
Current depressive status	3.63 (2.13)	4.85 (2.25)	6.01 (2.11)	8.17 (1.60)	31.31*
Level of depressive symptoms	9.79 (9.28)	17.71 (10.26)	26.46 (10.51)	40.50 (10.25)	71.17*
Prediction of depressive status	18.43 (19.00)	35.41 (26.22)	53.89 (27.52)	80.83 (25.17)	54.44*

*$p<.001$

Testing Hypothesis

Result analyzed from the one-way ANOVA test, the difference in current depressive status, level of depressive symptoms and prediction of depressive status across four insomnia levels was significant (see Table 5). And the mean score in level of depressive symptoms was increased with the severity level of the insomnia from no clinical significant insomnia, sub-threshold insomnia, moderately severe clinical insomnia to severe clinical insomnia, 9.79, 17.71, 26.46and 40.50 respectively. And the independent t-test was used to test Hypothesis 1. The result shown that the level of depressive symptoms was significantly higher among insomnia group than the score among non insomnia group (t=12.37, p<.001). Moreover, the insomnia group perceived they were more depressed in current status than the non insomnia group and the insomnia group was more likely to predict they will experience depressive symptoms in the following year.

Table 6

Means, Standard Deviations of Level of Depressive Symptoms by Insomnia Level (n=564)

	Insomnia group (n=267)	Non insomnia group (n=297)	
	M (SD)	*M (SD)*	*t*
Current depressive status	5.52 (2.19)	3.78 (2.18)	9.45*
Level of depressive symptoms	21.96 (10.82)	11.17 (9.90)	12.37*
Prediction of depressive status	43.99 (27.40)	21.70 (22.28)	10.64*

*p<.001

The mean score of the happiness scale was used as a cut-off point to define higher level of subjective perceived general happiness and lower level of subjective perceived general happiness. A significant result obtained by independent t-test shown that participants with higher level of happiness reported a significantly less depressive symptoms than those with lower level of happiness (t=11.98, p<.001). Participants with lower happiness level perceived that they were more depressed in current status and were more likely to predict they will experience depressive symptoms in the following year.

Table 7

Means, Standard Deviations of Depression by Happiness Level (n=564)

	Higher level of happiness (n=279)	Lower level of happiness (n=285)	
	M (SD)	*M (SD)*	*t*
Current depressive status	3.76 (2.18)	5.42 (2.22)	-8.96*
Level of depressive symptoms	10.96 (8.65)	21.4 (11.89)	-11.98*
Prediction of depressive status	21.53 (21.97)	42.75 (27.76)	-10.05*

*p<.001

Result analyzed from the one-way ANOVA test, the difference among year of study was significant in perception about current sleeping quality, depressive status and happiness, level of insomnia, depressive symptoms and happiness, and the prediction of depressive status and insomnia in the following year (see Table 8). The result from the independent t-test shown that

secondary school sample scored significantly higher in the CES-D scale (t=4.67, p<.001) and had a higher level of insomnia (t=3.04, p<.05) than university students. Additionally, university students seemed happier than the secondary school students (t=-4.19, p<.001). Education background was contributed to significant differences in perception of current depressive status, sleep quality and happiness level, and prediction of depressive status and insomnia in the following year.

Female participants experience more depressive symptoms than male (t=2.44, p<.05). Although female also scored higher in the insomnia level than male, gender difference in the insomnia level was insignificant. Hypothesis 4 was only partly confirmed by the independent t-test analysis. Besides, there were significant gender difference in prediction of depressive status, insomnia, and happiness level. Female were more likely to predict they will experience depressive symptoms, insomnia and will be happier than male.

Predictors of depressive symptoms

Multiple regression was used to analyze the relationship among insomnia, depression and happiness. The combination of the ISI scale and happiness scale significantly predicted the level of depressive symptoms among all participants (R^2=.49, F(2,561)=272.46, p<.001). Happiness was a strong and negative predictive factors of level of depressive symptoms (β=-.44, t=-12.97, p<.001) and the ISI scale was also significantly predictive of the level of depressive symptoms (β=.37, t=10.85, p<.001).

The combination of the insomnia level and happiness level significantly predicted the level of depressive symptoms among non depression group (R^2=.36, F(2,461)=128.22, p<.001).

Table 8

Means, Standard Deviations of Variables by Year of Study (n=550)

	F.6 (*n*=123)	F.7 (*n*=116)	Year 1 (*n*=102)	Year 2 (*n*=102)	Year 3 (111)	
	M (SD)	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*	*F*
Current depressive status	4.39 (2.21)	5.46 (2.43)	4.16 (2.25)	4.34 (2.43)	4.58 (2.29)	5.45***
Current sleeping quality	5.60 (1.93)	5.47 (1.95)	6.20 (1.94)	6.05 (1.99)	6.26 (1.99)	3.81**
Current happiness level	6.29 (1.85)	5.45 (2.03)	6.57 (1.71)	6.58 (1.75)	6.40 (1.71)	7.44***
Level of depressive symptoms	15.54 (10.79)	22.46 (12.45)	13.89 (11.59)	12.99 (11.54)	15.70 (9.67)	12.31***
Insomnia level	9.71 (3.95)	10.64 (5.15)	8.80 (5.36)	8.60 (5.58)	8.96 (4.93)	3.14*
Happiness level	51.07 (20.27)	43.71 (19.44)	57.53 (20.01)	55.12 (21.52)	51.41 (24.83)	7.80***
Prediction of depressive status	31.43 (27.67)	42.90 (28.56)	26.03 (23.88)	30.04 (28.10)	28.63 (24.36)	6.73***
Prediction of insomnia	27.25 (26.98)	37.70 (31.89)	25.65 (25.11)	25.68(23.93)	27.76 (26.62)	3.93**
Prediction of happiness	66.08 (27.42)	60.83 (24.59)	68.52 (22.00)	66.69 (21.81)	65.08 (20.05)	1.66

***p<.001, ** p<.01, *p<.05

Table 9

Means, Standard Deviations of Variables by Education Level (n=564)

	Secondary school (*n*=239)	University (*n*=325)	
	M (SD)	M (SD)	*t*
Current depressive status	4.91 (2.37)	4.38 (2.31)	2.66**
Current sleeping quality	5.54 (1.94)	6.15 (1.97)	-3.71***
Current happiness level	47.49 (20.17)	54.63 (19.80)	-3.75***
Level of depressive symptoms	18.90 (12.11)	14.34 (10.94)	4.67***
Insomnia level	10.16 (4.58)	8.86 (5.28)	3.04*
Happiness level	47.50 (20.17)	54.63 (19.81)	-4.19***
Prediction of depressive status	37 (28.63)	28.76 (25.59)	3.59***
Prediction of insomnia	32.32 (29.87)	26.99 (25.44)	2.29*
Prediction of happiness	63.53 (26.16)	66.72 (21.21)	-1.60

***p<.001, ** p<.01, *p<.05

Happiness was a negative predictor of level of depressive symptoms (β=-.30, t=-7.48, p<.001) and the ISI scale was also significantly predictive of the level of depressive symptoms (β=.41, t=10.10, p<.001).

Table 10

Means, Standard Deviations of Variables by Gender (n=564)

	Male (*n*=265)	Female (*n*=299)	
	M (SD)	M (SD)	*t*
Current depressive status	6.41 (2.51)	6.39 (2.21)	.10
Current sleeping quality	5.81 (2.03)	5.96 (1.93)	-.91
Current happiness level	6.18 (1.95)	6.26 (1.80)	-.46
Level of depressive symptoms	15.03 (12.39)	17.37 (10.87)	-2.39*
Insomnia level	9.13 (5.06)	9.67 (5.00)	-1.27
Happiness level	50.23 (21.49)	52.83 (19.04)	-1.53
Prediction of depressive status	26.78 (27.60)	31.44 (27.28)	-2.38*
Prediction of insomnia	29.37 (27.45)	34.80 (26.77)	-2.01*
Prediction of happiness	62.35 (25.67)	68.05 (21.01)	-2.90*

*$p<.05$

Table 11

Correlation and Multiple Regression Analyses on Level of Depressive Symptoms (n=564)

	r	β	R^2
Insomnia level	.58	.37*	
Happiness level	-.62	-.44*	.49*

*$p<.001$

Table 12

Correlation and Multiple Regression Analyses on Level of Depressive Symptoms among Non Depression Group (n=464)

	r	β	R^2
Insomnia level	.53	.41*	
Happiness level	-.46	-.30*	.36*

*p<.001

The combination of the ISI scale and happiness scale significantly predicted the level of depressive symptoms among depression group (R^2=.09, F(2,97)=5.03, p<.05). Happiness was a strong and negative predictive factors of level of depressive symptoms (β=-.29, t=-2.97, p<.05) and the ISI scale was not significantly related to the level of depressive symptoms (β=.07, t=.91, p=.48).

Table 13

Correlation and Multiple Regression Analyses on Level of Depressive Symptoms among Depression Group (n=100)

	r	β	R^2
Insomnia level	.11	.07	
Happiness level	-.30	-.29*	.09*

*p<.05

Based on the result analyzed by the multiple regression, the combination of current sleeping quality, the ISI scale, prediction of insomnia, current happiness, happiness scale and the prediction of happiness was account for 40% of variance of the current depressive status (R^2=.40, F(6,557)=61.82, p<.001). The current depressive status was found to be significantly related to current happiness (β=-.43, t=8.22, p<.001), the insomnia level (β=.14, t=-2.73, p<.05), and prediction of happiness in the following year (β=-.09, t=2.41, p<.05). However, the current depressive status was not significantly related to current sleeping quality (β=.02, t=-.41, p=.68), prediction of insomnia in the following year (β=.07, t=-1.81, p=.07) and happiness level (β=-.06, t=1.11, p=.27).

The result analysis by the multiple regression shown that the combination of independent variables was account for 54% variance of the level of depressive symptoms (R^2=.54, F(6,557)=110.01, p<.001). Current happiness (β=-.31, t=-6.81, p<.001) and the happiness level (β=-.22, t=-5.05, p<.001) were negatively predictive of depressive symptoms experienced. The insomnia level (β=.33, t=7.49, p<.001) and current sleeping quality (β=.09, t=2.21, p<.05) also significantly predictors of the depressive symptoms, while the prediction of insomnia in the following year (β=.06, t=1.67, p=.10) and prediction of happiness in the following year (β=-.06, t=-1.79, p=.08) was not suggested to be significantly related to the level depressive symptoms experience.

The combination of independent variables was account for 52% variance of the prediction of depressive status in the following year (R^2=.52, F(6,557)=100.04, p<.001). The prediction of depressive status in the following year was found to be strongly related to the prediction of insomnia experience in the following years (β=.44, t=11.92, p<.001), the happiness level (β=-.27, t=-5.97, p<.01), current happiness (β=-.19 t=-3.96, p<.001)and prediction of

happiness in the following year (β=.08, t=2.29, p<.05), but not to current sleeping quality (β=.002, t=.04, p=.97), and the insomnia level (β=.04, t=.92, p=.40).

Table 14

Multiple Regression Analyses on Perceived Current Depressive Status, Level of Depressive Symptoms, and Prediction of Depressive Status (n=564)

	Current depressive status	Level of depressive symptoms	Prediction of depressive status
Independent variables	β	β	β
Current Sleeping Quality	.02	.09*	.002
Insomnia level	.14*	.33***	.04
Prediction of Insomnia	.07	.06	.44***
Current Happiness	-.43***	-.31***	-.19***
Happiness Scale	-.06	-.22***	-.27***
Prediction of Happiness	-.09*	-.06	.08*
R^2	.40***	.54***	.52***

*p<.05, **p<.01, **p<.001

Table 15

The Frequency of Clinical Depression and Insomnia

	All participants (*n*=564)	Secondary school sample (*n*=239)	University sample (*n*=325)
Demographic Variables	Frequency (%)	Frequency (%)	Frequency (%)
Depression			
CES-D Score >= 28	100 (17.7)	55 (23.0)	45 (13.8)
CES-D Score < 28	464 (82.3)	184 (77.0)	240 (86.2)
Insomnia			
ISI Score >= 10	267 (47.3)	120 (50.2)	147 (45.2)
ISI Score < 10	297 (52.7)	119 (49.8)	168 (54.8)

Chapter 4: Discussion and Conclusion

Discussions

The result of this study found that insomnia was common sleeping problems among teenagers. More than 60% of participants experienced sleeping difficulties and those disturbances influenced their daily functioning. There were 47.3% participants in this study experienced the clinical level of insomnia, which was higher than the previous findings among Chinese adolescents, French teenagers, Taiwanese teenagers and adults, and others results in the Western countries (Kao & Huang, 2008; Liu et al., 2008; Ohayon, 1997; Patten et al., 2000). This result was also higher than the estimation of 16.8 % of teenagers with sleeping difficulties (Liu et al., 2000). It was comparable to the research about sleeping problems among teenagers in Hong Kong and Taiwan (Suen et al, 2008; Yang et al., 2003). Based on previous research in Hong Kong, an increase of insomnia and sleeping problem with age was found (Chung & Cheung, 2008; Li et al., 2002). However, the result of this study was opposite that university students rated with lower level of insomnia than the secondary school students. The insomnia level in F.6 and F.7 were both higher than the university sample, and F.7 students reported slightly more symptoms of insomnia than the F.6. The academic stress would be one of the reasons which might be account for this phenomenon. A previous study in China also mentioned pressure due to the academic work was contributed to the poor sleep quality among adolescents (Liu et al., 2008).

Among the respondents of this study, the proportion of participants in clinical range was 17.7% based on cutoff of 28. The result of this study provided an evidence that sufferance from depressive symptoms were common among senior secondary school and university students in Hong Kong. This situation was worth noted as this proportion of participants within the clinical

range of depression was higher than previous results among both Hong Kong adults and adolescents and was comparable to Western findings (Hong Kong Mood Disorder Center, 2005; Kessler et al., 2003; Nolen-Hoeksema, 2007). Compared to the study in local context, there were only 4.2% of teenagers experienced the depressive symptoms (Christian Family Service Center, 2004). There was about 4 times more than previous study among Hong Kong adolescents. The reason might be self-presentation bias than the participants tended to express with higher level of depressive symptoms in the subjective measurement (Stewart et al., 2004; Tse, 2003). Therefore, further study with clinical assessment of depression is needed for studying the prevalence of depression among Hong Kong adolescents, and to identify a cutoff value of the Chinese version CES-D scale which is suitable to assess the prevalence of clinical depression among Hong Kong population.

Moreover, the contextual educational background would be account for the result why secondary school students were more depressed than university students. Academic stress was an important factor in understanding teenage depression. Undoubtedly, the associate between academic stress and depression was revealed by previous research (Ang & Huan, 2006). The proportion of participants met the clinical criteria in secondary school sample was higher than the university sample. As the secondary school sample was all F.6 and F.7 students, preparing for a public exam, Hong Kong Advanced Level of Education, which determines if they are eligible to get into the universities, was so stressful that they were more likely to engage depressive mood. Among the teenage population in this study, those studying in F.7 score the highest in the level of depressive symptoms. It revealed that critical academic stress would also be an important factor associated with the depressive status.

As prior studies mentioned association between insomnia and depression was strong (e.g., Dahl & Harvey, 2007; Kao & Huang, 2008; Ohayon & Roth, 2003), results from this study confirmed that insomnia level was significantly associated with depressive symptoms. The insomnia level was closely related to the level of depressive symptoms while controlling for general happiness level, age, gender, and educational background. The higher the level of insomnia was, the higher the level of depressive symptom experienced. The insomnia group perceived they were more depressed in current situation than the non-insomnia group. And the insomnia group scored higher in both the level of depressive symptoms and the own prediction of depression status in the following year than the non-insomnia group. This also result revealed that insomnia was one of the predictive variables of the current depressive status and level of depressive symptoms. It was consistent with others studies revealed that insomnia was predicting depressive symptoms (Johnson et al., 2006; Kao & Huang, 2008; Taylor, Lichstein, & Durrence, 2003).

Insomnia level would affect ones perception of own depressive status, interpretation of their depressive symptoms and foresee they will experience more depressive mood. Since insomnia was not the single reasons for depression, family background, academic stress, social supporting network, self attribution style and other bio-psycho-social factors were linked to the development of depression (Frydenberg, 2008). Thus, improving the sleeping quality would be one of the ways to alleviate the depressive symptoms. And it is obvious that good sleep implied less negative health and psychological problem (Liu & Zhou, 2002; Suen et al., 2008). However, how effective the improved sleeping quality would reduce to the depressive emotion may need further investigation.

However, the findings of analysis selecting for depression group and non depression group shown that the relationship among insomnia, depression and happiness in depression group was not as strong as that in non-depression group. The relationship between level of insomnia and depressive symptoms was not significant. It is contradicted with the previous results that insomnia was strongly associated with depression and other mental disorder (Ohayon & Roth, 2003; Ohayon, 1997). The perception of depressive status was weakly associated with the results assessed by the CES-D scale among participants in depression group. The result also revealed predictive relationship of the combination of insomnia level and happiness level was strong among non depression group than depression group. It implied that insomnia and happiness level would be effective predictors of depressive symptoms only for non-depression population or people with depressive symptoms in sub-threshold range. Further investigation may study about how insomnia and happiness influence the course of depression disorder.

Happiness and depression

Consistent with previous studies that happiness was strongly and negative associated with the depressive symptoms, the association between depression and happiness level was significantly confirmed in this study (Wong & Lim, 2009; Proctor et al., 2009). And the depression level was found moderately related to happiness level even controlling the effect from insomnia level and demographic features. The result found that participants in happiness group perceived they were more depressive in current status, reported with more depressive symptoms and were more likely to predict they will experience depressive symptoms in the following year. And the predictive relationship between happiness and depression was consistent with previous studies (e.g., Chang et al., 1997; Lai, 2009; Lewinsohn et al., 1991). Presented findings pointed

out that the current happiness level and subjective perceived general happiness were significant predictors of current depressive status and level of depressive symptoms. The happiness level also influenced how they predicted their depressive mood in the following year.

Happiness was one of the significant buffers to negative emotion and depressive symptoms (Frydenberg, 2008; Lai, 2009; Proctor et al., 2009; Veengoven, 1988). The confirmed predictive relationship between happiness and depression revealed that the happiness would influence the perception their own depressive experience and further experience of depressive symptoms. Therefore, increasing level of happiness by enhancing social relationship, developing on what they are passionate, training in thinking positively and so on, would be a way to eliminate the depressive emotion and prevent the onset of depression disorder (Frydenberg, 2008).

Gender difference

Consistent with pervious finding, gender difference was found in level of depression and the prediction of depressive status, insomnia and happiness in the following year (Chaplin, 2006; Hankin, Roesch, & Mermelstein, 2007). Female had a higher level of depressive symptoms and predicted higher level of depressive status, insomnia, happiness in the following year than male in this study. However, there was no significant gender difference in insomnia and happiness level, which was not consistent with priori studies (Abdel-Khalek, 2006; Kao & Huang, 2008). As mentioned above, happiness is a emotion opposite to depressive mood (Lai, 2009; van Hernert et al., 2002). And the result among whole sampling was supported the negative association between depression and happiness. The reasons why female shown higher prevalence in depressive status and happiness needs further study to investigate.

From the previous studies, religious positively associated with perceived happiness level (Ferriss, 2002). However, in present study, religious had no significant effect on the happiness level of participants perceived. And it was only found significantly associated with the prediction of depressive status in the following year. Solely knowing if the participants have religious belief was questioned was not able to be account for the relationship among happiness, depression and insomnia. Whether religious belief is able to explain the association among happiness, depression and insomnia is questioned.

Implications

The study provided data and information about level of insomnia, depressive symptoms and happiness among adolescents in local context of Hong Kong. In this cross-sectional study, a significant predictive relationship of happiness and insomnia to depression was found. Effort on enhancing the subjective well-being of students may help to alleviate and prevent depression, as well as to promote mental health. Moreover, establishing a sleep hygienic life style would help improving sleeping quality, reducing the episode of insomnia and depression (Suen et al. 2008). Better sleeping pattern would decrease the experiences of depressive emotions among non-depression adolescents.

Further study is needed to examine about the reasons why female were more depressed, at the same time, were happier than male. And study of the relationship among religious belief, happiness and depression would help to find out how religious influence development and treatment for depression disorder. The result may contribute to development of prevention program and treatment planning for teenage depression.

Limitations

One of the limitations of this study was the questionnaire completed by students subjectively. The perceived level of insomnia, depressive status and happiness level by participants might be much higher than the accurate situation. Due to self-administrated questionnaire, there would be self-presentation bias that the participants seemed to emphasis on the negative emotions (Huusley & Lee, 2006).

Another limitation was the analysis only provided a glimpse of situations among certain secondary schools and limited numbers of university students so it may not be generalized to the adolescent population in Hong Kong.

Moreover, due to the cross-sectional design of this study, it may not be able to reflect the directional relationship among depression, insomnia and happiness accurately and further longitudinal study is needed for deeper understandings.

Conclusion

There was high rate of insomnia and depressive symptoms among teenagers in Hong Kong. The sleeping quality and depressive status among the participants in this study were not as good as other research findings. And the happiness level was lower than that of other teenage population in previous studies. It is worth to be aware of this situation and concern about the mental health among adolescents in Hong Kong. Students perceived higher level of happiness with less sleeping difficulties were less likely to engage depressive symptoms. Enhancing the subjective well-being and improving the sleeping hygiene of students may be of one the effective ways to prevent the onset of depression and maintain a good mental health.

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Appendix A: Sample Questionnaire

您好！本人是香港城市大學心理學學系三年級學生，我現進行一項有關香港青少年睡覺狀態及抑鬱情緒的研究，這研究將有助瞭解睡覺狀態及抑鬱情緒之間的互為影響。您的參與對此項研究非常重要，因此我誠意邀請您花數分鐘時間完成問題。您提供的資料只作研究用途，並會保密，研究完成後此問卷將被銷毀。在此先向您的無私合作衷心致謝。

請完成每一個項目，並盡可能誠實地填寫。

第一部份

試為你過去一個月整體的**睡眠質素**評分：

非常差								非常好	
1	2	3	4	5	6	7	8	9	10

為您最近 (兩星期內) 的睡眠問題評分：

	沒有	輕微	間中	嚴重	經常
難以進入睡覺狀態	0	1	2	3	4
難以維持睡眠狀態	0	1	2	3	4
過早醒來、不能再次入睡	0	1	2	3	4

您有多滿意您最近的睡眠習慣?

非常滿意	滿意	適中	不滿意	非常不滿意
0	1	2	3	4

您最近的睡眠問題有多阻礙您的日常生活 (例如: 白天疲累、工作能力、集中力、記憶力、情緒等)?

沒有阻礙	少少阻礙	有點阻礙	十分阻礙	嚴重阻礙
0	1	2	3	4

您覺得身邊的人有否因您的生活表現而察覺到您的睡覺問題?

察覺不到	少少察覺到	有點察覺到	十分察覺到	嚴重察覺到
0	1	2	3	4

您最近的睡眠狀況有多困擾您?

沒有困擾	少少困擾	有點困擾	十分困擾	嚴重困擾
0	1	2	3	4

試寫出您預計在未來一年內出現**失眠**的機會率
（0% = 沒有機會; 100% = 一定會出現）：_____%

第二部份
試為你過去一個月整體的**抑鬱狀況**評分：

非常抑鬱								沒有抑鬱	
1	2	3	4	5	6	7	8	9	10

在過去一星期內，以下的感受、行為有多經常出現?

	從未出現 (少過 1 天)	間中出現 (持續 1-2 天)	間歇出現 (持續 3-4 天)	經常出現 (持續 5-7 天)
我被一些平時不會困擾我的事情困擾。	0	1	2	3
我不想吃東西，我的胃口很差。	0	1	2	3
即使有家人和朋友的幫忙，我仍然感到憂慮。	0	1	2	3
我覺得自己比不上別人。	0	1	2	3
我難以集中精神工作。	0	1	2	3
我感到抑鬱。	0	1	2	3
我感到做每件事都很吃力。	0	1	2	3
我對將來沒有希望。	0	1	2	3
我覺得自己一生很失敗。	0	1	2	3
我感到恐懼。	0	1	2	3
我不能安枕。	0	1	2	3
我不快樂。	0	1	2	3
我比平時少說話。	0	1	2	3
我覺得孤獨。	0	1	2	3
我覺得別人不友善。	0	1	2	3
我不享受生活。	0	1	2	3
我會突然哭泣一段時間。	0	1	2	3
我感到情緒低落。	0	1	2	3
我覺得別人不喜歡我。	0	1	2	3
我做事提不起勁。	0	1	2	3

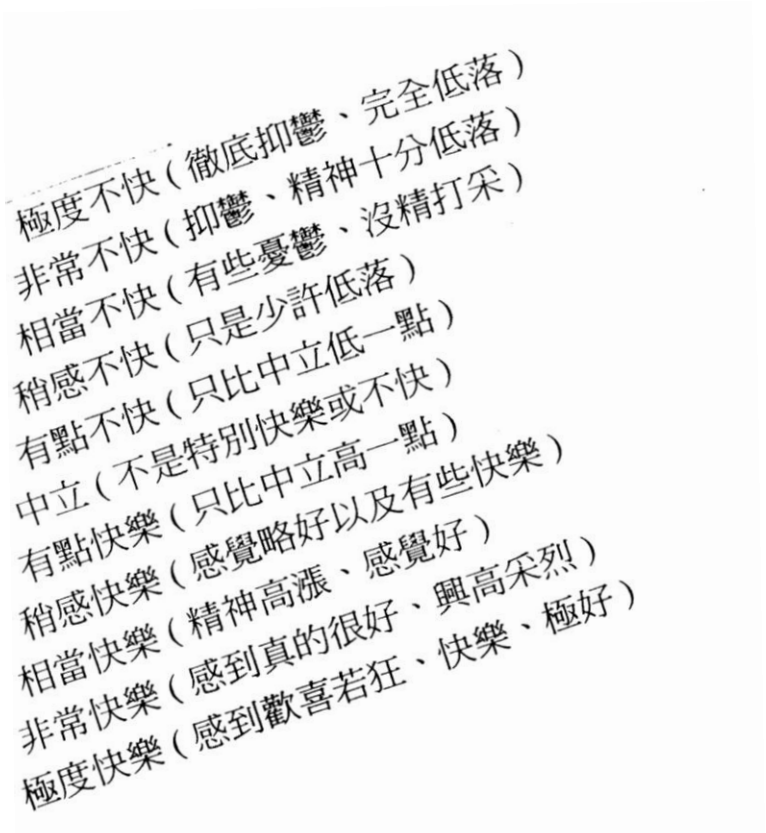
試寫出您預計在未來一年內出現**抑鬱情緒**的機會率
（0% = 沒有機會; 100% = 一定會出現）：　　_____%

第三部份

試就您過往的整體經驗及感受 (不包括現在)，回答以下問題。
試為你過去一個月整體的**快樂感覺**評分：

非常不快樂								非常快樂	
1	2	3	4	5	6	7	8	9	10

一般來說，你通常感覺有多快樂或不快樂？只「✓」出**一句**最能形容你**平時快樂程度**的句子。



平均來說，有多少百分比的**時間**你感到快樂？有多少百分比的時間你感到不快樂？有多少百分比的時間你感到中立（既不是快樂也不是不快）？
盡你的能力寫下最佳的估計在以下空白地方。**確保三個數字加起來等於百分之一百**。

平均來說：

我感到快樂的時間之百分比：	1. _____%
我感到不快的時間之百分比：	2. _____%
我感到中立的時間之百分比：	3. _____%
總和：	100 %

試寫出您預計在未來一年內出現**快樂情緒**的機會率
（0% = 沒有機會; 100% = 一定會出現）：_____%

第四部份
請填寫個人資料，並於適當的“☐”中填上“✓”。

性別： ☐ 男 ☐ 女

年齡： _____

現在就讀年級： ☐ 中六 ☐ 中七

就讀學科： ☐ 文科 ☐ 理科 ☐ 商科
☐ 其他: _____
或
現在就讀年級： ☐ Year 1 ☐ Year 2 ☐ Year 3/Final Year
☐ Associate Degree ☐ 其他: _____

就讀學科： ☐ 人文科學院 ☐ 商學院 ☐ 法律學院
☐ 理學院 ☐ 醫學院 ☐ 創意媒體/藝術學院
☐ 其他: _____

宗教信仰： ☐ 天主教 ☐ 基督教 ☐ 佛教 ☐ 道教
☐ 其他：_____

~~~~~謝謝~~~~~
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