

Gender Differences in Mental Health of International Graduate Students



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ABSTRACT: The study investigated the mental health concerns, mental health states, and help-seeking behaviors of international graduate students by gender. Ninety-two respondents accomplished an online survey. The males' main concerns were academics and finances while it was academics and other relationships for females. There is no significant gender difference in mental health states although, there are more males with 3-5 depression symptoms and moderate-severe anxiety. Both males and females were willing to seek help for their mental health concerns. Both males and females suggested the provision of university mental health services. Further, males added the need for better teacher/adviser-student relations while females added having social events. The depression and anxiety symptoms were higher for male master's students and for female students who resided off-campus and have a family member/friend diagnosed with a mental health problem. Provision of appropriate university services to attend to the mental health needs of international students is necessary.

KEYWORDS: international graduate students, mental health, depression, anxiety, help seeking, gender differences

INTRODUCTION

Mental health is "a dynamic state of internal equilibrium which enables individuals to use their abilities in harmony with universal values of society" (Galderisi et al., 2015, p.408). Further, Galderisi et al. (2015) pointed to components which may influence this internal equilibrium such as one's cognitive skills, social skills, emotional regulation ability, empathy levels, and resilience against challenging situations. This internal equilibrium is dynamic in the sense that different life stages and experiences may lead to changes such as marriage, parenthood, career changes, and even, post-graduate studies in their own country or in another country.

International students are a special population in a particular educational institution due to their coming from various cultures and having particular social expectations. Mewett and Sawyer (2016) stated that international students experience many challenges such as being in a new environment, experiencing another culture for the first time, distance from their family support system, and financial concerns. These challenges to their psychological, social, and economic resources have the potential to negatively affect their mental health states.

Evans et al. (2018, as cited in Pain, 2018) reported that there is a mental health crisis in graduate education and measures must be done by higher education institutions around the globe to establish needed interventions and changes. More than a third of the doctoral students in their study coming from various countries experienced anxiety and depression. Factors such as academic pressure, peer and societal pressure, workload for the semester, financial concerns, work-life imbalance, negative relationship with their principal investigator/thesis adviser, and unclear career prospects inside or outside the academe may lead to negative effects on their mental health (Evans et al., 2018; Levecque et al., 2017; Han et al., 2012). Haber & Griffiths (2017) also pointed to acculturative stress or the stress of adapting to a new cultural environment and language barrier as stressors to international students.

Graduate students may experience mental health concerns as influenced by their gender. "Gender is a critical determinant of mental health and mental illness" (Malhotra and Shah, 2015). This arises because gender influences the disparity among men and

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women in terms of the power they have over socioeconomic determinants of their mental health such as social position and status, societal treatment, exposure to mental health risks, and their ensuing vulnerability. Prominent gender differences are found in the patterns of male and female mental illness, onset of the symptoms, frequency of symptoms, social adjustments, and long-term outcomes (WHO, 2019). More women are afflicted with depression and anxiety while more men manifest antisocial personality disorder. Evans et al. (2018) also found that about 40% of their female respondents and 33% of their male respondents experienced anxiety and depression.

According to Levecque et al. (2017), mental health problems can develop into serious long-term consequences which may be unfavorable to one's well-being and career, thus, addressing this is imperative. Levecque et al. (2017) cited the importance of mental health awareness, prevention, and monitoring practices in the academe. Mental health peer support networks and satellite counseling services need to be provided. Mental health professionals such as psychiatrists, psychologists, and counselors are being employed by higher education institutions to properly address the concerns. Thus, mental health services in universities are present, though at varying degrees.

Another matter is the help-seeking behaviors of the international students. Haber & Griffiths (2017) found that international students refrain from seeking help for their mental health concerns due to a fear of stigmatization especially from their home countries. Further, Hyun et al. (2007) stated that the fear of seeking help is related to having a note on their transcript of records or even, the cancelation of their student visa. Han et al. (2012) reported that barriers to seeking help centered on the belief that depression and anxiety are signs of weakness, a low awareness of available services, and language or communication barriers. Recently, Girmay et al. (2019) emphasized that the stigma remains a barrier in mental health help-seeking.

Patterns in seeking help for psychological disorders differ among men and women (WHO, 2019). Women are more likely to disclose mental health problems to their primary health care physician while men are more likely to seek mental health care from specialists and avail of in-patient care. Gender stereotypes reinforce social stigma and constrain help seeking behaviors, accurate identification, and treatment due to the stereotypical expectations.

In the university of the research locale, there is no specific program for the mental health concerns of international graduate students except for the provision of one psychiatrist who attends to the whole university and one designated Guidance Services Specialist who attends to local and international graduate students along with undergraduate students at a certain college. During the data gathering period, there were 174 (66 females and 108 males) international graduate students. Current programs and services of the office for international student matters are the following: issuance of study permit; issuance of certification related to visa renewal; tutorials; assistance to the activities of the international students' association; orientation of new international students; conduct of a two-day training program which aims to help in their adjustment to the university and learn the culture of the of the country and university; cultural exchange activities where international students share their culture to the staff and students; and an ambassadorship program which strengthens the role of selected graduating students as ambassadors of goodwill of the university when they return to their countries of origin. This research will help in the development of programs and activities sensitive to the needs of international graduate students, specifically, their needs that relate to mental health concerns.

Rosler (2018) highlighted that it is high time for a change in practice and research in the field. Sex and gender aspects must be addressed more rigorously in research, psychiatric training, and clinical practice. It should include more research on gender differences in illness behaviors, coping mechanisms, help-seeking behaviors, compliance to therapy as well as psychopharmacology, hormonal therapies, or gender-sensitive psychotherapy. Also, there remains a dearth of studies in understanding concerns regarding the mental health of international graduate students. Mewett (2020) emphasized that attention to this is critical to the achievement of the students' academic goals. Thus, this study aims to determine the gender differences in the mental health concerns of international graduate students and in their help-seeking behaviors as related to the available mental health services of the university. Using a gender approach to mental health studies means determining the biological and social attributes while exploring their interactions and being sensitive to how gender influences health outcomes. Thus, a gender approach helps determine the appropriate responses from the mental health care system of an education institution. Results of this study will help develop strategies and programs for handling mental health issues and concerns of the international graduate students who have greater risks of experiencing psychological distress.

METHODOLOGY

Sample

The participants were the international graduate students who applied for their study permit during the first semester, AY 2019-2020. Students experiencing physical trauma were not allowed to participate to avoid responses resulting from physical pains. During the time of the study, there were 71 international master's students (29 females and 42 males) and 103 international PhD

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students (37 females and 66 males) for a total of 174 international graduate students (66 females and 108 males). Stratified random sampling by gender was done and sample allocation was made proportional. There were 76 males and 48 females who accomplished the informed consent form. From this, 56 males and 36 females were randomly sampled for a total sample size of 92. More than half of the respondents are males (60.87%). More than a quarter (29.35%) are aged 31-35. Majority (79.35%) is heterosexual. There are more respondents from Myanmar (16.30%) though the respondents came from 20 countries. Nearly two-thirds (63.04%) are doctoral students. More than two-thirds (69.57%) reside in dorms inside the campus. More than half (57.61%) are single and without children. Nearly half (45.65%) have household sizes from 3-4 members. Half of the respondents have a monthly income considered as low income (Albert et al., 2018) although the average monthly income is P101, 635. More than three-fourths (81.52%) do not have a family member or friend who does not have a mental health concern.

INSTRUMENTS

A five-part questionnaire in English was developed to gather the information. The first part gathered the sociodemographic characteristics of the respondents. The second part is the Centre for Epidemiological Studies Depression Scale-Revised or CESD-R (Radloff, 1997; Eaton et al., 2004). It is a 20-item scale to assess depression symptoms using response options which range from 0 (Rarely or None of the time) to 4 (Nearly every day for two weeks). The scores range from 0-60 with higher scores indicating higher depressive symptoms. The Cronbach alpha of this scale is 0=.85-0.92. The third part is the Generalized Anxiety Symptoms or GAD-7 which measures severity of anxiety (Spitzer et al., 2006). It is composed of 7 items with response options from 0 (Not at all) to 3 (Nearly every day). Scores range from 0 to 21 with higher scores indicating more severe anxiety. The Cronbach alpha of this scale is 0=.92. The fourth part is on the mental health issues/concerns of the respondents while the last part is on their help-seeking behaviors.

The interview guide for the ten participants with the highest levels of poor mental health dealt with their main psychosocial concerns as graduate students, help-seeking behaviors, and suggestions for programs and activities which can help them have better mental health in the university.

DESIGN

The study utilized the sequential explanatory mixed method to determine the mental health aspects of the international graduate students and to delve into their help-seeking behaviors. Primary quantitative data was collected through an online survey. To gather qualitative data, in-depth interviews were done with ten of the respondents, five men and five women, with the highest levels of poor mental health to better explore the survey findings and possible explanations for the results.

An invitation to be part of the study was sent out to international graduate students through the university's office for international students. Those who agreed to be part of the study were given an informed consent form and the link to the Google form of the questionnaire. The ten respondents who showed the highest scores on the mental health scales were contacted for their participation in the in-depth interview.

Descriptive statistics were computed to present the sociodemographic data, mental health concerns, mental health states, and help-seeking behaviors of the respondents. Chi-square based measures of association were computed to determine the degree of association between gender and mental health measures. Correlations among scales and sociodemographic characteristics were determined through Spearman correlation and Point biserial correlation coefficients. Qualitative data were analyzed based on the emerging themes of their responses.

ETHICAL CONSIDERATION

Each participant was given an informed consent form and consent was ascertained before participation. The participants were oriented about the purpose of the study, their rights and responsibilities as respondents, confidentiality issues, security of their online data, and risks involved. The respondents were told that if they will feel any form of psychological distress due to the items in the questionnaire or the interview, they will be immediately referred to a mental health professional of the university. Those who showed high scores in the mental health scales were contacted and if they needed help, they were advised to immediately proceed to the Counseling and Guidance office or the university clinic.

Approval for the study was given by the National Ethics Committee of the Philippine Research Council for Health and Development, Department of Science and Technology (December 4, 2019).

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RESULTS AND DISCUSSION

Gender Differences in Mental Health Concerns

Both the male and female international graduate students pointed to academic concerns as the issue which contributes the most to their mental health concerns (Table 1). Academic pressure and heavy coursework for the semester may give rise to mental health concerns (Evans et al., 2018; Levecque et al., 2017; Han et al., 2012).

For the males, their main academic concerns were focused on the difficulty of the exams and the course, getting good grades, completing their degree on time, heaviness of academic load, funding support for the thesis, and failure in courses.

For the females, their academic concerns were focused on difficulty of subject matter and heavy coursework. Specifically, they also included different standards of different professors and difficulty in understanding and speaking the English language. Mewett and Sawyer (2016) found that if students struggle with English, the academic performance of students usually suffer.

The second top concern of males is finances. Financial concerns can impact mental health (Mewett and Sawyer, 2016; Hyun et al., 2007). The respondents described this concern as finances being unavailable or inadequate and as affected by the length of time they need to complete their studies. If they cannot complete their studies on time, this will require additional finances to support their extended stay. Around 26% of the male students have a monthly income of less than P21,000, which is considered low in the country, thus, financial inadequacy is a major concern.

The second top concern of females is other relationships. Mewett and Sawyer (2016) pointed out that being in a new, unfamiliar environment without their family and other social support systems can affect mental health. Their concerns regarding other relationships were on the loss of a loved one, a sick parent, problems with romantic partner, parents divorcing, and family violence.

The third top concern for males is related to marital and family issues such as the wife being alone with the children in their country, selecting the right partner, and a mother alone in their home country. Xiong (2018) pointed that marital status is a significant predictor of mental health. Hyun et al. (2007) also pointed to contact with family as a predictor of a mental health need.

The third top concern for females is related to the self. Personal psychological issues are another challenge that international students must face (Hyun et al., 2007). Adjusting to a new environment, people, culture and academic system bring about a new set of stressors to them (Haber & Griffiths, 2017). The concerns of females regarding the self were in relation to burn-out, a childhood trauma, homesickness, physical ill-health, premenstrual syndrome, psychological disorder, and concerns about what she will be in the future.

It is noteworthy to investigate the relationship with the adviser. This is an important factor in the emotional well-being of the international graduate student (Evans et al., 2018; Hyun et al., 2007). The adviser has the role of ensuring the quality of training by helping advance the student through the program, guiding the student in the thesis, and even, funding support (Galderisi, 2015; Hyun et al., 2007). Some descriptions of the respondents in relation to the adviser were having problems with their thesis adviser and/or panel members and conflict between their adviser and panel members which may impede their study.

A chi-square test of independence was performed to determine the relation between gender and mental health concerns of the international graduate students. The relationship between these variables was significant, $\chi^2(6, N=92) = 13.7, p=.0322$. There is sufficient evidence that there is a difference in the mental health concerns of male and female international students. Post hoc comparisons using Bonferroni analysis indicated that the "Others" category contributed to the significant difference between males and females ($p=0.0602$ at 90% confidence level) with females being more concerned with these problems (i.e. state of the world, compassion fatigue, breakdown of water and electricity supply at the dorm, roommate's noise during study time, and scholarship requirement).

When they were asked about how these concerns have made it difficult for them to do their tasks as international students, nearly half of the males (48.21%) and females (44.44%) stated that their concerns have made studying somewhat difficult for them. Further, these concerns have not made it difficult for them to take care of things at home nor get along with other people. This may be due to the saliency of their role as graduate students far from their own family and country.

GENDER DIFFERENCES IN MENTAL HEALTH STATES

The CESD-R scores of the male students averaged 13.87 ($s=17.30$) while the females averaged 11.08 ($s= 13.22$). More females showed no depression symptoms than males (Table 2). There were more females with possible major depressive episodes but 19% of the males have probable and major depressive episodes which require further assessment. The GAD-7 scores of the males averaged 4.03 ($s=5.29$) while the females averaged 3.08 ($s= 4.32$). There were more females with little or no anxiety (Table 2). However, around 12% of the males have moderate and severe anxiety.

According to Sheik et al. (2017, p. 1297), "mental health and other biological and environmental factors are predictors of psychological distress among foreign students." Both depression and anxiety are forms of psychological distress and are the most

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common comorbid disorders, meaning they usually occur together (Afifi, 2007). As international graduate students adjust to their new environment and go about their tasks as students, depression and anxiety may be experienced (Sheik et al., 2017). In their study, 47% do not have normal mental well-being. Han et al. (2013) found that 45% of the international students reported depression symptoms while 29% reported anxiety symptoms. In this study, only around 14% show depression or anxiety symptoms which may require further assessment and treatment.

Further, the results are contradictory to presented rates where females tend to be more afflicted with depression and anxiety symptoms (WHO, 2019; Evans et al., 2018) although there was one single female master's student who was the only one with a diagnosis of bipolar disorder. The higher mean CESD-R and GAD scores of the males may be due to the males coming from cultures where the traditional masculine and patriarchal gender roles are highly observed (Lynch et al., 2016; Lee et al., 2009) such as being the provider, decision-maker, or protector even if they are living apart from their family and home. They may have been socialized to carry the burden by themselves as a show of strength and independence (Vaswani, 2011).

Despite the differences in means in both the CESD-R and GAD-7 scales, there is no significant gender difference in mental health states of the international graduate students. A chi-square test of independence was performed to look at the relation between gender and mental health states of the international graduate students based on the CESD-R. The relationship between these variables was not significant, $\chi^2(4, N=92) = 3.931, p=.4154$. There is no sufficient evidence that there is a difference in the depression symptoms of male and female international students. A chi-square test of independence was performed to look at the relation between gender and the mental health states of the international graduate students based on the GAD-7. The relationship between these variables was not significant, $\chi^2(3, N=92) = 1.396, p=.7064$. There is no sufficient evidence that there is a difference in the anxiety symptoms of male and female international students.

Martin et al. (2013) found that males and female adults in their sample met depression criteria in equal proportions and manifested similar depression symptoms such as depressed mood, irritability, aggression, and anxiety. In this study, the top two depression symptoms for males and females, based on their level of agreement with the CESD-R items, were the same. These were for the statements "I felt sad" and "My sleep was restless."

McLean et al. (2011) found no gender differences in age of onset and persistence of generalized anxiety. In this study, the top anxiety symptom for males and females was the same based on their level of agreement on the GAD-7 scale. This was for the statement "Worrying too much about different things."

GENDER DIFFERENCES IN MENTAL HEALTH HELP-SEEKING BEHAVIORS

Willingness to seek help

Majority of both males (80.36%) and females (80.56%) said they would seek for help or advice in case they realize they have a mental health concern. For those who answered "no", some stated that it was not applicable to them. A chi-square test of independence was performed to look at the relation between gender and willingness to seek help of the international graduate students. The relationship between these variables was not significant, $\chi^2(1, N=92) = 3.841, p=.9813$. There is no sufficient evidence that there is a difference in the willingness to seek help of male and female international students. This contradicts usual findings that men are less likely to seek for help for psychological concerns (Liddon et al., 2017; Oliver et al., 2005). Still, it is a positive finding which warrants further study in the context of these respondents.

Sources of help-seeking

There are two categories of help-seeking: formal source of help-seeking from mental health institutions and professionals, and informal source of help-seeking from family members, friends, romantic partner, and significant others (D'Avanzo et al., 2012). Table 3 shows that a higher percentage of females will seek help from both formal and informal sources: mental health professionals, family members, and friends although a third of the males are also willing to seek help from mental health professionals and their family members. This contradicts past findings (Xiong, 2018; Haber and Griffiths, 2017; Hyun et al., 2007) where the international students were less likely to seek professional help and mental health services in the campus due to the stigmatization of such behaviors in their countries of origin. Still, it is fortunate that the respondents of the study show willingness to ask for help since this will aid in having better mental health states.

A chi-square test of independence was performed to look at the relation between gender and source of help of the international graduate students. The relationship between these variables was not significant, $\chi^2(1, N=280) = 9.488, p=.6626$. There is no sufficient evidence that there is a difference in the source of help of male and female international students. The Mental Health Foundation (2016) reported that seeking help from medical or psychological services, family and friends was equal for male and female adults. This positive change in terms of willingness to seek for help from various sources of help can be attributed to an observed paradigm shift in mental health and its care. Gulliver et al. (2010) have noted that mental health

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disorders have been normalized; that it can happen due to a host of physical, emotional, or psychological factors. This has lessened the stigma and discrimination associated with mental ill-health, increased support and understanding for those who experience it, and enables more help-seeking behavior. Mental health care laws have arisen around the world and the Philippines passed its Mental Health Act in June 2018 to protect the rights of patients (Lally et al., 2019).

Further, Table 3 shows that there were six males who reported that they would not seek help from anyone. Liddon et al. (2017) observed this in their study and attributed it to the males wanting to fix problems by themselves and not admitting it to anyone. It is significant to note that two of the six males in this study who would not seek for help were in the category of probable major depressive episode (4 symptoms) and with mild/moderate anxiety scores. When they were interviewed about this, one said that he does not want to be referred further to a mental health professional and the other one said that he does not want to be taken into a “mental home”. Camara et al. (2017) found that seeking help from mental health professionals and confinement in a mental institution connote serious psychiatric disorders or being “crazy” which the males may find unfavorable.

Important qualities of the help sources

When asked about the qualities they would seek for in their cited help sources, trustworthiness of the help source is the most important quality for both the male and female international graduate students. Gulliver et al. (2010) pointed out that a higher willingness to seek help is facilitated by having trusted and familiar sources of help. Similarly, Camara et al. (2017) stated that disclosing one’s issues and emotions requires that the source of help can be trusted as a help provider. One big fear of help-seekers is a breach of confidentiality leading to other people finding out about their issues and that they sought help for this (Gulliver et al., 2010). The males ranked accessibility of the source of help as the second quality. Vaswani (2011) pointed to accessibility of services as a facilitating factor for men to seek help. The males ranked as third the “others” category. In this category, the most cited quality they gave was the capability of the help source to assist during stressful moments. For females, they ranked approachability and credibility as second and third, respectively. Marlow et al. (2014) saw that approachability was important for females in the context of a trusting relationship. Topkaya (2015) found that, for females, being an expert able to give appropriate advice, facilitates help-seeking because it builds trust. Camara et al. (2017) also highlighted the importance of credibility of the help provider.

Visit to a mental health professional

When they were asked if they have visited a mental health professional for a mental health concern, only five respondents (5.43%), three males and two females, said that they have done so. The males sought help for divorce counseling, insomnia/vomiting, and weak health while the females went due to the need for a medication prescription and counseling and as requirement for a scholarship.

Suggestions for university services related to mental health needs

When they were asked about their suggestions for university services related to mental health, majority of male (55.81%) and female (41.94%) students reported the availability of professional mental health services as the priority to help ease stressors during the semester (Table 4). Hyun et al. (2007) stated that it is important to provide institutional support in the form of mental health outreach activities for the well-being of the international graduate students. Currently, there is only one psychiatrist in the university clinic and one guidance counselor assigned to the international graduate students who is also assigned to one college to serve undergraduate students.

Specifically, the males suggested the availability of mental health professionals such as a counselor, psychologist and psychiatrist, provision for a counseling center or private consultation rooms, individual counseling, group counseling, and monthly counseling sessions. Liddon et al. (2017) found that males preferred support groups more than women because such emphasize the sharing of information more than emotions.

The suggestions of the female students for mental health services focused more on individual counseling/consultation while a few also suggested group discussions or forums where they can learn relaxation techniques, how to avoid anxiety, and share concerns. Liddon et al. (2017) saw the importance of sharing emotions to a person or to a group to alleviate women’s mental health concerns.

The second top suggestion for males was fostering better teacher/adviser-student relations. Han et al. (2012) pointed out in their study that efforts at building better teacher/adviser-student relations can help improve the mental health of international students.

The males reported that their mentors (i.e. teachers, advisers) should be friendly, encouraging, understanding, and approachable so they can accomplish their requirements. Galderisi et al. (2015) pointed out the importance of a supportive and positive relationship with the mentor since this affects both the quality of the graduate education/training and the emotional well-being of the student.

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The females' second top suggestion was having social events. The emphasis on social events is for the purpose of battling loneliness, as sources of entertainment, and promoting a sense of belongingness with the host country (Mewett and Sawyer, 2016). Verma et al. (2011) reiterated that in females, during stressful moments, their stress response is activated by the limbic system and leads them to attachment and care-giving responses or the so-called tend-and-befriend model.

Relationships between the Mental Health States and Sociodemographic Characteristics

Table 5 presents the correlation results. Academic degree and mental health states were found to be weakly negatively correlated for both the CESDR scale, $r(54) = -.27, p = .039$ and GAD7 scale, $r(54) = -.30, p = .022$ of the male students. The depression and anxiety symptoms were higher for the male master's students. Sheik et al. (2017) noted that depression and anxiety usually arise with adjustments to being in a new environment far from home. It is possible that male master's students are experiencing socio-economic challenges as they adjust to a new environment without their usual support system (Mewett and Sawyer, 2016). Other challenges could be in relation to their financial state, cultural adjustment, and academic adaptation (Sheik et al., 2017; GulRaihan, 2017).

For the female students, campus residence and mental health states were found to be moderately positively correlated for both the CESDR scale, $r(34) = .43, p = .008$ and GAD7 scale, $r(34) = .49, p = .002$. The depression and anxiety symptoms were higher for the female students residing off-campus. This could be due to factors such as their sense of safety, expenses for rent and utilities, and being farther from university services and from friends residing on-campus. The university has limited rooms or bed space for graduate students, thus, majority have to live off-campus in more expensive dorms or apartments. Mewett and Sawyer (2016) found that international students living off-campus had to adjust to everyday chores aside from their academic tasks while at the same time adjusting to the freedom that off-campus living offers, which may distract from their studies. Further, they had to deal with financial concerns because living off-campus means higher rental and transportation costs. Much as the study of Beiter et al. (2015) were done on college students, they found that off-campus residents had higher stress, anxiety, and depression levels partly due to higher expenses for housing, food, and transportation. Further studies can investigate gender and mental health as influenced by campus residence and available services.

Further, having a family member or friend diagnosed with a mental health concern was found to be moderately positively correlated with mental health states for both the CESDR scale, $r(34) = .51, p = .001$ and GAD7 scale, $r(34) = .36, p = .028$ for female students. The depression and anxiety symptoms were higher for female students who had a family member or friend diagnosed with a mental health concern. Wittenberg et al. (2013) reported that having a family member with depression gives rise to non-health effects such as caretaking and changes in daily activities but more than these are the psychological effects such as stress, anxiety, worry, fear, and sadness. The worry may not only be directed to the effects on the life of the loved one with a mental health concern but also on whether she may also develop the same disorder due to being genetically related or emotionally invested.

CONCLUSIONS AND RECOMMENDATIONS

The study investigated the mental health concerns, mental health states, and help-seeking behaviors of the international graduate students by gender. The males' top concerns were academics and finances while for the females, these were academics and other relationships. There is no significant gender difference in mental health states of the international graduate students although, there is a higher percentage of males with 3-5 depression symptoms and moderate to severe anxiety. Both males and females were willing to seek help for their mental health concerns if the source of help is trustworthy. Both males and females suggested the availability of mental health professionals and services in the university although males also emphasized the need for better teacher/adviser-student relations while females also added having social events. The depression and anxiety symptoms were higher for the male master's students while females who resided off-campus and have a family member/friend diagnosed with a mental health problem had higher depression and anxiety symptoms.

This study contributes knowledge on mental health concerns by gender of international students in a Philippine university. Similar studies are qualitative in nature while this provides a quantitative analysis of the international students' situation in this country.

For future research, it is recommended that measures of masculinity and femininity be included to see how these influence mental health states and help-seeking behaviors. Also, further studies can investigate how academic degree, campus residence, and having a family member/friend diagnosed with a mental health problem affect mental health states.

It is also recommended that the university attend to the suggestions put forth by the international graduate students in terms of university services related to mental health. Further, counselors may be of greater assistance if they are trained towards

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multicultural counseling given the diversity of nationalities and cultures of the international students. These may greatly assist the students to better adjust to their new cultural and academic environment.

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Table 1. Distribution of the mental health concerns of the respondents by gender

Mental health concerns	Frequency (f)		Percentage (%)	
	Male (n=56)	Female (n=36)	Male	Female
Problems related to:				
Academics/difficulty of subject matter	43	28	76.79	77.78
Financial resources	32	16	57.14	44.44
Other relationships (i.e. friends, workmates)	24	20	42.86	55.56
Self	24	19	42.86	52.78
Marriage and family	27	8	48.21	22.22
Adviser or panel member	18	10	32.14	27.78
Others	1	7	1.79	19.44

*Multiple responses

Table 2. Distribution of the CESD-R and GAD-7 scores of the respondents by gender

Scale and Categories	Frequency (f)		Percentage (%)	
	Male (n=56)	Female (n=36)	Male	Female
CESD-R Scale				
No clinical significance (0-15)	39	27	69.64	75.00
Subthreshold depression symptoms (with a score of 16 and 1-2 symptoms)	6	3	10.71	8.33
Possible major depressive episode (3 symptoms)	4	5	7.14	13.89
Probable major depressive episode (4 symptoms)	4	1	7.14	2.78
Major depressive episode (5 symptoms)	3	-	5.36	-
GAD-7 Scale				
No or little anxiety (0-4)	37	27	66.07	75.00
Mild anxiety disorder (5-9)	12	7	21.43	19.44
Moderate anxiety disorder (10-14)	3	1	5.36	2.78
Severe anxiety disorder (15-21)	4	1	7.14	2.78

Table 3. Distribution of the responses for sources of help by gender

Categories	Frequency (f) & Males (n=56)	Percentage (%) Females (n=36)	Total	
			Male	Female
Mental health professional:			62 (36.26)	46 (42.20)
Psychologist	18 (10.53)	16 (14.68)		
Psychiatrist	20 (11.70)	13 (11.93)		
Guidance Counselor	19 (11.11)	12 (11.01)		
Social worker	5 (2.92)	5 (4.59)		
Family member:			55 (31.25)	36 (33.03)
Mother	22 (12.87)	12 (11.01)		
Father	17 (9.94)	8 (7.34)		
Sibling	16 (9.36)	12 (11.01)		
Friend	22 (12.87)	16 (14.68)		

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Romantic partner	12 (7.02)	4 (3.67)	
Teacher	8 (4.68)	6 (5.50)	
Extended relative	6 (3.51)	4 (3.67)	
Traditional faith healer	5 (2.92)	1 (0.92)	
Doctor	1 (0.58)	0 -	
I would not seek help from anyone	6 (3.51)	0 -	

*Multiple responses

Table 4. Distribution of the suggestions for university services related to mental health by gender

Categories	Frequency (f) and Male	Percentage (%) Female
Professional mental health services	24 (55.81)	13 (41.94)
More social events	4 (9.30)	7 (22.58)
Better teacher/adviser-student relations	7 (16.28)	-
Physical wellness	1 (2.32)	4 (12.90)
Financial help	3 (6.98)	1 (3.22)
Academic assistance	1 (2.32)	4 (12.90)
Others	3 (6.98)	2 (6.45)

Table 5. Correlations for variables by gender

Variable	Male CESDR	Male GAD7	Female CESDR	Female GAD7
Age	-0.08	-0.12	-0.16	-0.05
Sexual orientation	0.22	0.20	-0.17	-0.20
Civil status	-0.08	-0.19	0.00	0.02
With child	0.10	0.15	-0.14	-0.04
Degree	-0.27*	-0.30*	-0.16	0.01
Campus residence	0.02	-0.01	0.43*	0.49*
Household size	-0.09	-0.06	-0.13	-0.11
Average monthly income	0.03	-0.05	-0.01	-0.07
Has family/friend with mental health concern	0.04	-0.01	0.51*	0.36*
Will seek help	-0.00	0.06	0.25	0.24
Has visited a mental health professional	0.08	0.22	-0.05	-0.11

* p < .05



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