

A Multivariate Analysis of Suicide Ideation Among University Students in the Philippines

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Suicide ideation is a robust predictor of suicide completion. Research into the extent of and the factors related to suicide ideation is thus important. Findings can help inform the development of prevention programs. Despite the increasing suicide cases among the youth in the Philippines, substantive local studies on suicide ideation are sparse. This survey determined the prevalence and associated factors of suicide ideation among university students in Manila, Philippines. A questionnaire containing items on suicide ideation and risk factors was administered among 2,450 students enrolled at a private university. As the criterion variable, suicide ideation, which was originally measured using a Likert-based statement, was recoded into a dichotomous variable for the purpose of the present analysis. Using multivariate logistic regression, the risk factors, including seven socio-demographic variables, three mental and psychological variables, two lifestyle-related variables, and four variables on social groups and relationships, were examined for their statistical associations with suicidal thoughts. The prevalence of suicide ideation among the participants was 24%, albeit the level of severity of suicidal thoughts was low. None of the socio-demographic variables was associated with suicide ideation. Multivariate analyses showed that students who were dissatisfied with one's love relationship (OR=2.33; 95% CI=1.52-3.59); and those who reported low levels of closeness with parents (OR=1.68; 95% CI=1.15-2.46) and with peers (OR=2.56; 95% CI=1.76-3.74) were more likely to think of suicide. Based on our knowledge, this survey was the first to provide substantive evidence on suicide ideation among university students in the Philippines. The data suggest that a prevention program is necessary, at least for the private university surveyed, given that suicide ideation was prevalent among the university student respondents. There is a need for a reliable clinical follow-up of students with suicidal thoughts in order to confirm the presence of their mental health problem. The study underscores the importance of integrating the roles of primary social groups and relationships into the design of the program seeking to help the students at-risk.

Keywords: youth at risk, suicidal ideation, suicidal behaviors, parental relationships, peer relationships

Suicide is a major public health problem due to its enormous social and economic costs to individuals, families, communities, and the larger society. Data suggest that there is one successful suicide occurring in every 40 seconds throughout the world (World Health Organization [WHO], 2000). In the Philippines, suicide is emerging as a health challenge because of the rising number of Filipinos committing the act. Between 1984 and 2005, the country's suicide incidence increased from 0.23 to 3.59 per 100,000 in males and 0.12 to 1.09 per 100,000 in females (Redaniel, Lebanan-Dalida, & Gunnell, 2011). A large number of these cases reportedly involve the Filipino youth. In fact, suicide is a primary cause of mortality in the youth population (World Health Organization [WHO], 2010). Studies that could help guide the development of suicide prevention programs for the youth are thus critical ((WHO, 2010; S. 257, 2013). Research on youths with suicide ideation (i.e., those who think, contemplate, or plan to kill themselves) (Kuo, Gallo, & Tien, 2001) is crucial because suicide ideation is a precursor to suicide completion (Peter, Roberts, & Buzdugan, 2008). Our current study focuses on suicide ideation among university students. As a youth sub-group, university students are at high risk for suicide ideation. For example, in the Philippines, the spates of suicides have been reportedly occurring among such students (Lee, Sta. Maria, Estanislao, & Rodriguez, 2003).

Our study addresses gaps in the existing knowledge of suicidal behaviors of university students. One gap is found in the lack of evidence for the role of protective factors against suicide (O'Connor & Nock, 2014; Kleiman & Liu, 2013; Gould, Greenberg, Velting, & Shaffer, 2003). Most of previous research highlight negative or risk factors, such as unstable or violent households, contributing to feelings of depression and hopelessness usually exhibited by suicidal adolescents (Peter et al., 2008). We tried to address this gap by focusing on close

relationships as sources of protection against suicide among university students. Another gap addressed by the current study is the lack of research on suicide resiliency among the youth living in countries beyond North America. This gap is associated with the need for establishing the universality of suicide resiliency factors (Kleiman & Liu, 2013).

Researches investigating protective mechanisms against suicidal behaviors have mostly focused on family/parental and friend support. Positive forms of support from social others were found to contribute to lower depression levels, substance use, and death acceptance (Cheng & Chan, 2007), and to decreased suicide ideation and suicide risk (Hirsch & Barton, 2011; Cho & Haslam, 2010; Rigby & Slee, 1999). Visible and explicit support helps a person cope by allowing a reappraisal of a threatening situation (Bolger & Amarel, 2007), and by increasing self-worth (Laursen, Furman, & Mooney, 2006). Although there have been a number of studies on social support as a protective factor against suicide, which aspects of social support—instrumental or emotional—are most useful have not been fully assessed (Kleiman & Liu, 2013). Moreover, Bolger and Amarel (2007) argued that it is not the explicit, intentional support, but the unintentional unreflective support in close relationships which are the most helpful. In close relationships, a person forms a belief that the other is able and is willing to provide support in threatening situations (Srivastava, McGonigal, Richards, Butler, & Gross, 2006). Thus, it is the belief or expectation of support—not the explicit show of support—that leads to an alleviation of stress, positive views of self, optimism, and perceptions of greater control (Srivastava et al., 2006; Kumashiro & Sedikides, 2005). According the Thoits (2011), the emotional support and sustenance are particularly protective of wellbeing when support comes from primary group members, rather than secondary group members, who “generally lack the emotional

closeness and commitment to the person what would make such demonstrations probable or as meaningful” (p. 152). In this study, we therefore tested the hypothesis that close relationships will be observed to be protective against suicide ideation.

This research on close relationships as sources of protection was guided by Bowlby’s attachment theory. Attachment theory proposes that “internal working models” develop from internalization of relationships with primary care givers (Bowlby, 1988). According to Bowlby,

“the patterns of interaction to which the models lead, having become habitual, generalized, and largely unconscious, persist in a more or less uncorrected and unchanged state even when the individual in later life is dealing with persons who treat him in ways entirely unlike those that his parents adopted when he was a child.” (p. 129)

These internal models have two essential components: (1) a perception of self as worthy of receiving support in times of stress, and (2) a perception of others who are willing and able of providing care (Lessard & Moretti, 1998). Insecurity in early relationships with caregivers produces a weakened capacity to form and sustain relationships which become essential in developing positive self-esteem and in protecting against depression (West, Spreng, Rose, & Adam, 1999; Raja, McGee, & Stanton, 1992). Poor relationships with parents produce relationship difficulties with non-familial others (for example, peers) borne out of distorted communication and negative expectations from others (Allen, Moore, Kuperminc, & Bell, 1998; Armsden, McCauley, Greenberg, Burke & Mitchell, 1990). This incapacity becomes more generalized to a wider range of interactions in adolescence (Allen et al., 1998).

Accordingly, a more effective health response to suicide ideation in university students necessitates, among others, robust

information about close relationships as protection mechanisms. Such information will help guide researchers, program planners, and policy makers to formulate prevention strategies (Campo, 2009; Centers for Disease Control and Prevention, 2004), and mental health professionals will be better equipped to identify warning signs before the young person exhibits suicidal symptoms.

To date, much of the evidence on university students’ suicide ideation is drawn from studies with modest numbers of samples (Nolen-Hoeksema & Hilt, 2009) and basic analyses. We reviewed five large-scale surveys (i.e., having at least about 1,000 respondents) with multivariate findings. We identified these surveys from among the 162 full-length records accessed using four subscribed health and social sciences online databases (i.e., Scopus, Proquest, EBSCO, and JSTOR) and an array of keywords (e.g., suicide and suicide ideation + students). One study was from Turkey (sample size: 1,145; Engin, Gurkan, Dulgerler, & Arabaci, 2009), one from Austria (sample size: 1,381; Skala et al., 2012), two from China (sample size: 1,145 and 9,808; Meng, Li, Loerbroks, Wu, & Chen, 2013; Chen et al., 2010), and two were from the US (sample size: 1,181 and 15,977; Eisenberg, Gollust, Golberstein, & Hefner, 2007; Kisch, Leino, & Silverman, 2005). The surveys involved students who were mostly aged 18-22 years and were enrolled in a variety of academic programs. Moreover, students were randomly or conveniently selected, and were asked, via an anonymous self-administered instrument, a series of questions, one of which pertained to suicide ideation. Almost all studies utilized one dichotomous (yes/no) item, which queried students if they ever considered or had thought about committing suicide in the past four weeks or 12 months.

Among the university students in these large-scale surveys, 2.4%-13.0% had suicide ideation. Among the risk factors investigated in the reviewed surveys, several were found to

have a statistically significant association with suicide ideation. We categorized these risk factors into five. First, risk factors related to socio-demographic characteristics, such as (a) being female (Engin et al., 2009; Chen et al., 2010); (b) an individual with a low educational status (Skala et al., 2012) and rural background (Meng et al., 2013; Kisch et al., 2005); and (c) being single, a sexual minority, and obese (Kisch et al., 2005). Second, risk factors related to mental and psychological problems, such as having depression (Meng et al., 2013) and anger expression, somatization, hostility, psychotic symptoms, phobic anxiety, anxiety disorder, and interpersonal sensitivity (Engin et al., 2009); and feeling hopeless and experiencing psychological problems (Chen et al., 2010). Third, risk factors linked to lifestyles, which include smoking, drinking alcohol, and using illicit drugs (Skala et al., 2012); and having sexual experience and diseases (Chen et al., 2010). Fourth, risk factors pertaining to social groups and relationships, such as not receiving any or only receiving limited social support from families; living with families experiencing problems (Engin et al., 2009) and with parents or living alone (Eisenberg et al., 2007); and having abusive and violent relationships (Kisch et al., 2005) and relatives or friends exhibiting suicidal behavior themselves (Chen et al., 2010). Finally, risk factors related to scholastic outcomes, such as poor academic performance (Engin et al., 2009).

There is no parallel evidence among Filipino university students to date (see for example, Redaniel et al., 2011). Whether a considerable or only a small number of domestic students have suicide thoughts and whether suicide ideators have particular risk factors are unclear. We carried out this survey to generate some evidence with which we can initially discuss the issue of suicide in students with university authorities. The objectives of this study are (1) to estimate the prevalence of suicide ideation among university

students and (2) to identify associated factors of suicide ideation in this population.

METHODS

Sample

This complete enumeration survey was carried out in 2012 and involved students from all the 67 undergraduate general social sciences classes offered in two successive academic terms at a private university in Manila, Philippines. On the average, each class had 40-45 students. The classes were surveyed in the middle of Term 1 and of Term 2. A total of 2,591 students completed a 10-page questionnaire. For this report, only the questionnaires of 2,450 students were analyzed (tools with incomplete answers were discarded). Our sample is roughly 15% of the total undergraduate student population of the university. The respondents' profile are presented in Table 1.

Two-thirds of all respondents were 17 years old or younger; a third was older. More than half were females while 44% were males. Seven of every 10 were first-year university students. Most were enrolled in courses related to business/marketing/finance, social sciences/education and engineering/natural science/computer science. Most were Roman Catholics and lived with both biological parents at the time of the survey. Of the sample, 95% were Filipinos and 5% were international students.

Procedure

Data were collected in classrooms at the beginning of the 1.5-hour classes. Students in each class were first informed about the survey's rationale and aim, and were then invited to accomplish the questionnaire. Students were requested not to write any mark in the instrument that would reveal their identity. A cover page detailing the study purpose and rationale (i.e.,

“the need for local findings that can help inform student services”) and ensuring the anonymity and the confidentiality of the survey information was attached to the questionnaire. Once accomplished, questionnaires were immediately collected from students. No incentive of any form was provided.

The survey instrument consisted of 66 questions on respondents’ socio-demographic and lifestyle characteristics and social relationships (the independent variables), and on their suicide ideation (the dependent variable). For the purpose of this report, the socio-demographic characteristics included in the analysis are age, sex, civil status, course, year level, and religion, while the lifestyle characteristics cover respondents’ frequency of smoking and drinking; and living arrangements. Social relationship variables included having and level of satisfaction of a current love relationship; organizational memberships; level of closeness with parents and level of closeness with peers.

Measures

The criterion variable is suicide ideation (1=yes, 0=no), which was measured by the following statement: “In the past two weeks, I have thought about killing myself.” In its original form, the statement has five scored response options: “none at all” (1), “a little bit of the time” (2), “some of the time” (3), “most of the time” (4), and “all the time” (5). These five-pronged responses were recoded as a dichotomous yes/no variable: those who answered “none at all” were grouped under “no” and those who answered other responses were grouped under “yes.” Creating a binary suicidal ideation variable from 4 response categories is in accordance with previous studies on suicide ideation. This strategy is usually done when a large frequency of respondents report lower levels of suicide ideation (Hoffman & Marsiglia, 2014; Khurana & Romer, 2012). With the dichotomous nature

of suicide ideation, logistic regression analysis consequently was used, permitting a valid analysis for a study with a large sample, but with too few respondents possessing the outcome variable (Peduzzi, Concato, Kemper, Holford, & Feinstein, 1996).

The risk factors examined included seven socio-demographic characteristics (i.e., age, sex, year level, course, religion, student classification, and living arrangement); and mental and psychological, lifestyle, and social groups and relationships. The three mental and psychological risk factors referred to students’ satisfaction or lack of satisfaction with their: (1) love relationship, (2) teachers’ off-classroom support, and (3) financial condition. The two lifestyle-related risk factors pertained to whether students (1) consumed alcohol in the past 30 days and (2) smoked in the past 30 days. The four risk factors on social groups and relationships asked students about their (1) level of closeness with parents, (2) level of closeness with peers, (3) membership in a campus-based youth organization, and (4) membership in an off-campus-based youth organization. Closeness levels with parents and with peers were measured based on a series of eight statements on parents and nine statements on peers. There are four score-bearing response options for each question—definitely not true (1), mostly not true (2), mostly true (3), and definitely true (4). The questions are as follows:

Parents

1. I like spending time with my parents.
2. My parent/s show/s how much she/he/they love me.
3. I feel good being with my parents.
4. My parent/s does/do not really care about me.
5. I disclose my private concerns to my parent/s.
6. I am not happy when I spend time with my parent/s.
7. I think my parent/s is/are the best in the world.

8. I wish my parent/s paid more attention to me.

Peers

1. I feel happy when I am with my friends.
2. I would rather be alone than spend time with my friends.
3. My friends show me their support.
4. My friends do not treat me well.
5. I wish I had more supportive friends.
6. I am satisfied with the friendships I develop in school.
7. I like spending time with my friends.
8. I do not enjoy spending time with my friends.
9. I am happiest when I am with my friends.

All the variables examined in the present analysis were drawn from our larger study on depressive symptoms among Filipino university students. The suicide ideation variable, for example, formed part of the series of 30 items that we utilized to measure depressive symptomatology. The self-administered questionnaire containing these variables, which we culled from numerous published studies, was validated in a pre-test involving domestic students.

Statistical Analysis

Using the Statistical Package for the Social Sciences Version 20, we carried out two sets of analyses—first, a simple frequency count of suicide ideation (the criterion variable) and risk factors (the independent variables); and second, bivariate and multivariate logistic regression analyses to determine the statistical associations between the dependent and the independent variables. The reference group for each independent variable in the logistic regression analyses involved the category with a lesser propensity for suicide ideation (e.g., living with both biological parents).

Except for one (i.e., course), all of the independent variables were dichotomous (Table

1). The levels of closeness with parents and with peers were constructed by adding the scores corresponding to self-reports given to the series of statements. Some statements were reverse-coded: statements #4 and #6 in parents-based scale, and statements #2, #4, #5 and #8 in peers-based scale. For level of closeness with parents, the total score ranged from 8 to 32 (low, 8-23; high, 24-32); and for level of closeness with peers, the total score ranged from 9 to 36 (low, 9-26; high, 27-36). Our analyses revealed a high level of internal consistency for both series (parents: $\alpha=0.77$; peers: $\alpha=0.79$).

Ethical Approval

Ethics review was conducted by the College Research Ethics Committee. Based on the Committee's assessment of the items contained in the survey instrument, it concluded that the study would have no known risk to students. We obtained only the verbal consent of students, who in turn were informed that they could decline research participation and that they could stop accomplishing the instrument in an event they found some questions sensitive. The benefits of the study (i.e., findings shall be used to inform mental health research and prevention in students) were emphasized in order to cultivate among students a sense of social responsibility and citizenship, and therefore, research participation. These instructions were printed on the cover page of the administered survey instrument. The same cover page likewise included our full names and contact numbers for students who would have confidential questions regarding suicide or related matters.

RESULTS

Table 1 shows the study's descriptive results. Of the 2,450 university students surveyed, 24% or 597 reported suicide ideation. In order to

Table 1. *Descriptive Results*

Variables	Categories	N	%
<i>Dependent variable</i>			
Had suicide ideation	Yes	597	24.37
	No	1,853	75.63
<i>Socio-demographic characteristics</i>			
Age	≤17	1,517	61.92
	>17	933	38.08
Sex	Male	1,075	43.88
	Female	1,375	56.12
Year level	1 st	1,735	70.82
	2 nd -4 th	715	29.18
Course	Social sciences/education	709	28.94
	Business/marketing/finance	733	29.92
	Humanities/communication	248	10.12
	Engineering/natural science/ computer science	558	22.78
	Double major	202	8.24
Religion	Catholic	1,933	78.90
	Non-Catholic	517	21.10
Living arrangement	With both biological parents	1,912	78.04
	With others	538	21.96
Student type	International	118	4.82
	Domestic/Filipino	2,332	95.18
<i>Mental and psychological</i>			
If satisfied with one's love relationship	Satisfied	538	80.78
	Not satisfied	128	19.22
If satisfied with teachers' off-classroom support	Satisfied	2,207	90.08
	Not satisfied	243	9.92
If satisfied with one's financial condition	Satisfied	1,714	69.96
	Not satisfied	736	30.04
<i>Lifestyle</i>			
Took alcohol in the past 30 days	No	1,448	59.10
	Yes	1,002	40.90
Smoked in the past 30 days	No	2,116	86.37
	Yes	334	13.63

<i>Social groups and relationships</i>			
Level of closeness with parents	High	1,430	58.37
	Low	1,020	41.63
Level of closeness with peers	High	1,402	57.22
	Low	1,048	42.78
Member of a campus-based youth organization	Yes	2,006	81.88
	No	444	18.12
Member of an off-campus-based youth organization	Yes	565	23.06
	No	1,885	76.94

estimate the severity of suicide ideation among these students, the mean score was calculated by adding the individual scores corresponding to responses to the suicide ideation question (i.e., 2 for “a little bit of the time”, 3 for “some of the time”, 4 for “most of the time”, and 5 for “all the time”). The mean score was 2.63 suggesting that the level of severity of suicide ideation among the university student respondents was low.

The overwhelming majority of students were satisfied with their love relationship and with the off-classroom support they received from their teachers. In relation to their financial condition, 70% reported of being satisfied. While 59% did not take alcohol in the past 30 days prior to the survey, 41% were found to have taken it. In terms of smoking cigarettes in the past 30 days, 86% mentioned of not having smoked in contrast to 14% who had smoked. About 60% of respondents had a high level of closeness with parents and with peers; conversely, roughly 40% of them had a low level of closeness with each mentioned social group. Most (82%) were a member of a campus-based youth organization; far fewer (23%) were a member of an off-campus-based youth organization.

Table 2 presents the results drawn from the logistic regression analyses between suicide ideation on the one hand and the risk factors on the other. Results indicate that one of the seven socio-demographic variables (i.e., course); two

of the three mental and psychological variables (i.e., satisfaction with one’s love relationship and satisfaction with one’s financial condition); both of the lifestyle variables (i.e., taking alcohol and smoking in the past 30 days); and two of the four social group and relationship variables (i.e., level of closeness with parents and with peers) were statistically significantly related with suicide ideation. These bivariate correlates were entered into a multivariate logistic regression analysis.

The multivariate analyses reveal that being dissatisfied with one’s love relationship (OR=2.33; 95% CI=1.52-3.59); and having a low level of closeness with parents (OR=1.68; 95% CI=1.15-2.46) and with peers (OR=2.56; 95% CI=1.76-3.74) were statistically significantly associated with suicidal thoughts. Further analysis (not shown in the table) reveals an absence of interaction between these three variables. In other words, the variables had no combined effects on the dependent variable.

DISCUSSION

The survey estimated the prevalence and identified the associated factors of suicide ideation among 2,450 university students in the Philippines in an effort to understand the problem particularly that the number of suicide cases among the local youth has been rising.

Table 2. *Bivariate and Multivariate Logistic Regression Analyses Results Between Suicide Ideation and Socio-Demographic Characteristics and Risk Factors*

Variables	Categories	Suicidal Ideation			
		OR (95% CI)	<i>p</i> value	Adj. OR (95%CI)	<i>p</i> value
<i>Socio-demographic characteristics</i>					
Age	≤17	Reference			
	>17	0.987(0.816-1.194)	0.896	-	
Sex	Male	Reference			
	Female	0.964(0.801-1.161)	0.701	-	
Year level	1 st	Reference			
	2nd-4 th	0.997(0.814-1.222)	0.981	-	
Course	Social sciences/education	Reference			
	Business/marketing/finance	0.734(0.576-0.934)	0.012	0.827(0.524-1.303)	0.413
	Humanities/communication	1.258(0.919-1.723)	0.151	0.986(0.527-1.845)	0.967
	Engineering/natural science/computer science	0.686(0.468-1.003)	0.052	0.886(0.516-1.521)	0.661
	Double major	0.802(0.619-1.037)	0.092	0.451(0.186-1.094)	0.078
Religion	Catholic	Reference			
	Non-Catholic	1.184(0.949-1.476)	0.133	-	
Living arrangement	With both biological parents	Reference			
	With others	1.148(0.923-1.429)	0.215	-	
Student type	International	Reference			
	Domestic/Filipino	0.786(0.522-1.184)	0.25	-	
<i>Mental and psychological</i>					
If satisfied with one's love relationship	Satisfied	Reference			
	Not satisfied	2.597(1.731-3.897)	<0.001	2.334(1.517-3.591)	<0.001
If satisfied with teachers' off-classroom support	Satisfied	Reference			
	Not satisfied	1.319(0.984-1.768)	0.064	-	

If satisfied with one's financial condition	Satisfied	Reference			
	Not satisfied	1.894(1.561-2.297)	<0.001	1.074(0.721-1.599)	0.725
<i>Lifestyle</i>					
Took alcohol in the past 30 days	No	Reference			
	Yes	1.208(1.003-1.456)	0.046	0.852(0.574-1.265)	0.427
Smoked in the past 30 days	No	Reference			
	Yes	1.564(1.217-2.011)	<0.001	0.793(0.47-1.336)	0.383
<i>Social groups and relationships</i>					
Level of closeness with parents	High	Reference			
	Low	2.303(1.909-2.778)	<0.001	1.679(1.147-2.459)	0.008
Level of closeness with peers	High	Reference			
	Low	2.433(2.015-2.937)	<0.001	2.562(1.756-3.738)	<0.001
Member of a campus-based youth organization	Yes	Reference			
	No	0.997(0.785-1.267)	0.981	-	
Member of an off-campus-based youth organization	Yes	Reference			
	No	0.948(0.763-1.178)	0.629	-	

A considerable number of university students in our sample had suicide ideation—in particular, 24% had thought of killing themselves in the past two weeks before the survey (the rates based on the five large-scale surveys reviewed earlier are 2.4%-13%) (Meng et al., 2013; Skala et al., 2012; Chen et al., 2010; Engin et al., 2009; Eisenberg et al., 2007; Kisch et al., 2005). The high prevalence may be linked to the fact that the survey was carried out in the middle of the term. At this stage of the 14-week term, students were not only fully aware of the scope and the magnitude of the academic requirements, but were also, presumably, working hard towards fulfilling them. Academic stress emanating from demands, pressures, and difficulties related to acquiring a formal education may induce suicide thoughts (Daniel & Goldston, 2009; Ang & Huan, 2006). However, domestic university students

may be particularly prone to adverse mental and psychological effects of academic work because of other structural factors. For example, Filipino students commence tertiary education at the age of 16, and in every term thereafter, they have to enroll in 5-6 subjects to complete a degree on time (at graduation, these students would only be 19-20 years old). As such, domestic students are two years younger than their counterparts in other countries throughout the world. Thus, while local students are still in the process of developing their cognitive and emotional abilities, they are already given responsibilities they may not yet be quite ready for (Kantanis, 2000). The chasm between one's general age-graded preparedness and one's academic work load, in the purview of the high premium the Filipino society places on university education and degree, may lead to severe anxiety levels, and later, to thinking about suicide.

Another equally important issue to consider is the fact that a large percentage of our participants were in their first year at the university. In this regard, increased prevalence in suicide ideation can be related to the students' stress experiences as they transition to college. Studies have shown that transition to college is said to be particularly stressful due to academic and social challenges the young person is likely to face (Sankey & Huon, 1999; Kantanis, 2000; Jackson, 2003; Cooke, Bewick, Barkham, Bradley, & Audin, 2006; Buote et al., 2007; Wilcox et al., 2010; Cleary, Walter, & Jackson, 2011). The characteristics of this transitional period include being away from the family (especially for those who have to reside nearer the University), establishing new peer support networks, and acclimatizing oneself to a new school environment (Wilcox et al., 2010). Moreover, transitioning will usher a reorganization of how students view themselves as learners and as social beings (Sankey & Huon, 1999). In the end, these demands bring considerable stress to students, and for many of them, stress can lead to anxiety. Indeed, it is in the early years of college when students are likely to experience the highest levels of anxiety (Cooke et al., 2006).

The present study adds to the large body of evidence suggesting that negative relationships with parents are predictive of suicidal thoughts, suicide risk, and depression (Consoli et al., 2013; Kwok & Shek, 2011). Positive parent-child relationship, often in the form of greater emotional support, influences the decreased levels of depression and enhances adolescents' well-being, self-esteem, and psychological adjustment (Yap, Pilkington, Ryan, & Jorm, 2014; Boudreault-Bouchard et al., 2013; Hair, Moore, Garrett, Ling, & Cleveland, 2008; Piko & Hamvai, 2010). What is essential is the opportunity to communicate problems and university-related issues in the context of a warm and loving relationship (Kwok & Shek, 2011; Piko & Hamvai, 2010). Communication increases a

perception of parental concern and affection, giving adolescents greater well-being, which, in turn, helps them in the social and emotional adaptation to the university (Steinberg & Silk, 2002; Wintre & Yaffe, 2000). Furthermore, the quality of parental caring serves to protect the young person from a self-critical vulnerability to depression (Campos, Besser, & Blatt, 2013), that is, the experience of parental rejection can lead to a young person to develop self-critical personality traits, which, in turn, can lead to a predisposition to depression. Depression and associated suicidal behaviors may therefore be experienced by more vulnerable individuals going through the stress accompanying university life demands.

While, the statistically significant risk factors on parents and peers vis-à-vis suicide ideation are consistent with findings from past large-scale studies (Engin et al., 2009) and the general published literature (Consoli et al., 2013; Kwok & Shek, 2011), cultural orientations and values are likely to influence students' academic adjustment (Dumka, Gonzales, McClain, & Millsap, 2013; Stein, Gonzales, Cupito, Kiang, & Supple, 2013; Tseng, 2004). The culture of the Philippines thrives on collectivism, in which individuals are intricately embedded into larger social groups. Parents and friends are basic yet highly significant primary groups for the Filipino youth. For example, positive parent-child relationship, often in the form of greater emotional support, influences the well-being and enhances the self-esteem and psychological adjustment of adolescents. Close friendships provide students with emotional and tangible support as well as role models and behaviors to buffer the effects of the stressors related to the demands of university life. In the event the students would have low levels of closeness with parents and peers, they would be deprived, understandably, of these critical resources. As a consequence, students would feel that they are alone, they do not belong, and they are unneeded, which could lead to suicide ideation.

It is also noteworthy that in this study, no singular socio-demographic characteristic was found to be statistically significantly related with suicide ideation. In contrast, in the large-scale studies discussed earlier, some characteristics, such as gender (Engin et al., 2009), were identified as correlates. The 24% of students with suicidal thoughts were of mixed backgrounds therefore. Among others, as data suggest, they were of both sexes, any age, enrolled in various courses, both Catholics and non-Catholics, and were living with either parents or non-parents during the survey period. In other words, the suicide ideators in this case could be any students bearing any of the mentioned characteristics. This finding suggests a homogenized general life status or experience among these domestic students, which may be attributed to the fact that most of them were not only young but had similar economic and academic backgrounds as well. For example, the overwhelming majority of students were still completing general education subjects at the university at the time of the survey. Moreover, the lack of appreciable difference between female and male respondents vis-à-vis suicide ideation in this study may reflect some important changes. One, although young females or women are likely to be the observed suicide ideators (Engin et al., 2009; Chen et al., 2010), their male counterparts may also be increasingly taking in on the role as well, possibly because of the marked changes in the ways they are coming to terms with and express their emotions. Two, as a likely consequence of the shift in the level of emotional expressiveness among young males, there may be more of them admitting to and reporting their vulnerability.

Clearly, there was a critical mass of suicide ideators among the sample of students surveyed at a university in the Philippines. However, the severity level of suicide ideation among the current sample was low, suggesting that these Filipino students as a whole were only thinking of committing suicide in “a little bit of the time” in the past two weeks before the survey. In order

to validate both the presence and severity of suicidal thoughts, adequate clinical follow-up of students with such thoughts is critical. Overall, the evidence underscores a crucial need for a campus-based intervention to reach out to and help these students at risk. The university may have to anchor its intervention around issues concerning love, parental, and peer-to-peer relationships. Based on the contents of the scales used to measure parental and peer closeness levels in this analysis, these issues may revolve around providing students with affection, care and support, at both the material and perceptual levels. The parents, friends, and love relations of these students may each be involved in the provision of intervention support, and their independent or combined roles may serve as buffers against suicide thoughts. While university education is inherently stressful for the Filipino youth given structural conditions, its adverse impact can be efficaciously attenuated if students have stronger bonds with their social groups and relationships. On the whole, the protective factors for suicide ideation tend to pivot around students’ primary groups. Protection from risk is likely to be most urgent in the first years of transitioning into university life.

The survey is not without limitations. One, the prevalence of suicide ideation was based on self-reports given to a screening question. Thus, it is not a clinical finding. The limitations of using self-report are well-documented in research, the most pertinent here being the influence of social desirability and the common method variance problem (Zhang, Wang, Xia, Liu, & Jung, 2012; Chan, 2009; Crockett, Schulenberg, & Petersen, 1987). To address these limitations in future research, the use of multiple informants and multiple methods is recommended (Compas, Jaser, Dunn, & Rodriguez, 2012). Would the use of the interview method in assessing suicide ideation produce a more valid assessment? Previous work examining this issue shows that there is a high level of agreement in the two

forms of assessment (Yigletu, Tucker, Harris, & Hatlevig, 2004; Velting, Rathus, & Asnis, 1998; Kaplan et al., 1994), especially among non-acutely depressed patients (Prusoff, Klerman, & Pavkel, 1972). However, the usefulness of self-ratings collected in survey research is best determined through prospective, longitudinal studies (Friedman & Asnis, 1989). Two, our students respondents were from a private university and upper-middle and high-income groups, and thus, they are not necessarily representative of the country's university student population. In studying suicide trends among the youth, variance from the interaction effects of socio-economic levels, sexes, and urban-rural residence need to be taken into account (e.g., Page, Morrell, Taylor, Carter, & Dudley, 2006). Three, the survey failed to include other important actors, such as academic performance and depression. Depression in particular has a strong association with suicidal thoughts (Yap et al., 2014; De Man, 1999). Finally, the study is cross-sectional. As such, its conclusions only refer to associations rather than causal relationships between the examined variables. Moreover, its findings do not suggest that suicide ideation among the student respondents was a recurring event.

In order to enhance the pool of robust empirical knowledge on suicide ideation among Filipino university students, additional large-scale survey and multivariate evidence is needed. Prospective studies should involve university student samples from other socio-economic backgrounds, such as those enrolled in public universities. As the criterion variable, suicide ideation has to be measured using a longer time period, for example the past 12 months (Drum, Brownson, Denmark, & Smith, 2009), from which frequency and regularity patterns of suicidal thoughts can be better determined. Variables related to academic performance and depression should be included as well. Other variable measures used in this survey may

have to be broadened in future research. For instance, the variable on satisfaction with one's love relationship may be better understood if the sources of satisfaction or dissatisfaction are likewise measured in a series of statements, akin to the measurements this study utilized to determine social relationships with parents and with peers.

CONCLUSION

At the private university surveyed, a sizeable proportion of students had suicide thoughts, albeit the level of severity of such thoughts was low. A clinical follow-up of students at-risk and a risk-reduction intervention in campus are critical. Social groups and relationships could play a significant role in reducing the risk of students for suicide ideation. More research is needed to deepen the systematic knowledge of suicide thoughts among Filipino university students.

COMPETING INTERESTS

The authors declare that they have no competing interests.

AUTHORS' CONTRIBUTIONS

RBL, MS, SE and CR conceived and carried out the survey. JW and YL designed and carried out the analysis of the data. RBL, MS, SE, CR, JW and YL drafted and finalized the manuscript. All authors read and approved the final manuscript.

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