

FACTORS ASSOCIATED WITH HIGHER LEVELS OF DEPRESSIVE SYMPTOMS AMONG INTERNATIONAL UNIVERSITY STUDENTS IN THE PHILIPPINES

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Abstract. Over the years, the number of international university students has been increasing in the Philippines. Depression tends to be common among this demographic sector, because of the varying challenges and expectations associated with studying abroad. Depression can be prevented if its symptoms, particularly those at higher levels, are identified and addressed early and effectively. This survey examined the social and demographic factors that are significantly associated with higher levels of depressive symptoms. One hundred twenty-six international university students were interviewed using the University Students Depression Inventory. Of the 13 factors analyzed, 3 were found with statistically significant associations with more intense levels of depressive symptoms. These factors were: level of satisfaction with one's financial condition, level of closeness with parents, and level of closeness with peers. In identifying international students with greater risk for depression, characteristics related to their financial condition and primary group relationships can be considered. There is a need to carry out more studies to confirm this initial evidence. The findings can help guide further discourse, research and program to benefit international students with higher levels of depressive symptoms.

Keywords: associated factors, depressive symptoms, international university students, mood disorder, Philippines

INTRODUCTION

International students, according to the United Nations Educational, Scientific and Cultural Organization, are persons who cross national borders for the specific purpose of studying (Clark, 2009). Globally, the number of international students enrolled in cross-border tertiary education has been increasing: in 2000-2009; for

example, their population almost doubled to 3.6 million from 2.0 million (UNESCO, 2012).

Depression, a leading cause of disability and a major source of the burden of disease worldwide (WHO, 2001), is common among international university students (Oluwafunmilola, 2012). That the mental disorder is prevalent among this cross-border group – 'one that ceases to belong to the world one left behind, and does not yet belong to the world in which one has nearly arrived' (Grinberg and Grinberg, 1989) – is not altogether surprising. International students are inclined to

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experience depression while pursuing their programs of study in other countries due to the myriad challenges they have to face. For example, students need to learn the norms and the languages of host countries, meet the rigors of academic coursework, live alone, and manage finances, not to mention that they have to contend with homesickness (Sumer *et al*, 2008) and racial prejudice and discrimination (Wei *et al*, 2010).

There is limited published data on international university students and depressive symptoms. The related investigations suggest that students who are predisposed to manifest depressive symptoms (not necessarily at more serious levels) tend to come from certain social and demographic backgrounds. A study in Japan reported that international students with depressive symptoms are more likely to be women, completing a graduate degree, enrolled in Arts programs, self-supporting, and living alone (Eskandarieh *et al*, 2012). Research involving Korean international students in Australia suggested that individuals with depressive symptoms are those having lower levels of social connectedness and academic self-efficacy (Mak and Kim, 2011). One investigation in the US described Chinese international students with higher levels of depressive symptoms as having higher acculturative stress (Zhang, 2012).

Most of these characteristics are echoed in the depressive symptomatology research among university students in general, such as gender (Mikolajczyk *et al*, 2008; WFMH, 2012), living arrangements (Eisenberg *et al*, 2007), and social connectedness (Lee *et al*, 2013). Additionally, general research on student depression indicates the significant associations of being older and senior students (Bostanci *et al*, 2005), Catholics and/or Jews (McCullough

and Larson, 1999; Phillips and Henderson, 2006), smokers (Yazici, 2008), and alcohol drinkers (Zawawi and Hamaideh, 2009). Depression among these students can be averted if those exhibiting higher levels of depressive symptoms are given prompt and effective interventions.

The study presented in this report seeks to help enhance the research literature on depressive symptomatology among international university students by discussing some relevant data from the Philippines. Both in the past and at present, significant numbers of cross-border university students from all over the world have been coming from and heading towards countries in the industrialized world (OECD, 2004). However, as receiving hubs, restructuring countries have been also seeing their international student populations burgeoned in the past decade. For example, the Philippines has witnessed the number of its international university students more than double, from 24,676 in 2007 to 60,000 at present (Bureau of Immigration, 2008, 2012).

Although international tertiary students are bringing enormous sums of financial resources into the country, they have yet to be given due and serious attention by the national government. The social governance of international education in the Philippines, including in industrialized countries, continues to be in a state of flux in which existing formal social protection systems are still largely inadequate to meet the needs of students (Deumert *et al*, 2005). It is the aim of this report, with its modest evidence, to trigger an informed discourse and action that would redound to the benefit of international students in the country.

Depression is chosen as a research topic with which to initiate an advocacy for the students' plight, because the mood disorder has been consistently reported as

a major and serious problem for university students as a whole (Khawaja and Bryden, 2006); moreover, it is an unexplored area for research in the Philippines. In its effort to make the research more meaningful, the current study focuses not only on the physical, cognitive, and emotional symptoms of depression but also on its academic motivational dimensions. For this purpose, the study uses the University Student Depression Inventory (USDI), a newly developed and psychometrically sound scale (Khawaja and Bryden, 2006). The USDI has been administered among some domestic university student populations (Khawaja and Duncanson, 2008; Khawaja *et al*, 2013) but not among international students. Using the USDI, this study examines higher levels of depressive symptoms and their associations with social and demographic characteristics.

MATERIALS AND METHODS

In 2012, a total enumeration survey involving 2,572 students at a Metro Manila university was carried out. Of that number, 126 (4.9%) were respondents who classified themselves, based on a given definition, as international students; this report discusses the data derived from this sub-group. The survey administered a 10-page anonymous self-administered questionnaire. Data were collected in the middle of Term 1 and again in Term 2.

Using the USDI, depressive symptoms were measured as a continuous variable based on three sub-scales having a total of 30 statements: lethargy (9 statements on lethargy, concentration difficulties, and task performance); cognitive-emotional (14 statements on suicide ideation, worthlessness, emotional emptiness, and sadness); and academic motivation (7 statements on class attendance and motivation to study)

(Table 1). Each of these statements has score-bearing responses: from “none at all” with a score of 1 to “all the time” with a score of 5. The USDI has a high level of internal consistency (Cronbach $\alpha=0.95$) (Khawaja and Bryden, 2006).

Thirteen social and demographic characteristics (*ie*, sex, age category, course category, year level, nationality, religion, smoking, drinking, having a love relationship, level of satisfaction with one’s financial condition, organizational membership, level of closeness with parents, and level of closeness with peers) were analyzed for their associations with higher levels of depressive symptoms. The parental and peer variables were measured using a series of eight and nine statements, respectively, which were drawn from published findings on adolescents’ parental and peer relationships (Table 1). Each statement in either series had four score-bearing response options: definitely not true (1), mostly not true (2), mostly true (3), and definitely true (4).

Ethical considerations

The study was approved by the ethics review committee of the university surveyed (n.a.; 2013 May 14). Consent was obtained. The cover page of the questionnaire informed each class of the importance and rationale, and the anonymity and confidentiality of the study. Students were then invited to complete the questionnaire and were informed that they could stop answering the questions in the event of discomfort. Whether completely accomplished or not, all questionnaires were collected. Students were thanked for their participation. No incentive of any form was given.

The Statistical Package for the Social Sciences (SPSS®) (version 20; IBM, Armonk, NY) was used in processing the data. Dif-

Table 1
 Statements used for measuring level of closeness with parents and with peers, and depressive symptoms.

Parents	6. I am overwhelmed by the challenges I encounter in my studies.
1. I like spending time with my parents.	7. My mood affects my ability to carry out assigned tasks.
2. My parent/s show/s how much she/she/they love me.	8. Daily tasks take me longer than they used to.
3. I feel good being with my parents.	9. My study is disrupted by distracting thoughts.
4. My parent/s does/do not really care about me. ^a	B. Cognitive/emotional
5. I disclose my private concerns to my parent/s.	10. I wonder whether life is worth living.
6. I am not happy when I spend time with my parent/s. ^a	11. I feel worthless.
7. I think my parent/s is/are the best in the world.	12. I have thought about killing myself.
8. I wish my parent/s paid more attention to me. ^a	13. No one cares about me.
Peers	14. I feel emotionally empty.
1. I feel happy when I am with my friends.	15. I feel sad.
2. I would rather be alone than spend time with my friends. ^a	16. I worry I will not amount to anything.
3. My friends show me their support.	17. The activities I used to enjoy no longer interest me.
4. My friends do not treat me well. ^a	18. I feel like I cannot control my emotions.
5. I wish I had more supportive friends. ^a	19. I spend more time alone than I used to.
6. I am satisfied with the friendships I develop in school.	20. I feel disappointed in myself.
7. I like spending time with my friends.	21. I feel withdrawn when I'm around with others.
8. I do not enjoy spending time with my friends. ^a	22. I do not cope well.
9. I am happiest when I am with my friends.	23. I think most people are better than me.
Depressive symptoms	Academic motivation
A. Lethargy	24. I do not have any desire to go to my classes.
1. I am more tired than I used to be.	25. I do not attend classes as much as I used to.
2. I do not have the energy to study at my usual level.	26. I don't feel motivated to study.
3. My energy is low.	27. Going to university is pointless.
4. I find it hard to concentrate.	28. I have trouble starting assignments.
5. I don't feel rested even after sleeping.	29. I do not find study as interesting as I used to.
	30. I have trouble completing study tasks.

^aReverse coded.

Table 2
Means and standard deviations for depressive symptoms scores by social and demographic characteristics.

Variable	Categories	<i>n</i>	%	Means	SD
Sex	Male	68	43.6	72.56	20.06
	Female	58	56.4	69.98	19.44
Age category	≤17	62	49.2	72.67	20.07
	>17	64	50.8	70.11	19.48
Course category	Social sciences/humanities	59	47.6	67.85	19.79
	Business/engineering, natural and computer sciences	65	52.4	74.11	19.47
Year level	1 st	81	71.1	71.58	19.93
	≥2 nd	43	28.9	70.28	19.70
Nationality	South Koreans	69	54.8	70.64	19.61
	Chinese/Americans/Others	57	45.2	72.26	20.03
Religion	Catholic	40	32.0	70.95	19.39
	Others	85	68.0	71.67	20.11
Had smoked in past 30 days	Yes	22	17.6	75.00	16.52
	No	103	82.4	70.45	20.38
Frequency of drinking in past 30 days	≤10	56	44.8	72.68	17.27
	>10	69	55.2	69.89	21.43
Level of satisfaction with one's financial condition ^a	Not/somewhat satisfied	46	36.8	75.83	20.63
	Satisfied/very satisfied	79	63.2	68.42	18.65
Had a current love relationship	Yes	34	27.2	70.21	19.24
	No	91	72.8	72.24	19.67
Whether a member in campus or off-campus youth organization	Yes	82	65.6	71.91	20.37
	No	43	34.4	71.57	19.15
Level of closeness with parents ^a	Low/moderate (8-23)	17	13.6	80.47	16.65
	High (24-32)	108	86.4	70.31	19.62
Level of closeness with peers ^b	Low/moderate (9-26)	27	21.6	86.04	16.93
	High (27-36)	96	78.4	67.82	18.52

^a $p < 0.05$; ^b $p < 0.01$

ferences in the mean depressive symptoms scores were examined based on social and demographic characteristics. The characteristics that were statistically significantly related with higher levels of depressive symptoms were further examined at the sub-scale levels. The analysis of variance was the statistical test used.

The 13 independent variables all had two categories each (Table 2). The levels of closeness with parents and with peers were constructed based on the total scores derived from responses in the series of statements. For level of closeness with parents, a score from 8-32 was categorized as 'low-moderate' and a score from 24-32

Table 3
One-way analysis of variance results for depressive symptoms sub-scale scores.

Variables	Lethargy	Cognition/emotion	Academic motivation
Level of satisfaction with one's financial condition	$F_{(1,125)}=4.35$ SS=219.52 ^a	$F_{(1,125)}=4.91$ SS=555.71 ^a	$F_{(1,124)}=0.879$ SS=21.53 ns
Level of closeness with parents	$F_{(1,124)}=3.61$ SS=182.86 ns	$F_{(1,124)}=3.45$ SS=394.39 ns	$F_{(1,124)}=2.00$ SS=48.27 ns
Level of closeness with peers	$F_{(1,122)}=8.05$ SS=399.34 ^b	$F_{(1,122)}=24.86$ SS=2453.77 ^b	$F_{(1,122)}=11.33$ SS=253.87 ^b

^a $p < 0.05$; ^b $p < 0.01$

SS, sum of squares; ns, not significant.

as 'high'. For level of closeness with peers, a score from 9-36 was constructed as 'low-moderate' while a score from 27-36 as 'high'. Our analyses found both series with high levels of internal consistency (parents: $\alpha=0.77$; peers: $\alpha=0.79$).

The dependent variable (levels of depressive symptoms) was constructed by totalling the scores corresponding to the responses in the series of USDI-based statements. The score ranges from 30 to 150, with higher scores suggesting higher levels of depressive symptoms. The USDI has a high level of internal consistency as our analysis indicated ($\alpha=0.93$).

RESULTS

Profile of respondents

Of 126 international university students interviewed, 56.4% were female, 43.6% were male (Table 2). Respondents comprised students who were either aged 17 and younger or older. A little more than half of students were enrolled in business and engineering, natural and computer sciences courses; 47.6% were in social sciences/humanities programs. Seven out of every 10 were first-year students. Fifty-five percent were South Koreans (the rest were

Chinese, Americans, and others). About a third were Roman Catholic, two-thirds belonged to other denominations (eg, Protestants). In the past 30 days prior to the survey, most (82.4%) had smoked, and during the same period, 55.2% had taken an alcoholic beverage for more than 10 days, while 44.8% had taken an alcoholic beverage for less than 10 days. About 65% were satisfied or very satisfied with their financial condition, in contrast to the 35% who were not satisfied or only somewhat satisfied. Approximately 7 out of 10 respondents had a current love relationship. Two-thirds were members of a campus or an off-campus-based youth organization. Most had a high level of closeness with parents (86.4%) and with peers (78.4%).

Differences in mean scale scores based on social and demographic characteristics

The means and standard deviations for depressive symptoms scores are shown in Table 2. Higher means suggest higher or more severe levels of depressive symptoms. Results indicated that male and female students did not differ in their symptoms levels. No significant differences were observed between respondents from younger and older age categories. The levels of depressive symptoms also did not

differ according to course category. Mean scores were markedly similar across categories in year level, nationality, religion, smoking, and alcohol intake. Significant means differences were observed based on the level of satisfaction with one's financial condition ($F_{(1,125)}=4.89, p<0.05$).

Findings further indicated an absence of significant differences between students with a current love relationship and those without one. Students who were a member of either a campus or an off-campus organization and students who were not a member of any had similar levels of depressive symptoms scores. Students with a low/moderate level of closeness with parents had significantly higher levels of depressive symptoms than students whose closeness level with parents was high ($F_{(1,124)}=4.28, p<0.05$). Students with a low/moderate level of closeness with peers had significantly more severe levels of symptoms than those with a high level of closeness with peers ($F_{(1,122)}=21.57, p<0.01$).

Interactions

The three independent variables with significant relationships with depressive symptoms (*ie*, level of satisfaction with financial condition, level of closeness with parents, and level of closeness with peers) were further examined for their interactions, using a two-way analysis of variance. No statistically significant interactions were found.

Differences in mean sub-scale scores

The three statistically significant independent variables were further examined for their associations with depressive symptoms at the sub-scale level (*ie*, lethargy, cognition/emotion, and academic motivation). Results are shown in Table 3. Data suggest that the level of satisfaction with one's financial condition remains statistically significantly related with de-

pressive symptoms at the sub-scale level, but only with respect to lethargy ($p<0.05$) and cognition/emotion ($p<0.05$). The association of the level of closeness with peers with symptoms levels was robust across the three sub-scales ($p<0.01$). However, the association of the level of closeness with parents, albeit significant at the scale level, was only marginally ($p=0.06$) or not statistically significantly related with depressive symptoms at all sub-scales.

DISCUSSION

This survey reported on factors related with higher levels of depressive symptoms among a sample of international university students in Manila, the Philippines. The study intended to help prevent depression among these students by identifying those who are suffering from elevated levels of depressive symptoms. Data indicate that international students at higher risk for depressive symptoms were not satisfied with their financial conditions, and had lower levels of closeness with parents and with peers.

The financial aspect of studying abroad is a chief concern for both students and parents alike (Eskanadrieh *et al*, 2012). It is likely to induce higher levels of depressive symptoms among students in the event they develop feelings of dissatisfaction with their own financial conditions (Roberts *et al*, 1999). Financial dissatisfaction among the youth may stem from having limited resources or being materialistic; in either case, failure to gratify one's needs or wants is bound to be a mood-changing circumstance for students.

The evidence on the significant associations between the levels of closeness with parents and peers, and depressive symptoms is consistent with other scientific findings (Patten *et al*, 1997; Bushnik,

2005). Parents and friends are important primary groups for young people in general, because of the care, security, and support that they provide and the secure attachments that they foster among adolescents. These provisions can be effective buffers against the mood disorder (Han and Lee, 2011; Kamkar *et al*, 2012); conversely, their absence can stimulate the occurrence of severe levels of depressive symptoms.

Several variables – sex, age category, course category, year level, nationality, and religion, among others – were not statistically significant factors according to the present analyses. This means that international university students, notwithstanding these social and demographic characteristics, were highly similar in their levels of depressive symptoms. The convergence in the depressive symptoms levels may suggest a somewhat homogenization of life experiences among adolescents (United Nations, 2005), including international university students, which has implications for the formation of depressive symptoms. For example, males are also becoming more sensitive to their emotions as their female counterparts; young people's religiousness is getting less pronounced; and access to academic information and resources is now liberalized and widely accessible. The homogeneous levels of depressive symptoms could also be attributed to the fact that the international students interviewed were mostly in their young ages and in first year level completing general education rather than major subjects in their respective colleges.

The findings and the foregoing discussion should be appreciated in the context of some limitations. Because the study has a small sample size, the results cannot be generalized to the entire international student population of the university sur-

veyed or to other international student populations in the Philippines. Moreover, the study was cross-sectional, and its conclusions refer to associations rather than to causal relationships between the independent and dependent variables. In addition, the depressive symptoms measured through the USDI pertain to the amount of depressive symptoms weighted by frequency of occurrence that students had in the past fortnight. The USDI-based depressive symptoms should be appraised using a clinical judgment (Romaniuk and Khawaja, 2013).

More surveys among international university students using the USDI are needed in the Philippines. Future research has to involve representative samples of international university students; longitudinal studies, which will provide repeated observations of the levels and associated factors of depressive symptoms, are a better option. To generate more nuanced dimensions of the social and demographic characteristics of students at greater risk, some nominal variables may need additional high-level measures; for example, after asking respondents about their religion, a follow-up question on their religiousness can be posed.

The present survey was an initial attempt at examining the social and demographic factors associated with higher levels of depressive symptoms among international university students in the Philippines. The findings can help guide the discourse and the development of interventions for international students with more serious levels of depressive symptoms. The results suggest that financial conditions and relationships with parents and friends are factors to consider when identifying those at greater risk. More studies are needed to build local knowledge on international student depressive sympto-

matology in Philippine universities.

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