Suicidality in Thai Lesbian, Gay, Bisexual, and Transgender Adults

BY

PRIYOTH KITTITEERASACK
B.S.N., Burapha University, Chonburi, Thailand, 1999
M.S.N., Chulalongkorn University, Bangkok, Thailand, 2004

THESIS

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Defense Committee:

Alicia K. Matthews, Chair and Advisor
Colleen Corte
Linda L. McCreary
Wendy Bostwick
Chang Gi Park
Timothy Johnson, College of Urban Planning and Public Affairs

This dissertation is dedicated to my loving and wonderful family, my mother, father, brother, and sister who have given me the strength to develop into the man I am today; believed and championed me in my desires to fulfill my professional dreams; while nurturing me to surmount life's obstacles. The perpetual devotion of my family has shone as my beacon of optimism through the years spawning my vision into reality.

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"You are the best, and you can do your best as you are." – Kittiteerasack P., mother.

"I hope that you felt you were with your Chicago family." – Matthews A.K., advisor.

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LIST OF ABBREVIATIONS

LGBT	Lesbian, Gay, Bisexual, and Transgender
WHO	World Health Organization
DMH	Department of Mental Health
UNDP	United Nations Development Programme
USAID	U.S. Agency for International Development
MSM	Minority Stress Model
RSAT	Rainbow Sky Association of Thailand
FB	Facebook
IOM	Institute of Medicine
UNESCO	United Nations Educational, Scientific and Cultural Organization
GenIUSS	Gender Identity in U.S. Surveillance

SUMMARY

Suicidality, including depression, suicidal ideation, and suicide attempts are a global challenge that have become a leading cause of disability. Depression is a common illness and a significant determinant inducing suicide. Suicide is one of the leading causes of death worldwide impacting loved ones while causing additional costs to societies. In Thailand, prevalent rates for suicidality have increased and are emerging as one of the leading causes of death in the country.

Sexual orientation and gender identity (LGBT) represent additional demographic factors associated with risks for suicidality. Suicide rates are more likely to be higher among LGBT individuals than the general population. Observed disparities in mental health issues are consistently related to social discrimination as a result of minority stress factors associated with membership in a stigmatized minority group. In Thailand, anti-LGBT attitudes are prevalent prompting social discrimination towards LGBT individuals. However, limited research has been conducted, and no studies have systematically examined the influences of minority stress on mental health outcomes. The purposes of this study were to investigate the associations of influencing factors and to explore the predictors of suicidality in Thai LGBT adults.

This dissertation conveys the study's findings in two manuscripts. The first describes the influences of minority stress on the depression outcomes among Thai LGBT adults. The second manuscript focuses on the effects of minority stress on indicators of suicidality (e.g., depression, lifetime suicidal ideation, 12-month suicidal ideation, and suicide attempts) among Thai LGBT adults. Two stressor components were included in this study, comprising general stress (e.g., levels of stress and loneliness) and minority stress (e.g., discrimination based on LGBT identity, discrimination based on social situations, experience of victimization, LGBT identity disclosure, and internalized homophobia).

Research findings reported that rates of suicidality in Thai LGBT adults were as high as compared to previous Thai studies. General and minority stressors were strongly associated with depression and indicators of suicidality. For the depression outcome, the combined influences of sociodemographic factors, general stress, coping strategies, and minority stress were uncovered. Multivariate analyses exhibited depression levels that were strongly associated with minority stressors (discrimination based on social situations, the experience of victimization, and LGBT identity disclosure), followed by levels of stress and a diagnosis of chronic disease. For indicators of suicidality, the mixed association between sociodemographic factors, general stress, and minority stress were also observed. In multivariate analyses, minority and general stressors influenced all indicators of suicidality. However, patterns of association varied based on each outcome. The study results were consistent with the Minority Stress Model. Additionally, longitudinal studies and sophisticated annalistic plans are necessary to examine the effects of coping styles and social support on indicators of suicidality.

I. THE INFLUENCE OF MINORITY STRESS ON LEVELS OF DEPRESSION AMONG THAI LESBIAN, GAY, BISEXUAL, AND TREANSGENDER ADULTS

Introduction

Background

According to the World Health Organization (WHO), depression is a leading cause of disability and disease burdening the world's population (WHO, 2017). In Thailand, the Department of Mental Health (DMH) reported that depression is one of the top five mental health disorders affecting adults (DMH, 2017). Numerous studies have demonstrated the risk of depression varies considerably based on sociodemographic factors, such as gender, age, geographical region, and income level (DMH, 2019; Kittiteerasack, 2012).

In the United States and other Western countries, lesbian, gay, bisexual, and transgender (LGBT) individuals have also been identified as a sociodemographic population at elevated risks for depression (WHO, 2018; King et al., 2008; Meyer, 2003). For example, lifetime prevalence rates of depression among LGBT individuals are two to four times higher than their heterosexual and cisgender counterparts (King et al., 2008; Su et al., 2016; Reisner et al., 2015). Understanding the causes and consequences of depression in Thai populations is an important public health priority for the Thai Ministry of Health (The Excellence Center for Depression Disorder, 2019). However, to date, scant research has been conducted to understand the rates and predictors of depression among Thai LGBT populations.

Depression consequences from a multifaceted interaction of biological, psychological, and social factors. WHO (2017) has recognized prejudice and discrimination as influential yet understudied risk factors for depression. Globally, LGBT-identified individuals experience high rates of social stigma and discrimination because of their sexual/gender identity (Meyer, 2003;

Clark, 2014; Mallory, Hasenbush & Sears, 2015). Although Thailand is viewed as an LGBT-friendly country with no legal restrictions against same-sex behaviors; nevertheless, anti-LGBT attitudes are still prevalent. Historically, homosexuality in Thailand was classified as a psychosocial disorder and viewed as a punishment for wrongdoing in a past life (UNDP, USAID, 2014). Currently, more than half of Thais aged 15-24 still believe being LGBT is wrong (Kingston, 2019), and discrimination is common across numerous contexts within families, the education system, health care organizations, and the workplace (Yadegarfard, Meinhold-Bergmann, & Ho, 2014; UNDP, USAID, 2014; Zachau & Cortez, 2017; Albuquerque et al., 2016). Preliminary evidence conducted with Thai LGBT populations has examined the negative influence of discrimination on depression. Yadegarfard, Meinhold-Bergmann, and Ho (2014) found that transgender respondents reported significantly higher family rejection due to discrimination, which was associated with elevated rates of depression. In a second study focused on emotional health of LGBT populations, 53% of LGBTs surveyed reported emotional problems (including depression) that were associated with experiences of discrimination (Zachau & Cortez, 2017).

The Minority Stress Model (MSM) (Meyer, 2003) was developed to guide research on the influence of social factors, such as discrimination on stigmatized populations, including LGBTs. The MSM is grounded in the assumptions that minority stressors experienced by LGBT populations are unique, chronic, and socially based. Various causal domains under the MSM framework interact to increase or reduce risk associated with social stigma and discrimination, including demographic factors, levels of general stress, minority-specific stressors, and coping styles. The MSM has been accepted as a comprehensive conceptual framework to guide research aimed at identifying factors associated with depression, and it has been applied across LGBT studies worldwide (Hatzenbuehler, Nolen-Hoeksema, & Erickson, 2008; McCarthy, Fisher, Irwin,

Coleman, & Pelster, 2014; Baams, Grossman, & Russell, 2015). To date, research on mental health among LGBT populations in Thailand is limited, and a theoretical framework has guided few of the existing studies. As such, this study's overall purpose was to measure rates of depression in a sample of Thai LGBTs and examine contributing factors based on the MSM framework. Specifically, the study aimed to describe the rates of depression in a community-based sample of LGBT adults and determine the influences of general stress, minority-specific stress, and coping strategies on depression.

Theoretical Framework

To recognize gender/sexual minority health disparities, Meyer (2003) created the Minority Stress Model (MSM) that has been used to explain stress processes leading to health outcomes. The MSM stems from the social and psychological theory that can be described as the relationship between minority/dominant values and consequential conflict within the social environment. The overall process of the MSM demonstrates the relationship between four domains, including background characteristics, stressors, moderating variables, and outcomes.

Meyer began the MSM framework by addressing causes of stress in minority populations due to various factors, such as circumstances in the environments and minority status, as shown in Figure 1. Each one differently leads to the specific type of stressors. Circumstances in the environment are a common cause of stress in daily lives, namely general stressors that can be found within every person. Minority status, another influencing factor, is a characteristic differing from the mainstream regardless of race/ethnicity, color, or sexual orientation. This difference induces challenged feelings among minority populations to adjust themselves when integrating within the environment. The sense of alienation and receiving negative feedback from society leads to negative self-regard in minority communities causing severe and chronic

stress. This stress specifically associates with vulnerable populations and leads to minority specific stressors processing along a continuum from distal to proximal minority processes, also creating the minority identity in LGBT people.

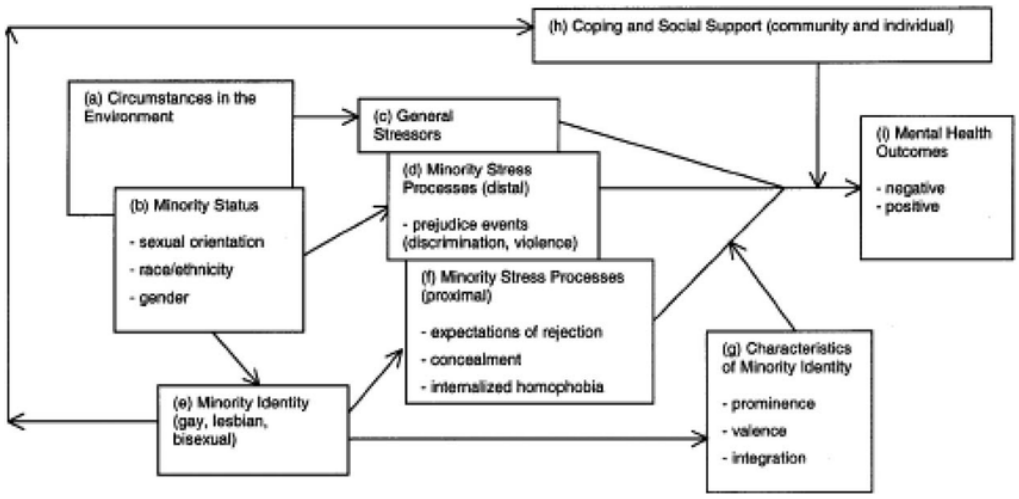

Figure 1. The Minority Stress Model (Meyer, 2003; p35)

Distal stress, linking with general stress, affects an individual depending on how they manifest in the immediate context of thoughts, feelings, and actions. Distal concepts are typically defined as objective occurrences that do not rely on one's perceptions or appraisals (Meyer, 2003). The majority were generally created by social attitudes, such as prejudice events. In contrast, proximal stress presents as social experiences of a person's life, which are subjective to relying on each perception and appraisal. Meyer (2003) indicated that such identities vary in the individual and social meanings that are enclosed to them and in the subjective stress they experience. Minority identity is connected to stress processes, including expectations of rejection, concealment, and internalized homophobia. Corresponding with minority status, minority identity (gay, lesbian, and bisexual) relates to individual status. These features divide people into sub-groups, which are distinguishable from the dominant group by reasons of difference in sexual/gender traits. The incongruity may directly affect individuals at the proximal

stressor level creating distress due to feedback from others that is incompatible with one's self-identity. Additionally, this may indirectly be affected by modifying the effect of stress on health outcomes based on the various characteristics of minority identities.

Being LGBT is associated not only with minority stress but also with important resources, including coping mechanisms and social support. General and minority stressors require one to adapt but also cause significant stress, which finally affects physical and mental health outcomes. Since social discriminations create a crisis of potential adverse well-being, coping is a common defense mechanism to encounter at an individual level. At the community level, LGBT populations who encounter minority stress create alternative structures and values to enhance their companionships and reduce injuries to their own well-being. In-group acceptance and family reinforcement, as social supports, ameliorate the negative effects of discrimination on mental health. Therefore, coping and social support play a significant role as a moderator adjusting stress levels. Outcomes refer to action results responding to stressors affecting wellness and mental health issues.

Purpose

As aforementioned, to date, research on mental health among LGBT populations in Thailand is limited, and a theoretical framework has guided few of the existing studies. As such, the study's overall purpose was to measure depression rates in a Thai sample of LGBT populations and examine contributing factors based on the MSM framework. Specifically, the study aimed to describe depression rates in a community-based sample of LGBT adults and determine the influences of general stress (levels of stress and loneliness), minority-specific stress (discrimination based on LGBT identity, discrimination based on social situations experience of victimization,

LGBT identity concealment, and internalized homophobia), and coping strategies (problem-focused, avoidance, and social support coping styles) on depression.

Methods

Design

A cross-sectional descriptive research design was used to examine rates and correlations of depression among Thai LGBT adults. The study was approved by the Institutional Review Board of the University of Illinois at Chicago and the Rainbow Sky Association of Thailand (RSAT). The study took place between March-August 2018.

Data Collection Procedures

Study Setting

The study was conducted in collaboration with the RSAT, the first LGBT community-based organization devoted to providing resources and health services in Thailand. RSAT is supported by the US Centers for Disease Control and Prevention and the Thai Ministry of Public Health. Data collection took place at each of the seven RSAT clinics across Thailand.

Participant Recruitment

A volunteer sample of LGBT adults was recruited using convenience and snowball methods. Recruitment activities included creating a dedicated Facebook (FB) page and posting flyers, posters, and information cards at community venues and events in collaboration with RSAT. The created FB page and materials were used for advertisement purposes only. Data collection was conducted online via a secured Qualtrics platform (Snow & Mann, 2013). Interested individuals who met the study eligibility criteria were provided options to participate in the study by either a link to an online survey or an in-person survey at the RSAT clinic.

Data Collection

Data collection was conducted using online and in-person surveys. The online survey was created using Qualtrics. Potential participants received a full explanation of the study information. LGBT individuals who were eligible and interested in participating provided their consent by clicking the "Agree" button to start the survey. The online data were instantly uploaded and saved to the standardized Qualtrics server by a secure password. Each participant was assigned a unique ID number and exported to a statistical software program (SPSS) for data management and analyses. In the paper–pencil survey, data recruitment and collection took place at RSAT community clinics by the first author (P.K.). Potential participants were approached in the waiting rooms and given an overview of the study. Interested and eligible individuals provided verbal consent to participate, and they completed the self-administered survey in a private location. All completed surveys were stored in a locked private cabinet, manually entered into the statistic software program daily, and destroyed after data entry.

Sample

Study eligibility criteria were as follows: 1) Thai national, 2) aged 18–60 years, and 3) ability to read and write in the Thai language. The total number of LGBT adults living in Thailand is currently unknown. As such, the sample size was calculated to estimate the rate of depression with a 5% margin of error. Based on Cochran's calculation (1953), 50% prevalence was used to determine the most conservative sample size. The total of 384 participants was sufficient to assess any proportion with a 5% margin of error or less at the 95% confidence level. Additionally, we added 5% to account for the non-completion rate. Therefore, 400 samples were required. A total of 411 participants were recruited in this study.

Measures

The study survey included standardized measures of demographic characteristics, stress, minority-specific stressors, coping strategies, and depression.

Demographic characteristics

Demographic characteristics measured included age, education, chronic disease, level of poverty, and sexual/gender identity. Sexual orientation was measured by the question, "Do you consider yourself to be?" response options = heterosexual, homosexual, and bisexual). Gender identity was measured by the question "What is your current gender identity?" (response options = male, female, transgender man, transgender woman, questioning, and others). Male and female response options were categorized as cisgender, and the remainder were categorized as transgender. Sexual orientation and gender identity measures were translated into a Thai version by backward translation (Brislin, 1970) and tested among a diverse sample of Thai adults (n = 282), resulting in high content validity and linguistic comprehension/acceptability (Kittitteerasack, Steffen, & Matthews, 2019).

Stress levels

Stress levels were measured using the Srithanya Stress Test (ST-5), which is a 5-question inventory rated on a 4-point Likert scale, ranging from 0 = never to 3 = usually. The total possible scores ranged from 0 to 15, with high scores indicating a high level of stress (0–4 = mild, 5–7 = moderate, 8–9 = severe, 10–15 = very severe) (Silpakit, 2012). The Cronbach alpha of ST-5 in this study was .87.

Minority stress

Minority-specific stressor measures included discrimination due to social identity, experiences of discrimination in social situations, victimization situations, levels of identity

outness or disclosure, and internalized sexual stigma. First, discrimination due to social identity was measured by three questions asking participants whether they had experienced discrimination based on their LGBT status. The following question was asked with yes/no response options, "Do you think the discrimination you have experienced was due to your 1) sexual orientation, 2) gender identity, or 3) gender expression?" The scores were counted on the answer "yes" for each item, formulating the total score range from 0 to 3. High scores represent a greater number of social identities the respondents perceived to be the cause of their discrimination experiences. Second, the nine items of Experiences of Discrimination Scale (EOD) (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005) measured experiences of discrimination in social situations. The EOD gauged experiences of social discrimination across various situations (e.g., work and store). Three other items of related situations in Thai contexts were added (home, religious settings, and blood donation). Twelve items were scored by counting a number of situations (range 0–12), with higher scores representing higher numbers of experienced discrimination situations (Kittitteerasack, Matthews, & Steffen, 2019). Third, the victimization situations (VS) were measured by the 5-items of Gay, Lesbian, Straight, and Education Network (GLSEN) with response options rated on a 4-point Likert-type scale (Hamburger, Basile, & Vivolo, 2011). The VS gauged experiences of victimization in public settings related to LGBT identity. Total possible mean scores ranging from 0 – 3 with higher scores represented a greater level of victimization experiences. Fourth, LGBT identity outness was scored by the Outness Inventory (OI) used to assess levels of concealment about LGBT identities on three primary subscales (world, family, and religion) (Mohr & Fassinger, 2000). This measure includes ten items rated on a 7-point Likert scale ranging from 1 (a person does NOT know about your sexual orientation status) to 7 (person knows about your sexual orientation status). The total possible mean scores ranged from 1 to 7, with the higher scores

indicating higher degrees of outness. Fifth, internalized sexual stigma was measured by the Revised Internalized Homophobia Scale (IHP-R), which measured a range of negative attitudes toward oneself for being LGBT (Herek, Gillis, & Cogan 2009). This measure includes five items rated on a 5-point Likert scale ranging from 1 to 5 (strongly disagree to strongly agree). Total possible mean scores range from 1 to 5, with higher scores designating higher negative self-attitudes. The Cronbach alpha of EOD, OI, and IHP-R in this study was .86, 94, and .87, respectively.

Coping strategies

Coping strategies used to manage stress were measured by the 25-item Coping Scale (CS) (Suphamongkhon & Kotrajaras, 2004). The CS is divided into three subscales, namely problem-focused, avoidance, and seeking social support. Each item was rated on a 5-point Likert-type scale, ranging from 1 (none) to 5 (usually). The aggregate was calculated to estimate a total score of each subscale ranging from 12 to 60 for problem-focused coping, 9–45 for avoidance coping, and 4–40 for seeking social support coping. The possible mean score of each subscale was 1–5, indicating the level of using each type of coping mechanisms (1.00–2.49 = less use, 2.50–2.99 = less to moderate use, 3.00–3.49 = moderate to high use, and 3.50–5.00 = high use). The Cronbach alpha of the three subscales of problem-focused, avoidance, and seeking social support coping were .87, .84, and .77, respectively.

Depression

Depression was measured using the 21-item Beck Depression Inventory (BDI) (Beck, Steer, & Carbin,1988). Each item consists of four statements with scores ranging from 0 to 3, which indicates different levels of severity of particular depressive symptoms. The possible scores range from 0 to 63, with high scores indicating a high level of depression (0–9 = normal, 10–15 =

mild depression, 16–19 = mild to moderate depression, 20–29 = moderate to severe depression, and 30–63 = severe depression). The Cronbach alpha of BDI was.92.

The EOD, VS, OI, and IHP-R measures were translated into the Thai language using backward translation (Brislin, 1790). All measures were translated by the PI and reviewed by a Thai-bilingual LGBT expert. Based on the cross-cultural translation principle, backward translation and comparisons were performed by a committee approach (Harkness, Pennell, & Schoua-Glusberg, 2004). All committee members were Thai natives with extensive experience related to LGBT populations. Five Thai measurement and LGBT experts confirmed the content validity index (CVI). All four translated measures contained CVI scores indicating acceptable content validity (EOD = 1, VS = 1, OI =.70, and IHP-R = .83). Overall, Cronbach alphas of measures were also high, signifying the acceptable reliability as presented above.

Data Analysis

The study data were analyzed by SPSS software. Descriptive statistics (percentages, means, standard deviations, and frequencies) were used to summarize study variables. Bivariate analyses (t-test, ANOVA, and Pearson correlation) were used to test for associations between independent variables and depression. Multiple regression models were used to test the relationships between independent variables on depression controlling for sociodemographic factors.

Results

Participant Characteristics

Table 1 displays participant characteristics. A total of N = 411 individuals completed the survey. The mean age of study LGBT participants was 29.5 years of age (S.D. = 7.4, range 18 – 53). The majority of participants reported their sexual orientation as homosexual (79.3%) and their

gender identity as cisgender (76.6%). Educational attainment of the sample was high with the majority of participants (77.2%) reporting a bachelor's degree or higher. The mean score for stress was 5.48 (SD = 3. 42) which corresponds to moderate levels of stress. More than half of all participants (53.7%) reported experiences of discrimination based on their LGBT identity. Participants tended to report low experiences of discrimination (M = 1.90, S.D. = 2.69) and victimization events (M = .60, S.D. .51), while they had high levels of outness (M = 4.67, S.D. = 1.72) and an average internalized homophobia level (M = 2.40, S.D. = 1.06). In terms of depression, the mean score for study participants was 9.46 (SD = 8.43). Approximately, forty-three percent of them reported clinically significant levels of depression, of those, 12.2% reported moderate to severe levels of depression (data not shown).

Bivariate Analyses

Bivariate analyses were performed to examine the relationships between depression and key predictor variables including sociodemographic factors, general stress, minority-specific stress, and coping strategies (see Table 2). Sociodemographic factors associated with high levels of depression included young age ($r = -.18$, $p = .01$) and being diagnosed with a chronic disease ($F [2, 406] = 4.93$, $p = .008$). Higher levels of depression were positively associated with the use of avoidance coping strategies ($r = .48$, $p = .01$) but negatively associated with problem-focused ($r = -.35$, $p = .01$) and social support coping strategies ($r = -.20$, $p = .01$). For general and minority-specific stressors, all stress factors were correlated with depression scores (levels of stress $r = .56$, $p = .01$; discrimination due to social identity $F [3, 407] = 2.93$, $p = .034$; experiences of discrimination $r = .24$, $p = .01$; VS $r = .24$, $p = .01$; identity outness $r = -.14$, $p = .01$; and internalized sexual stigma $r = .18$, $p = .01$).

Multivariate Analyses

Table 3 shows the results of multivariate analyses. The combined influence of demographic, stress, coping, and minority stress variables explained 47.2% of the variance in depression scores ($F [16,367] = 20.48$, $p < .001$). The level of general stress ($\beta = .81$, $p < .001$) was associated with depression scores. However, minority-specific stress variables including negative experiences due to LGBT status ($\beta = 1.53$, $p < .05$), experiences of discrimination in social situations ($\beta = .43$, $p < .01$), and identity outness ($\beta = -.54$, $p < .05$) were also associated with depression. This depression was associated with non-stress-related factors comprised of having a chronic disease ($\beta = 1.20$, $p < .05$), low use of problem-focused coping ($\beta = -1.88$, $p < .01$), seeking social support coping ($\beta = -1.12$, $p < .05$), and high use of avoidance coping ($\beta = 2.85$, $p < .001$).

Discussion

This study is among the first to examine the influence of minority-specific stress and related factors on depression among LGBT adults living in Thailand. In the US, researchers have reported rates of depression ranging from 30% to 65% among LGBT individuals (Yarns, Abrams, Meeks, & Sewell, 2016; Hughes, Johnson, Steffen, Wilsnack, & Everett, 2014; Whitehead, Shaver, & Stephenson, 2016). Consistent with these findings, the overall rate of depression in our sample was high with 40% of participants reporting clinically significant levels of depression. Study findings were also consistent with the few existing studies reporting depression rates among Thai LGBTs. For example, one early research project that focused on Thai gays and transwomen (Kathoey) found that 52.9% of participants reported mild levels of depression (Pearkoa, 2013). More recently, Zachau and Cortez (2017) reported that 53% of

LGBT participants in their study sample experienced an emotional problem, such as depression. Study findings contribute to a growing international body of literature highlighting LGBT populations as being at elevated risks for depression.

A major objective of the study was to examine the influence of minority stressors on depression outcomes. In this study, most participants had experienced at least one discrimination event in their lifetime, and half reported being victimized due to their sexual orientation or gender identity. Consistent with the MSM (Meyer, 2003), minority-specific stressors, including experiences of discrimination and victimization, were strongly associated with elevated levels of depression. Previous studies conducted in Thailand also reported associations between depression and social discrimination and victimization situations among LGBT populations (Yadegarfard, Meinhold-Bergmann, & Ho, 2014; UNDP, USAID, 2014; Zachau & Cortez, 2017). Most Thai LGBTs live in a society with intense pressure to conceal their identity to escape social disapproval (UNDP, USAID, 2014). According to the MSM, identity concealment can have negative consequences on mental health, including reduced levels of social support and negative self-regard (Meyer, 2003). Approximately half of the sample reported disclosing their LGBT identity to important individuals in their lives. In the current study, the level of concealment (not disclosing) of one's sexual orientation or gender identity was associated with elevated rates of depression. These findings were consistent with research from the US, which found high rates of depression among LGBT populations based on identity concealment (Riggle, Rostosky, Black, & Rosenkrantz, 2017). Public policy approaches, such as anti-discrimination laws, will be required to reduce the negative influences of social stigma on the mental health of Thai LGBT populations.

Other than minority stressors, other factors included general stress, coping strategies, and diagnosis with a chronic disease also influenced the level of depression. In our sample, the majority (60%) of Thai LGBT populations reported having moderate to very severe stress. These findings were consistent with a prior study in Thailand, which reported that 70% of study participants indicated high levels of general stress (Pearkoa, 2013). Levels of stress are positively and strongly associated with depression in LGBT populations (McCarthy, Fisher, Irwin, Coleman, & Pelster, 2014). Coping strategies (e.g., problem-focused, avoidance, and seeking social support coping) are a central feature of the emotional process, and they represent the individuals' efforts to manage generated emotions (Lazarus, 2006). By contrast, ineffective coping or using less helpful methods can create harmful consequences. We found that depression in our participants was significantly predicted by using less problem-focusing and seeking less social support as coping methods and high reliance on avoidance coping. The findings were aligned with recent studies that examined the influence of coping strategies on depression outcomes among LGBT populations in the United States (Toomey, Ryan, Diaz, & Russell, 2018; White Hughto, Pachankis, Willie, & Reisner, 2017). Chronic disease was the last non-minority stress factor associated with depression in LGBT participants. Depression is one of the most common complications among LGBT individuals who suffer from having a chronic disease (Hoy-Ellis & Fredriksen-Goldsen, 2016).

Limitations

The study makes an important contribution to LGBT mental health research in Thailand. However, study limitations should be noted. First, the study involved a cross-sectional survey design. As such, the determination of cause and effect cannot be established. Although the sample

size was relatively large, the study sample was comprised of a non-probability volunteer sample. Therefore, the generalizability of study findings to the larger Thai LGBT population is unknown. In addition, study participants were primarily biological males, homosexual, and cisgender. Additional research will be needed to examine more diverse samples of LGBT populations based on sexual orientation (i.e., bisexual), gender (i.e., female), and gender identity (i.e., transgender). Based on the conceptual framework, future research focused on the roles of coping strategies as moderators on depression will be required.

Conclusion

The study findings emphasized that Thai LGBT individuals experience negative mental health outcomes associated with minority-specific stressors and other non-specific risk factors. By applying a strong conceptual framework and sophisticated methodologies, the outcomes have contributed to a growing body of LGBT research in Thailand and among additional countries confronting similar conditions. Depression interventions focusing on reducing social stigma, improving coping responses in the face of minority stress, and refining cultural competency of mental health professionals are compulsory and should be a priority in Thailand.

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TABLE I

Participant Characteristics (N = 411)

	N	%	M	S.D.
Sociodemographic Factors				
Age (year)			29.51	7.43
Education				
High school and diploma	94	22.9		
Bachelor	244	59.4		
Graduate and higher	73	17.8		
Chronic disease (number)				
None	283	69.5		
One	93	22.9		
Two or more	31	7.6		
Poverty rates			7.53	7.37
Community involvement				
Yes	39	9.5		
No	371	90.5		
Sexual orientation				
Heterosexual	23	5.6		
Homosexual	326	79.3		
Bisexual	62	15.1		
Gender identity				
Cisgender	315	76.6		
Transgender	96	23.4		
General Stress				
Levels of stress			5.48	3.42
Minority-Specific Stress				
Discrimination based on social identity				
None	189	46.3		
One	60	14.7		
Two	51	12.5		
Three	108	26.5		
Discrimination based on social situations			1.90	2.69
Experience of Victimization			0.60	0.51
LGBT identity outness			4.67	1.72
Internalized homophobia			2.40	1.06
Coping Strategies				
Problem-focused coping			3.98	0.57
Avoidance coping			2.91	0.77
Social support coping			3.58	0.79
Study Outcome				
Depression			9.46	8.43

TABLE II

Bivariate Analyses for Key Independent Variables on Depression (N = 411)

	1	2	3	4	5	6	7	8
1. Levels of stress	-							
2. Discrimination based on social situations	.13**	-						
3. Experience of victimization	.22**	.35**	-					
4. LGBT identity outness	-.05	.13**	.13**	-				
5. Internalized homophobia	.12*	.10*	.11*	-.39**	-			
6. Problem-focused coping	-.23**	-.05	-.10*	.15**	-.10*	-		
7. Avoidance coping	.43**	.22**	.16**	-.02	.17**	-.16**	-	
8. Social support coping	-.17**	.02	-.03	.12*	-.04	.45**	.09	-
9. Depression	.56**	.24**	.24**	-.14**	.18**	-.35**	.48**	-.20**

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the .05 level (2-tailed).

TABLE III

Multivariate Analyses for Key Independent Variables on Depression (N = 411)

	B	SE B	*β*	p
Age	−.07	.05	−.06	−
Education	−.26	.58	−.02	−
Chronic disease	1.20	.54	.09	.026
Poverty rates	−.07	.05	−.06	−
Community involvement	−.74	1.16	−.03	−
Sexual orientation	−.31	.79	−.02	−
Gender identity	−.96	.79	−.05	−
Levels of stress	.81	.12	.32	<.001
Discrimination due to social identity	−.19	.28	−.03	−
Experiences of discrimination	.43	.14	.14	.003
Victimization situations	1.53	.72	.09	.035
LGBT identity outness	−.54	.22	−.11	.014
Internalized homophobia	.20	.34	.03	−
Problem focused coping	−1.89	.67	−.13	.005
Avoidance coping	2.85	.50	.26	<.001
Social support coping	−1.12	.48	−.11	.019
R^2			.47	
F			20.48	

B = Unstandardized parameter estimates, SE = Standard error, β = Standardized coefficient, p = P-value

II. THE INFLUENCE OF MINORITY STRESS ON INDICATORS OF SUICDALITY AMONG THAI LESBIAN, GAY, BISEXUAL, AND TRANSGENDER ADULTS

Introduction

Background

According to the World Health Organization (WHO), suicide is one of the leading causes of death worldwide (WHO, 2019). Globally, one person dies every forty seconds due to suicide (WHO, 2019) and hundreds of thousands more engage in a failed suicide attempt. A range of socio-demographic factors has been found to be associated with an increased risk for suicide including age, gender, race/ethnicity and socio-economic status (WHO, 2019; Suicide Prevention Resource Center, 2014; Cano-Montalbán & Quevedo-Blasco, 2018).

In the United States and other Western countries, a large body of research has steadily shown that sexual orientation and gender identity (lesbian, gay, bisexual, and transgender: LGBT) represent additional demographic risk factors for suicidality (WHO, 2019; King et al., 2008; Meyer, 2003; Haas et al., 2010). Research findings suggest that compared to heterosexuals, LGBT individuals have 2-8 times the risk of suicidal ideation (King et.al, 2008; Blosnich et al., 2016) and 2-7 times the risk of suicide attempts (Haas et al., 2010; Blosnich et.al, 2016). As a result of elevated mental health risks, the National Institutes of Health (2016) has designated LGBT populations as a health disparity group and the Institute of Medicine (IOM) has called for additional research to better understand risk and protective factors associated with mental health inequalities in this highly underserved population of adults (IOM, 2011).

Different from the U.S. and other Western countries, scant research has focused on mental health outcomes and suicidality among Thai LGBT populations. Although Thailand has no legal restrictions against same-sex behaviors, anti-LGBT attitudes are prevalent (UNDP,

USAID, 2014). For example, in Western countries, attitudes about sexual and gender minorities are typically more tolerant among younger age groups, however, in Thailand, more than half of all Thais aged 15-24 report negative attitudes regarding same-sex behaviors and identities (The Nation, 2015). In addition to exposure to negative attitudes, LGBT individuals, as well report experiences with overt discrimination within families of origin, religious settings, schools, work settings and when accessing government services (Yadegarfard, Meinhold-Bergmann, & Ho, 2014; UNDP, USAID, 2014; Suriyasarn, 2016; World Bank Group, 2018). Experiences of discrimination based on sexual orientation or gender identity coexist as common in health care environments which may serve as barriers to the availability of mental health services, further exacerbating the risk of suicidality (WHO, 2019).

In Thailand, an emerging body of literature has documented high rates of depression among LGBT individuals including a large and diverse sample of LGBT adults (40.3%; Kittiteerasack, Steffen, & Matthews, 2020), gay men (47.1%; Pearkao, 2013), lesbians (27.7%; Boonkerd & Rungreangkulkij, 2014), LGBT adolescents who have experienced school-based bullying (22.6%; Mahidol University, Plan International Thailand, & UNESCO Bangkok Office, 2014), and university students (23.5%; Peltzer & Pengpid, 2016). Factors found to be associated with elevated rates of depression have included education levels (Yadegarfard, Ho, & Bahramabadian, 2013); loneliness and family rejection (Yadegarfard, Meinhold-Bergmann, & Ho, 2014); and school-based bullying (Mahidol University, Plan International Thailand, & UNESCO Bangkok Office, 2014). Additional research has focused on suicidality and has documented high rates of suicidal ideation (40%) and suicide attempts (35.3%) in Thai university aged students (Peltzer & Pengpid, 2016). Suicidal ideation has been found to be associated with school-based bullying (Mahidol University, Plan International Thailand, & UNESCO Bangkok

Office, 2014), younger ages (Yadegarfard, Ho, & Bahramabadian, 2013) and loneliness (Yadegarfard, Meinhold-Bergmann, & Ho, 2014). Although scant, the available research makes an important contribution to the literature on mental health among Thai LGBT populations. Nevertheless, limitations of the existing literature should be noted, such as small sample sizes, the lack of theoretical frameworks, and the limited geographical variability in study participants. As such, additional research is needed to better understand suicidality, and its correlations among LGBT populations living in Thailand.

Guided by the minority stress model (MSM; Meyer, 2003), the overall purpose of this study was to examine rates and correlations of suicidality among Thai LGBT individuals. Consistent with the MSM, minority specific stressors examined were comprised of identity-based experiences of discrimination, experiences of discrimination across multiple different types of settings and situations, victimization events, sexual identity concealment, and internalized homophobia. In addition, three categories of risk factors recognized as a possibility to influence suicidality among members of the general population were measured as covariates: socio-demographic factors (i.e., age, education, poverty rates, income, health insurance, sexual orientation and gender identity) (Cano-Montalbán & Quevedo-Blasco, 2018; Kittiteerasack, 2012; Haas et al., 2010; IO, 2011); health-related factors (i.e., health status, diagnosis with a chronic disease, and self-reported tobacco, alcohol, and drug use (IOM, 2011; Eliason, 2010; Lian, Zuo, Lou, Gao, & Cheng, 2015; Haas et al., 2010; King et al., 2008); and general life stressors (i.e., stress and loneliness) (Michaels, Parent, & Torrey, 2016; Meyer, 2003; Pearkao, 2013; Yadegarfard, Meinhold-Bergmann, & Ho, 2014). Study specific aims set out to describe rates of suicidality (lifetime suicidal ideation, past 12-month suicidal ideation, and suicide

attempt) among Thai LGBT adults and to examine the influence of socio-demographic factors, health-related factors, and general/minority specific stressors on suicidality variables.

Conceptual Framework

To date, the majority of research addressing LGBT mental health inequalities has been guided by the Minority Stress Model (MSM) (Meyer, 2003), which is a comprehensive framework for understanding risk and protective factors for poor mental and physical health outcomes among stigmatized minority groups (Lea, Wit, & Reynolds, 2014; Michaels, Parent, & Torrey, 2016; O'Donnell, Meyer, & Schwartz, 2011; Lee & Hahm, 2012). As shown in Figure 2, the MSM is grounded in the assumption that LGBT individuals are at an increased risk for mental health problems due to membership in a stigmatized minority group (Meyer, 2003; King et al., 2008). In addition to the sources of stress experienced by adults in general, LGBT populations are burdened by unique and chronic sources of minority-specific stress.

Commonly measured minority specific stressors linked to LGBT's poor mental health include: experiences of discrimination (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005; Michaels, Parent, & Torrey, 2016), victimization events (Haas et al., 2010; Mereish, O'Cleirigh & Bradford, 2014), sexual identity concealment (Mohr & Fassinger, 2000; Michaels, Parent, & Torrey, 2016) and internalized homophobia (Lea, Wit, & Reynolds, 2014; Michaels, Parent, & Torrey, 2016; Herek, Gillis, & Cogan, 2009). These two sources of stress - general and minority specific – are hypothesized to interact increasing the risks for poor mental health outcomes, including suicidality (Michaels, Parent, & Torrey, 2016; Haas et al., 2010; Hatzenbuehler, 2009; Meyer, 2003).

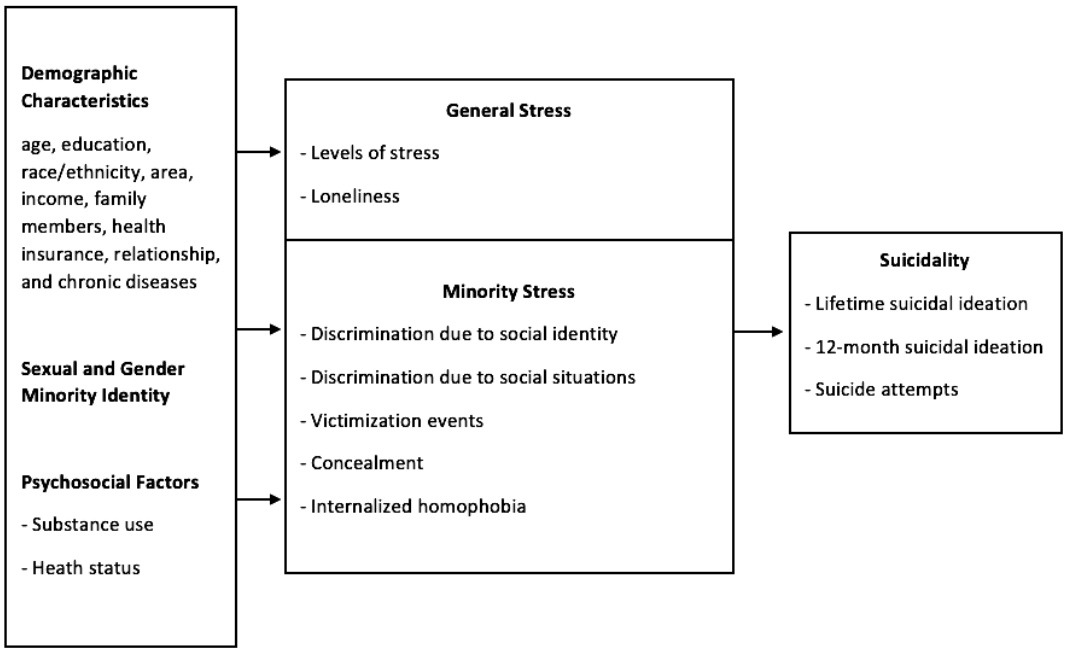

Figure 2. Conceptual Framework

Purpose

Due to a minimal amount of LGBT suicide studies in Thailand, advanced research is required to examine rates and correlations of indicators of suicidality among Thai LGBT individuals. Consistent with the MSM, minority specific stressors examined were comprised of identity-based experiences of discrimination, experiences of discrimination across multiple different types of settings and situations, victimization events, sexual identity concealment, and internalized homophobia. In addition, three categories of risk factors recognized as a possibility to influence suicidality among members of the general population were measured as covariates: socio-demographic factors (i.e., age, education, poverty rates, income, health insurance, sexual orientation and gender identity) (Cano-Montalbán & Quevedo-Blasco, 2018; Kittiteerasack, 2012; Haas et al., 2010; IO, 2011); health-related factors (i.e., health status, diagnosis with a chronic disease, and self-reported tobacco, alcohol, and drug use (IOM, 2011; Eliason, 2010; Lian, Zuo,

Lou, Gao, & Cheng, 2015; Haas et al., 2010; King et al., 2008); and general life stressors (i.e., stress and loneliness) (Michaels, Parent, & Torrey, 2016; Meyer, 2003; Pearkao, 2013; Yadegarfard, Meinhold-Bergmann, & Ho, 2014). Study specific aims set out to describe rates of suicidality (lifetime suicidal ideation, past 12-month suicidal ideation, and suicide attempt) among Thai LGBT adults and to examine the influence of socio-demographic factors, health-related factors, and general/minority specific stressors on suicidality outcomes.

Methods

Design

A cross-sectional descriptive research design was utilized to examine rates and correlations of suicidality among Thai LGBT adults. The Institutional Review Board of the University of Illinois at Chicago and Rainbow Sky Association of Thailand (RSAT) approved the study. The study took place between March-August 2018.

Data Collection Procedures

Study Setting

The study was conducted in collaboration with the RSAT, the first LGBT serving community-based organization in Thailand, which is supported by the Thai Ministry of Public Health and the U.S. Centers for Disease Control and Prevention. RSAT has seven clinics across Thailand, with more than 110 full-time staff and 550 peer-educators who provide resources and direct services to Thai LGBT patients and community members. All seven RSAT clinics were used for recruitment and data collection activities.

Recruitment Processes

A range of activities were used to recruit a large sample of Thai LGBT participants from different geographic locations. Consistent with research on LGBT and other hard to reach populations, participant recruitment was based on convenience and snowball samplings (Browne, 2005; Sadler, Lee, Lim, & Fullerton, 2010; Wohl et al., 2017). Recruitment activities included a creation of a Facebook (FB) page to advertise the study objectives along with distribution of flyers, posters, and information cards at community venues and events in collaboration with RSATs' clinics.

Enrollment Procedures

Interested and eligible individuals were provided with options to participate in the study either online or in-person by the use of a survey at one of the RSAT clinics. Potential participants were provided with a full explanation of the study goals and objectives. The online survey was created by using the Qualtrics program, which is a secure platform (Snow & Mann, 2013). Among individuals accessing the online version of the survey, those who were eligible and interested in participating indicated their consent by clicking the "Agree" button and were entered into the survey. If they were not interested, they clicked the "Disagree" button and were exited from the survey. No personal or other identifying information (name or contact information) was collected. The online data was immediately uploaded via the Qualtrics Program which was password protected and maintained on a secure server. Each data set was assigned a unique ID number and exported to a statistic software program (SPSS) for data management and analyses.

In the paper-pencil version of the survey, recruitment and data collection ensued at each of the RSAT community clinics. Potential participants were approached in the waiting rooms and

given information about the research study. Interested and eligible individuals provided verbal consent to participate in the study and completed the self-administered survey in a private location. All completed paper surveys were stored in a locked private cabinet and manually keyed into a statistical software program daily. After finishing data entry, all completed surveys were destroyed. Consistent with the snowball sampling methodology, all participants were asked to share information about the study using a created FB link or information card. Participants received $3 (100 THB) as compensation for completion of the survey.

Sample

Study eligibility criteria included: 1) Thai national, 2) aged 18 – 60 years, 3) the ability to read and write in Thai, and 4) the ability to provide informed consent. Since the exact percentage of the LGBT population in Thai is unknown, we approximated a sample size to obtain a precise estimate for lifetime rates of suicidal ideation with a 5% margin of error. Based on Cochran's calculation (1953), we used 50% prevalence of lifetime suicidal ideation to determine the most conservative sample size. The total of 384 participants was deemed sufficient to assess any proportion of suicidality with a 5% margin of error at the 95% confidence level. In addition, prior researchers (VanVoorhis & Morgan, 2007) suggested that 20 cases must be required per independent variable to have stable model estimates. Based on our study variables (N = 20), 400 cases were required. A total of N = 458 participants accessed the online survey or were asked to participate in the in-person survey study (online N = 170, in-person N = 288). Of those, N = 411 (89.7%) consented and completed the survey. The final sample size of N = 411 was deemed sufficient to conduct the proposed multivariate analyses.

Measures

Standardized measures were selected for use in this study as follows:

Socio-Demographic Factors

Socio-demographic factors included: age, education, poverty rates associated with participants' geographical regions, personal income levels, and health insurance coverage.

Sexual Orientation and Gender Identity

The following 3-validated items were used for measuring sexual orientation and gender identity (SOGI) (Badgett, 2009). First, biological sex was measured with the following question, "*What sex were you assigned at birth, meaning the sex listed on your original birth certificate?"* (response options = male, female). Sexual orientation was measured by the question "*Do you consider yourself to be . . . ?*" (response options = heterosexual, homosexual, or bisexual). Lastly, gender identity was measured by the question "*What is your current gender identity?"* (response options = male, female, transgender man, transgender woman, questioning, and others). In this study, male and female responses were categorized as cisgender and the remaining response options were categorized as transgender (The GenIUSS Group, 2014). Cross tabs between birth sex and gender identity were also completed as a secondary assessment of gender identity. SOGI measures were translated from English into a Thai-version using forward/backward translation method, validated by expert panels based on cross-cultural translation principles and tested among a diverse sample of Thai adults (n = 282) (Kittitteerasack, Matthews, & Steffen, 2019). The adapted SOGI measures contained high content validity and linguistic comprehension/acceptability (Kittitteerasack, Matthews, & Steffen, 2019).

Health-related Factors

Diagnosis of a chronic disease was measured using the National Cancer Institute Morbidity Index (Klabunde, Legler, Warren, Baldwin, & Schrag, 2007), which asks whether the individual had been diagnosed with 12 differing types of chronic diseases (e.g. diabetes, ulcer, heart disease). Response options were 0 = No and 1 = Yes. Scores ranged from 0 – 12 with higher scores representing a higher number of self-reported chronic diseases. Given that the results were highly skewed, responses were recoded into 0 = none, 1 = one, and 2 = two or more chronic diseases. Smoking was measured by asking the participants' smoking status (response options = current, former, or never smoker). The frequency of alcohol use over the past 12 months was measured by asking the frequency of drinking (response options = not at all, once a month or less, several times a month, and several times a week). Drug use was measured by asking about the lifetime use of a range of illicit drugs. Response options included 0 = No and 1 = Yes. The physical component summary (PCS) of the Short Form Health Survey (SF-12) was used to measure one's current physical health status (Ware Jr, Kosinski, & Keller 1996; Chariyalertsak, et al., 2011). Possible scores for the SF-12 range from 0-100 with higher scores indicated a better health status (License no QM048092). The Cronbach alpha of SF-12 in this study was .78.

General Life Stressors

General life stressor measures included stress and loneliness. Stress levels were measured by the Srithanya Stress Test (ST-5) which includes 5-questions rated on a 4-point Likert scale, ranging from 0 = never to 3 = usually. Total possible scores ranged from 0 to 15, with scores ranging from 0-4 representing mild stress, 5-7 representing moderate stress, 8-9 representing severe stress, and 10-15 very severe stress (Silpakit, 2012). The Cronbach alpha for the ST-5 in

this study was .87. Loneliness was measured by the UCLA Loneliness Scale (UCLA-LS 3) (Russell, 1996) which includes 20-items rated on a 4-point Likert scale (1 = never to 4 = often) with higher scores reflecting higher levels of loneliness. The Cronbach alpha for the UCLA-LS3 in this study was .90.

Minority Specific Stressors

Discrimination due to one's sexual orientation or gender identity was measured with the following three questions: *"Have you ever experienced any discrimination due to your sexual orientation, gender identity, or gender expression?*" Response options were 0 = No and 1 = Yes. Possible scores ranged from 0-3 with higher scores representing discrimination associated with a larger number of SOGI identities.

The Experiences of Discrimination Scale (EOD) (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005) "situation" version was used to obtain a count of the number of situations (i.e., work, store) in which a participant had experienced discrimination due to their sexual orientation or gender identity. The original instrument measures nine specific situations. Three additional questions about situations specific to the Thai context were added, including at home, in a religious setting, and during blood donation (Kittiteerasack, Matthews, & Park, 2020). All items were scored as 0 = No and 1 = Yes and summed across items. Possible scores ranged from 0–12, with higher scores reflecting a higher number of situations in which an individual had experienced discrimination. The Cronbach alpha of EOD in this study was .86.

Victimization events were measured by two items assessing whether the study participant had "ever been victimized or harassed for being LGBT before the age of 18" and "ever been victimized or harassed for being LGBT after the age of 18." Response options were 0 = never happened, 1 = sometimes happened, 2 = often happened, and 3 = happened almost daily, and

were then re-categorized into 0 = never happened and 1 = happened. Scores for both questions were combined to create a victimization index. Possible scores ranged from 0-2 with higher scores representing more victimization experiences due to an LGBT identity.

Sexual identity disclosure was measured using the Outness Inventory (OI; Mohr & Fassinger, 2000). The OI is an 11-item scale designed to assess the degree to which LGBT individuals have disclosed their sexual orientation to 3-social categories including work peers, family members, and members of one's religious community. A 7-point Likert scale was implemented ranging from 1 (person definitely does NOT know about your sexual orientation status) to 7 (person definitely knows about your sexual orientation status, and it is OPENLY talked about). Two questions related to the religious category (leaders of my religious community and members of my religious community) were combined into one item (leaders and members of my religious community) based on the Thai culture. Total possible scores ranged from 0-7 with higher scores indicating greater levels of outness. The Cronbach alpha of OI in this study was .94.

Lastly, the Revised Internalized Homophobia Scale (IHP-R) (Herek, Gillis, & Cogan 2009) measured internalized homophobia. Internalized homophobia refers to negative attitudes and beliefs associated with homosexuality and turned inward upon themselves. The IHP-R scale includes 5-items (i.e., *"I wish I weren't gay.*" or "*I have tried to stop being attracted to people of my same sex or gender."*) rated on a 5-point Likert scale ranging from 1 = strongly disagree to 5 = strongly agree. Scores were computed by summing responses and dividing by the total number of items. Total possible mean scores ranged from 1-5. Higher scores indicated more self-attitudes that are negative. The Cronbach alpha of IHP-R in this study was .87.

Suicidality Measures

Three questions derived from standard clinical questions were used to measure suicidality, including lifetime suicidal ideation *("Have you ever felt so sad, blue, or unhappy you wanted to die?"*), past 12-month suicidal ideation *("In the past 12 months, have you felt so low you have thought of killing yourself?"*), and a history of suicide attempt *("Have you ever tried to take your own life?"*) (Osman et al., 2001). Response options for all three questions were 0 = No and 1 = Yes.

In this study, the EOD, OI, and IHP-R were not available in the Thai language and were translated for use in this study. All three measures were translated by forward techniques (English to Thai) by the principle investigator (P.K.) who is fluent in Thai/English and reviewed by a panel of Thai nurses (n = 8) who have experience working with LGBT communities. By following the principles of the cross-cultural translation principle (Harkness, Pennell, & Schoua-Glusberg, 2004), the measures were then reconciled, compared, and refined by a committee approach including 1-adjudicator, 1-content expert, and 2-translators. All committee members were bilingual Thai natives with knowledge of the Thai society, culture, and extensive experience working with Thai LGBT populations.

Next, the content validity was confirmed by a second panel of measurement and LGBT experts in Thailand (N = 5) including 3-nursing professors, 1-psychiatrist, and 1-anthropologist. The content validity index (CVI) was calculated for all 3-translated measures with all CVI = 1 indicating the high content validity of the measures. Lastly, the internal consistency reliability was estimated by Cronbach's alpha coefficients. Overall, Cronbach alphas of selected measures were high, indicating the acceptable reliability of the measure (SF-12 = .78, ST-5 = .87, UCLA-LS 3 = .90, EOD = .86, OI = .94, and IHP-R = .87).

Data Analysis

The collected data were analyzed using SPSS software (IBM). Standard descriptive statistics (percentages, means, standard deviations, and frequencies) were used to describe the study sample. A total of n = 458 of Thai LGBT adults accessed the study survey (online = 170 and paper-pencil = 288). Subsequently, 19 of LGBTs (4.2%) who opened online surveys, disagreed with participating in the study. Missing data was detected at n = 28 (6.4%). Finally, a total of n = 411 of Thai LGBT adults completed the surveys including n = 123 online (29.93%) and n = 288 paper-pencil (70.07%) participants. Demographic differences were observed in participants who completed the online surveys compared to the paper-pencil surveys. Paper-pencil participants were more likely to be younger ($p < .000$), while online participants were more likely to live in northeast Thailand and reported obtaining a bachelor's degree or higher ($p < .05$). However, no differences based on data collection methods were observed on any of the key independent or dependent variables (data not shown).

Next, bivariate analyses (Chi-square and independent t-test) were used to test the associations between socio-demographics, health-related factors, general stress, and minority-specific stressors on each of the three indicators of suicidality. Finally, three multivariate logistic regression models were conducted to determine the relationship between general and minority-specific stressors on each of our indicators of suicidality, controlling for socio-demographic and health-related factors. For each of the logistic regression models, a purposeful selection of covariates was conducted. Purposeful selection allows for the best selection of covariates designed for multivariate analyses and provides a thorough assessment of confounding within the given data set (Hosmer Jr, Lemeshow, & Sturdivant, 2013). Based on bivariate analyses, both socio-demographic factors and health-related factors were included as a background model

predicting suicidality using the initial standard of $p < .25$. Next, non-significant variables were removed iteratively at $p <. 10$ and the stability of the remaining coefficients was reassessed.

In the final models, covariates for lifetime suicidal ideation included income, health insurance, chronic disease, smoking status, and poverty rates. Covariates for the logistic regression model testing correlations for 12-month suicidal ideation included income, health insurance, chronic disease, and smoking status. Covariates in the final model examining the history of suicide attempts were poverty rates, chronic disease, alcohol use, and health status. After final selection of these background variables, 3-logistic regression models were conducted to determine the relationship of general and minority specific stressors on lifetime suicidal ideation, 12-month suicidal ideation, and suicide attempt, controlling for background variables.

Results

Participants Characteristics

Table 1 displays the demographic characteristics of the study sample (N = 411). The mean age of participants was M = 29.51, S.D. = 7.43 (range 18-53). The majority of participants reported their biological sex as male (90.5%), sexual orientation as homosexual (79.3%), and gender identity as cisgender (76.6%). Nearly sixty percent of participants (59.4%) reported having a bachelor's degree, 40.6% living in the central region of Thailand (40.6%), and 50.2% reported not having insurance coverage. In terms of health behaviors, the majority of participants reported being non-smokers (72%), non-drug users (87.3%), and infrequent drinkers (73.9%; once a month or none). The mean score of the SF-12 PCS was 52.7 (S.D. = 7.45) which is slightly higher than published norms for healthy adults. Approximately, one-third of the sample

(30.5%) reported having at least one chronic health condition. The most commonly reported chronic illness was diagnosis with a gastric ulcer (17.8%).

General and Minority Specific Stressors

The mean score on the Srithanya Stress Test was 5.48 (S.D. = 3. 42). The majority of participants (57.4%) reported clinically significant levels of stress; of those, 23.8% reported severe to very severe levels of stress (data not shown). The mean score for the UCLA-LS3 Loneliness Scale was M = 1.93 (S.D. = 0.56), with 42.3% of participants endorsing moderate to severe levels of loneliness. More than half of participants (53.7%) reported identity-based experiences of discrimination including their sexual orientation (40.9%), gender identity (35.5%), or gender expression (43.1%).

A total of 234 participants (56.9%) reported experiencing discrimination in at least one social setting or situation (M = 1.90, S.D. = 2.69), with the most common social situations endorsed within a school setting (38.9%), within the family unit (24.3%), and at the workplace (22.4%). Experiences of victimization were also high, with 76.2% of all participants reported being a victim of violence or harassment due to their sexual orientation or gender identity. Of those, 71.5% reported that the victimization occurred before the age of 18, 56.9% after the age of 18 and 53.2% both before and after age 18. The majority of participants reported some level of disclosure of their LGBT identity to their family (M = 4.67, S.D. = 1.72), with most participants disclosing to their siblings (64.9%), mothers (56.6%), work peers (69.8%), and religious communities (41.8%). The mean score of internalized homophobia was M = 2.40 (S.D. = 1.06), with 30.6% of the sample reporting that they would *"accept a chance to be completely heterosexual"* and 25.3% reporting, *"wishing they weren't LGBT."*

Bivariate Analyses

As shown in Table 1, suicidality was common among study participants with 39.2% of study participants reporting a lifetime history of suicidal ideation, 19.0% reporting past 12-month suicidal ideation, and 13.1% reporting a prior suicide attempt. Table 2 summarizes the bivariate associations between demographic, health, and stress-related variables and measures of suicidality. Among socio-demographic factors, Thai LGBT participants who were uninsured reported having higher rates of lifetime [46.1% vs. 31.9%, X^2 (1, n = 410) = 8.751, p = .003] and 12-month suicidal ideation [24.3% vs. 13.7%, X^2 (1, n = 410) = 7.400, p = .007] compared to those reporting health insurance coverage. Past 12-month suicidal ideation was also associated with younger ages (M = 27.9, S.D. = 7.63), having lower levels of education (high school/diploma degree) (26.6%), and having incomes between 10,001-20,00 THB (27.1%) compared to other groups ($p < .05$). LGBT participants who resided in providences with high concentrations of poverty were also more likely to report a suicide attempt [M = 9.94, S.D. = 9.49, t(411) = 1.997, p = .050].

For health-related factors, chronic disease was the only variable associated with all indicators of suicidality. Participants who had two or more diseases reported the highest rates of lifetime suicidal ideation [71%, X^2 (2, n = 407) = 14.609, p = .001], 12-month suicidal ideation [35.5%, X^2 (2, n = 407) = 9.579, p = .008], and suicide attempts [29.0%, X^2 (2, n = 407) = 10.897, p = .004] compared to those reporting fewer chronic diseases. LGBT former smokers reported the highest level of lifetime suicidal ideation (55.25%) and 12-month suicidal ideation (41.8%) compared to current and never smokers ($p < .05$). Participants who reported use of any illicit drugs were also more likely to report past 12-month suicidal ideation compared to non-drug users [32.7% vs. 17.0%, X^2 (2, n = 411) = 7.282, p = .007].

Stress and loneliness were strongly associated with all three indicators of suicidality. Higher stress scores were associated with the higher rates of lifetime suicidal ideation (M = 7.04, S.D. = 3.43), past 12-month suicidal ideation (M = 8.05, S.D. = 3.57), and suicide attempts (M = 7.35, S.D. = 3.87) compared to low stress scores ($p < .001$). Similarly, high loneliness participants were associated with higher rates of lifetime suicidal ideation (M = 2.19, S.D. = 0.54), 12-month suicidal ideation (M = 2.25, S.D. = 5.53), and suicide attempts (M = 2.18, S.D. = 0.54) compared to low loneliness participants ($p < .001$).

The influence of minority-specific stressors on suicidality was mixed. The Experiences of Discrimination Scale (EOD) were substantially related to all indicators of suicidality. Those experiencing discrimination across more situations were more likely to report lifetime suicidal ideation (M = 2.59, SD = 3.11 vs. M = 1.46, S.D. = 2.29), t(270) = 3.988, $p = .000$); past 12-month suicidal ideation (M = 2.54, SD = 3.07 vs. M = 1.75, S.D. = 2.58), t(103) = 2.097, $p = .038$); and suicide attempts (M = 2.67, SD = 3.10 vs. M = 1.78, S.D. = 2.61), t(409) = 2.255, $p = .025$) compared to those experiencing fewer discrimination situations. Participants who have never experienced identity-based discrimination reported the lowest rates of lifetime suicidal ideation (31.7%) and past 12-month suicidal ideation (13.8%) compared to other groups ($p < .05$). Among those who faced two or more victimization events revealed the highest rates of past 12-month suicidal ideation (23.7%, p = .010). Sexual identity disclosure was associated with lifetime suicidal ideation (M = 4.40, SD = 1.80 vs. M = 4.85, S.D. = 1.65), t(318) = -2.583, $p = .010$). Likewise, high levels of internalized homophobia were correlated with lifetime suicidal ideation (M = 2.26, S.D. = 1.14, $p = .000$) and attempted suicide (M = 2.75, S.D. = 1.22, $p = .026$). In terms of indicators of suicidality, all three suicide outcomes (lifetime suicidal ideation, past 12-month suicidal ideation, and suicide attempts) were associated with each other. These

were statistically significant in the score for lifetime suicidal ideation and past 12-month suicidal ideation [3.2% vs. 43.5%, X^2 (1, n = 411) = 103.33, $p < .001$]; lifetime suicidal ideation and suicide attempts [2.0% vs. 30.4%, X^2 (1, n = 411) = 69.38, $p < .001$]; and past 12-month suicidal ideation and suicide attempts [7.5% vs. 37.2%, X^2 (1, n = 411) = 48.75, $p < .001$] (data not shown).

Multivariate Analyses

Table 3 displays the results of three multivariate logistic regression models testing the influence of general and minority specific stressors on indicators of suicidality, controlling for covariates. In the first model testing predictors of lifetime suicidal ideation, the overall model was statistically significant (X^2 = 107.256, df = 12 and $p < 0.001$), accounted for 32.7% of the variance (R^2 = .327), and described an overall correct percentage prediction rate of 71.7%. None of the measured demographic variables were associated with lifetime suicidal ideation, and diagnosis with chronic illness was the only health-related factor independently associated with the outcome variable. Statistically significant correlations of lifetime suicidal ideation included higher levels of stress, loneliness, discrimination based on social situations, and diagnosis with a chronic disease. Among stressor variables, loneliness was the strongest predictor in the first model (95% CI: 1.67-4.53, OR = 2.75), followed by the level of stress (95% CI: 1.07-1.26, OR = 1.16), and experience of discrimination across multiple situations (95% CI: 1.02-1.23, OR = 1.12). The diagnosis of chronic disease was the only health-related factor, which was associated with this model (95% CI: 1.00-2.14, OR = 1.46).

In the second model, smoking, levels of stress, loneliness, and experience of victimization were positively significant with 12-month suicidal ideation (X^2 = 97.631, df = 10 and $p < 0.001$), accounted for 34.5% of the variance (R^2 = .345), and described an overall correct

percentage prediction rate of 84.4%. Former smokers were more likely to report 12-month suicidal ideation compared to never smoking participants (95% CI: 2.44-9.77, OR = 4.89), which represented the strongest predictor of this model, followed by loneliness (95% CI: 1.30-4.22, OR = 2.34), experiences of victimization (95% CI: 1.02-2.27, OR = 1.52), and the level of stress (95% CI: 1.10-1.31, OR = 1.20).

In the last model, the history of suicide attempts was associated with regional poverty rates, diagnosis with a chronic disease, alcohol use, poor health status, and higher levels of internalized homophobia (X^2 = 41.340, df = 8 and $p < 0.001$), accounted for 18.7% of variance (R^2 = .187), and described an overall correct percentage prediction rate of 87.8%. Diagnosis with chronic diseases was the strongest predictor of a suicide attempt model (95% CI: 1.00-2.53, OR = 1.59), followed by frequency of alcohol consumption (95% CI: 1.02-2.06, OR = 1.45), internalized homophobia (95% CI: 1.07-1.94, OR = 1.44), poverty rates (95% CI: 1.02-1.10, OR = 1.06), and poor health status (95% CI: .92-.99, OR = 0.95).

Discussion

Guided by a strong conceptual framework, the present study is among the first in Thailand to examine the influence of minority stress on rates of suicidality among a large sample of LGBT adults. Consistent with a substantial body of research in the U.S. and emerging literature in Thailand, suicidality was common among study participants. Thirty-nine percent of participants in the current study reported a lifetime history of suicidal ideation, 19.0% reported past 12-month suicidal ideation, and 13.1% a prior suicide attempt. Although general population statistics in Thailand are not available for each indicator of suicidality examined, rates obtained in the current study are significantly higher than those reported in the U.S. for the general

population (9%, 2% and 0.3%, respectively) (Schreiber, Culpepper, & Fife, 2019). Current findings on rates of suicidality were consistent with prior reported rates of suicidal ideation (40%) but lower when compared to one study of suicide attempts (35.3%) among Thai university aged students (Peltzer & Pengpid, 2016). Our study rates were also higher than suicide rates among LGBT populations living in other Asian cities including Hanoi, Shanghai, and Taipei (past 12-month suicidal ideation = 8.4% and suicide attempts = 2.5%) (Lian, Zuo, Lou, Gao, & Cheng, 2015), but lower than the rates within American LGBT populations at 82% of lifetime suicidal ideation, 48% of past 12-month suicidal ideation, and 40% of suicide attempts (James et al., 2016).

Sociodemographic characteristics associated with suicidality in the general population include age, gender, race/ethnicity and indicators of socioeconomic status. In the current study, bivariate analyses showed that each of the sociodemographic variables tested (poverty, income level, health insurance coverage) were associated with at least one of our measures of suicidality. However, only poverty was independently associated with suicidality in multivariate analyses. In this case, individuals residing in a geographical region where a higher percentage of individuals live at or below the poverty level had higher odds of making a suicidal attempt compared to individuals living in more affluent areas. These findings are consistent with statistics from Thai DMH (2017) which has reported that suicide rates across Thailand are higher in areas of high poverty, especially in provinces located in Northern and Northeastern Thailand, where nearly forty percent of the populations live in poverty.

Surprisingly, none of the SOGI measures, biological sex, sexual orientation or gender identity were independently associated with any of our indicators of suicidality in either bivariate or multivariate analyses. In the U.S., suicidality is higher among transgender individuals

(Clements-Nolle, Marx, & Katz, 2006), lesbians (Lyons, et al., 2019) and bisexual individuals living with HIV (Ferlatte, Salway, Oliffe, & Trussler, 2017). Additional research is essential to determine subgroup differences in risk for suicidality among LGBT populations in Thailand. Moreover, prior research in the U.S. has documented differences of sex and gender associated with suicidality in LGBT populations, especially in transgender individuals (MAP, 2011; Haas et al., 2010). However, no differences in sex and gender were found in this study. Since the study participants were recruited from the RSAT clinics, which primarily provide HIV testing and counseling services, the majority of them were men and gay. The small number of women, bisexual, and transgender participants may have influenced the study outcomes.

Health-related factors have also been associated with suicidality in the general population. Here, we measured the associations between overall health status, diagnosis with a chronic disease and health risk behaviors including smoking, alcohol use, and illicit drug use. Each of these variables were independently associated with indicators of suicidality in multivariate models. Diagnosis with a chronic disease increased the odds of lifetime suicidal ideation and making a suicide attempt. A poor physical health status was an independent predictor of a reported suicide attempt. A growing body of evidence suggests that LGBT individuals suffer from poor general health status and are at an increased risk for chronic diseases, such as cancer and diabetes (IOM, 2011). Further, poor physical health has been identified as a risk factor for suicidality among LGBT populations (Eliason, 2010). In the current study, gastric ulcers, a stress related illness, was the most commonly reported chronic health disease reported by study participants.

Smoking in response to stress is common, but a maladaptive coping response (Wiggert, Wilhelm, Nakajima, & al'Absi, 2016). Smoking among LGBT individuals is higher compared to

heterosexual/cisgender individuals and has been linked to higher rates of exposure to stress and experiences of discrimination (Centers for Disease Control and Prevention, 2019). In the current study, never and former smokers were at higher odds of reporting 12-month suicidal ideation compared to current smokers. Drug and alcohol misuse have also been strongly linked to stress life experiences and are consistently higher in LGBT populations. Although smoking, drinking and drug use were relatively rare in our study sample, frequent alcohol use increased the odds of a reported suicide attempt nearly 1.5 times than that of non-frequent drinkers. Alcohol misuse is a known risk factor for suicidality, as it increases the tendency to act on impulse, disturbs judgment, and creates intense negative feelings which may lead to suicidal behavior (Mereish, O'Cleirigh, & Bradford, 2014; (Skerrett, Kõlves, & De Leo, 2016; Lian, Zuo, Lou, Gao, & Cheng, 2015; Haas et al., 2010; King et al., 2008).

In line with prior research (Michaels, Parent, & Torrey, 2016; Meyer, 2003; Pearkao, 2013; Yadegarfard, Meinhold-Bergmann, & Ho, 2014), general stress and loneliness were common in our sample. Prior research on LGBT samples has determined that extreme stress, coupled with loneliness (a proxy for low social support) can increase distress and emotional dysregulation and increase risk for suicidality (Mustanski & Liu, 2013; Hatzenbuehler, 2009; Meyer, 2003). In multivariate analyses, both elevated levels of stress and loneliness were associated with lifetime and past 12-month suicidal ideation. In Thailand, a recent qualitative study was published that described almost universal feelings of loneliness and hopelessness among Thai transwomen (Hair et al., 2019). Another study in Thailand reported that loneliness among transwomen was significantly associated with risk for suicidality (Yadegarfard, Meinhold-Bergmann, & Ho, 2014).

Increased exposure to chronic and unique sources of stress due to membership in a stigmatized minority group is a key driver of health disparities among LGBT and other minority populations (Hoy-Ellis & Fredriksen-Goldsen, 2017; Meyer, 2003; IOM, 2011; Mustanski & Liu, 2013; Hatzenbuehler, 2009; MAP, 2011; WHO, 2019). As theorized by the MSM, all measured indicators of minority specific stress were linked to suicidality in bivariate analyses, including discrimination based on social identity, discrimination based on social situations, the experience of victimization, sexual identity disclosure, and internalized homophobia. In multivariate analyses, only discrimination based on social situations, experiences of victimization and internalized homophobia were independently associated with increased odds of reporting a prior suicide attempt. Despite the global perception that Thailand is tolerant towards LGBT individuals, negative attitudes and discriminatory actions toward sexual and gender minorities are common.

Findings reported from the present study are in line with previously conducted studies in Thailand which have reported correlations between suicidal behaviors and family rejection–as one type of social discrimination (Yadegarfard, Meinhold-Bergmann, & Ho, 2014) - and experiences of victimization (Mahidol University, Plan International Thailand, & NESCO Bangkok Office, 2014). Exposure to high levels of discrimination and negative attitudes regarding LGBT individuals may lead to internalization of these attitudes. Prior research has documented the associations with internalized homophobia and transphobia with self-destructive patterns of behaviors, including suicidality (Meyer & Dean, 1998; Newcomb, & Mustanski, 2010; Haas, Rodgers, & Herman, 2014). However, this is the first study in Thailand to document an association between internalized homophobia and suicidal behaviors among LGBT populations.

Study findings have important implications for clinical practice and research. Culturally appropriate models of mental health services for LGBT populations have been established (Solomon, Heck, Reed, & Smith, 2017; Nadal & Cabangun, 2017; Crisp & McCave, 2007) and should be adapted for use in the Thai context by psychiatric nurses and other mental health professionals. Clinical providers working with LGBT patients should routinely assess for mental health problems including suicidality. In addition, minority specific risk factors for suicidality should also be assessed, given the observed associations between experiences of discrimination, victimization, loneliness and internalized homophobia and indicators of suicidality. Systematic training of best practices in caring for sexual and gender minorities should be incorporated into the basic training and continuing education requirements for all mental health professionals in Thailand, including modules focused on awareness of bias attitudes.

In the current study, and consistent with the extant literature, actual suicide attempts were associated with a constellation of general and minority specific stressors; these included in a high poverty area (Iemmi et al., 2016; Haas et al., 2011), experiencing chronic disease (Greydanus, Patel, & Pratt, 2010; Nielsen, Wang, & Brille-Brahe, 1990), high frequency alcohol consumption (Bagge et al., 2013; Sher, 2006), poor health status (Goldman-Mellor et al., 2014; Brown & Vinokur, 2003; Hawton & Fagg, 1988) and internalized homophobia. A range of primary and secondary prevention strategies should be developed and directed toward extremely high-risk LGBT populations across Thailand. Moreover, public awareness campaigns must be created to reduce bias and discrimination against LGBT populations. Outreach and education with LGBT communities should aim to increase awareness and access to supportive resources. Furthermore, additional attention should be paid to LGBT patients seeking drug and alcohol treatment in

addressing the roles of minority stress, including internalized negative attitudes on maintenance of substance abusing behaviors and risk for suicide.

Research on LGBT mental and physical health in Thailand remains in its infancy. Prior research has been limited by non-standardized measurements of sexual orientation and gender identity. A recent publication reported on the adaptation and testing of evidence-based measures of sexual orientation and gender identity resulting in high content validity and linguistic comprehension and acceptability among a diverse population of LGBT and non-LGBT survey respondents (Kittitteerasack, Matthews, & Steffen, 2019). It is recommended that continued testing and use of these measures take place in Thailand to further establish the reliability and validity of the measures and allow for comparisons of outcomes related to LGBT research across Thailand and other international contexts. In addition, the current findings suggest important pathways associated with suicidality that are amenable to intervention. High levels of general stress and loneliness increase the risk for suicidal ideation. Culturally targeted interventions aimed at increasing social support and adaptive coping should be developed and assessed for effectiveness in reducing general stress factors in LGBT populations per strong associations with suicidality.

Limitations

Despite the strengths of the study, limitations should be noted. First, the sample was based on a nonprobability sample which may have limited generalizability. The study design was a cross-sectional descriptive research design which limits the ability to establish cause and effect. Although more diverse than published samples involving LGBT participants, cisgender gay men were overrepresented in the current study. Additional research is needed with higher proportions

of cisgender lesbian/bisexual women and transgender participants. RSAT clinics primarily provide HIV testing for Thai LGBT populations. However, the reported rates on HIV/AIDS as one criterion of chronic diseases among study participants were low (5.1%) due to the social stigmatization. Advanced research will be required for exploring the influences of HIV/AIDS on mental health disparities in Thai LGBTs. All suicidality data were based on self-reported measures. Although standard for population-based research, future research should aim to develop additional objective methods to decrease suicidality. Lastly, longitudinal studies are obligatory to explore how suicidality evolves during the lifespan of LGBT individuals.

Conclusion

Based on a robust conceptual framework, our study findings effect an essential contribution to understanding the factors influencing mental health disparities among LGBT populations. Multivariate analyses reported that overall results of associations were consistent with the Minority Stress Model. Patterns of association varied based on each outcome. General and minority stressors mostly predicted lifetime and 12-month suicidal ideation, while socio-demographic factors mainly influenced suicide attempts. Additional research will be required to confirm and clarify broad factors contributing to suicidality for creating effective interventions in the future.

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TABLE IV

Participant Characteristics (N = 411)

	N	%	M	S.D.
Socio-Demographic Factors				
Age			29.51	7.43
Education				
High school diploma	94	22.9		
Bachelor's degree	244	59.4		
Graduate degree	73	17.8		
Poverty rates of geographical region			7.53	7.37
Income				
< 10,000 THB	84	20.4		
10,001 – 20,000 THB	118	28.7		
20,001 – 30,000 THB	89	21.7		
30,001 – 40,000 THB	53	12.9		
> 40,001 THB	67	16.3		
Health insurance				
Insured	204	49.8		
Uninsured	206	50.2		
Biological sex				
Male	372	90.5		
Female	39	9.5		
Sexual orientation				
Heterosexual	23	5.6		
Homosexual	326	79.3		
Bisexual	62	15.1		
Gender identity				
Cisgender	315	76.6		
Transgender	96	23.4		
Health-related Factors				
Chronic disease				
None	283	69.5		
One	93	22.9		
Two or more	31	7.6		
Smoking Status				
Current smoker	48	11.7		
Former smoker	67	16.3		
Never smoker	296	72		
Frequency of alcohol use				
Several times a week	33	8		
Several times a month	74	18		
Once a month or less	190	46.2		
Not at all	114	27.7		

TABLE IV (continued)

Participant Characteristics (N = 411)

	N	%	M	S.D.
Drug use				
Yes	52	12.7		
No	359	87.3		
SF-12 Physical Health Status			52.76	7.45
General Life Stressors				
Level of Stress			5.48	3.42
Loneliness			1.93	0.56
Minority-Specific Stressors				
Discrimination based on LGBT identity				
None	189	46.3		
One	60	14.7		
Two	51	12.5		
Three	108	26.5		
Experience of Discrimination			1.90	2.69
Experience of victimization				
Never	98	23.8		
One	98	23.8		
Two or more	215	52.4		
Sexual Identity Concealment			4.67	1.72
Internalized homophobia			2.40	1.06
Suicidality				
Lifetime suicidal ideation				
No	250	60.8		
Yes	161	39.2		
12-Month suicidal ideation				
No	333	81		
Yes	78	19		
Suicide attempt				
No	357	86.9		
Yes	54	13.1		

M = mean score, S.D. = standard deviation

TABLE V

Summary of Bivariate Analysis for Suicidality (N = 411)

Variables	Lifetime Suicidal Ideation				12-Month Suicidal Ideation				Suicide Attempt			
	Yes	No	t, X^2	p	Yes	No	t, X^2	p	Yes	No	t, X^2	p
Socio-Demographic Factors												
Age [M, (S.D.)]	29.50 (7.75)	29.51 (7.23)	-.009	.993	27.90 (7.63)	29.89 (7.34)	-2.135	.033*	29.83 (8.86)	29.46 (7.21)	.346	.730
Education [n, (%)]												
High school/diploma	39 (41.5)	55 (58.5)	4.034	.133	25 (26.6)	69 (73.4)	9.056	.011*	18 (19.1)	76 (80.9)	5.546	.062
Bachelor	101 (41.4)	143 (58.6)			47 (19.3)	197 (80.7)			31 (12.7)	213 (87.3)		
Graduate and higher	21 (28.8)	52 (71.2)			6 (8.2)	67 (91.8)			5 (6.8)	68 (93.2)		
Poverty rates [M, (S.D.)]	8.23 (8.35)	7.08 (6.64)	1.456	.146	8.50 (7.78)	7.31 (7.27)	1.262	.208	9.94 (9.49)	7.18 (6.95)	1.997	.050*
Income [n, (%)]												
< 10,000 THB	36 (42.9)	48 (57.1)	5.992	.200	19 (22.6)	65 (77.4)	12.733	.013*	14 (16.7)	70 (83.3)	2.757	.599
10,001 – 20,000 THB	51 (43.2)	67 (56.8)			32 (27.1)	86 (72.9)			17 (14.4)	101 (85.6)		
20,001 – 30,000 THB	38 (42.7)	51 (57.3)			15 (16.9)	74 (83.1)			12 (13.5)	77 (86.5)		
30,001 – 40,000 THB	16 (30.2)	37 (69.8)			4 (7.5)	49 (92.5)			5 (9.4)	48 (90.6)		
> 40,001 THB	20 (29.9)	47 (70.1)			8 (11.9)	59 (88.1)			6 (9.0)	61 (91.0)		
Health insurance [n, (%)]												
Cover	65 (31.9)	139 (68.1)	8.751	.003*	28 (13.7)	176 (86.3)	7.400	.007*	26 (12.7)	178 (87.3)	.064	.800
Uncover	95 (46.1)	111 (53.9)			50 (24.3)	156 (75.7)			28 (13.6)	178 (86.4)		

TABLE V (continued)

Summary of Bivariate Analysis for Suicidality (N = 411)

Variables	Lifetime Suicidal Ideation				12-Month Suicidal Ideation				Suicide Attempt			
	Yes	No	t, X^2	p	Yes	No	t, X^2	p	Yes	No	t, X^2	p
Biological sex [n, (%)]												
Male	144 (38.7)	228 (61.3)	.353	.553	71 (19.1)	301 (80.9)	.030	.863	48 (12.9)	324 (87.1)	.190	.663
Female	17 (43.6)	22 (56.4)			7 (17.9)	32 (82.1)			6 (15.4)	33 (84.6)		
Sexual orientation [n, (%)]												
Heterosexual	11 (47.8)	12 (52.2)	.851	.653	7 (30.4)	16 (69.6)	2.306	.316	5 (21.7)	18 (78.3)	1.584	.453
Homosexual	125 (38.3)	201 (61.7)			61 (18.7)	265 (81.3)			41 (12.6)	285 (87.4)		
Bisexual	25 (40.3)	37 (59.7)			10 (16.1)	52 (83.9)			8 (12.9)	54 (87.1)		
Gender identity [n, (%)]												
Cisgender	122 (38.7)	193 (61.3)	.111	.739	56 (17.8)	259 (82.2)	1.264	.261	42 (13.3)	273 (86.7)	.045	.832
Transgender	39 (40.6)	57 (59.4)			22 (22.9)	74 (77.1)			12 (12.5)	84 (87.5)		
Health-related Factors												
Chronic disease [n, (%)]												
None	102 (36.0)	181 (64.0)	14.609	.001*	44 (15.5)	239 (84.5)	9.579	.008*	28 (9.9)	255 (90.1)	10.897	.004*
One	34 (36.6)	59 (63.4)			23 (24.7)	70 (75.3)			16 (17.2)	77 (82.8)		
Two or more	22 (71.0)	9 (29.0)			11 (35.5)	20 (64.5)			9 (29.0)	22 (71.0)		

TABLE V (continued)

Summary of Bivariate Analysis for Suicidality (N = 411)

Variables	Lifetime Suicidal Ideation				12-Month Suicidal Ideation				Suicide Attempt			
	Yes	No	t, X^2	p	Yes	No	t, X^2	p	Yes	No	t, X^2	p
Smoking [n, (%)]												
Smoking	21 (43.8)	27 (56.3)	10.045	.007*	9 (18.8)	39 (81.3)	27.738	.000*	8 (16.7)	40 (83.3)	3.854	.146
Former smoker	37 (55.2)	30 (44.8)			28 (41.8)	39 (58.2)			13 (19.4)	54 (80.6)		
Never	103 (34.8)	193 (65.2)			41 (13.9)	255 (86.1)			33 (11.1)	263 (88.9)		
Alcohol [n, (%)]												
Not at all	44 (38.6)	70 (61.4)	1.445	.695	15 (13.2)	99 (86.8)	4.786	.188	12 (10.5)	102 (89.5)	5.266	.153
Once a month or less	74 (38.9)	116 (61.1)			37 (19.5)	153 (80.5)			22 (11.6)	168 (88.4)		
Several times a month	27 (36.5)	47 (63.5)			17 (23.0)	57 (77.0)			12 (16.2)	62 (83.8)		
Several times a week	16 (48.5)	17 (51.5)			9 (27.3)	24 (72.7)			8 (24.2)	25 (75.8)		
Drug use [n, (%)]												
No	138 (38.4)	221 (61.6)	.693	.424	61 (17.0)	298 (83.0)	7.282	.007*	46 (12.8)	313 (87.2)	.263	.608
Yes	23 (44.2)	29 (55.8)			17 (32.7)	35 (67.3)			8 (15.4)	44 (84.6)		
Health Status [M, (S.D.)]	51.94 (7.82)	53.28 (7.16)	-1.784	.075	51.64 (8.34)	53.02 (7.22)	-1.340	.183	50.46 (9.77)	53.10 (6.99)	-1.899	.062
General Life Stressor												
Level of Stress [M, (S.D.)]	7.04 (3.42)	4.47 (3.02)	7.793	.000*	8.05 (3.57)	4.88 (3.09)	7.243	.000*	7.35 (3.87)	5.2 (3.25)	3.894	.000*
Loneliness [M, (S.D.)]	2.19 (.54)	1.76 (.50)	8.099	.000*	2.25 (.55)	1.85 (.53)	5.848	.000*	2.18 (.54)	1.89 (.55)	3.655	.000*

TABLE V (continued)

Summary of Bivariate Analysis for Suicidality (N = 411)

Variables	Lifetime Suicidal Ideation				12-Month Suicidal Ideation				Suicide Attempt			
	Yes	No	t, X^2	p	Yes	No	t, X^2	p	Yes	No	t, X^2	p
Minority-Specific Stressors												
Discrimination (social identity) [n, %]												
None	60 (31.7)	129 (68.3)	8.323	.040*	26 (13.8)	163 (86.2)	8.521	.036*	23 (12.2)	166 (87.8)	.494	.920
One	29 (48.3)	31 (51.7)			10 (16.7)	50 (83.3)			8 (13.3)	52 (86.7)		
Two	21 (41.2)	30 (58.5)			14 (27.5)	37 (72.5)			8 (15.7)	43 (84.3)		
Three	49 (45.4)	59 (54.6)			27 (25.0)	81 (75.0)			15 (13.9)	93 (86.1)		
Discrimination (social situation) [M, S.D.]	2.59 (3.11)	1.46 (2.29)	3.988	.000*	2.54 (3.07)	1.75 (2.58)	2.097	.038*	2.67 (3.10)	1.78 (2.61)	2.255	.025*
Experience of victimization [N, %]												
Never	30 (30.6)	68 (69.4)	4.963	.084	9 (9.2)	89 (90.8)	9.283	.010*	10 (10.2)	88 (89.9)	1.166	.558
One	37 (37.8)	61 (62.2)			18 (18.4)	80 (81.6)			15 (15.3)	83 (84.7)		
Two or more	94 (43.7)	121 (56.3)			51 (23.7)	164 (76.3)			29 (13.5)	186 (86.5)		
Sexual identity outness [M, (S.D.)]	4.40 (1.80)	4.85 (1.65)	-2.583	.010*	4.35 (1.83)	4.75 (1.69)	-1.849	.065	4.37 (1.86)	4.72 (1.70)	-1.388	.166
Internalized homophobia [M, (S.D.)]	2.66 (1.14)	2.23 (.97)	3.982	.000*	2.59 (1.21)	2.36 (1.02)	1.538	.127	2.75 (1.22)	2.35 (1.03)	2.275	.026*

t = T-test, X^2 = Chi-square test, p = p-value

TABLE VI

Summary of Logistic Analysis for Variables Predicting Suicidality (N = 411)

Variables	Lifetime Suicidal Ideation				12-Month Suicidal Ideation				Suicide Attempt			
	B	SE	OR	p	B	SE	OR	p	B	SE	OR	p
Constant	-3.583	.867	.028	<.001	-.892	.848	.008	<.001	-3.357	1.331	.035	.012
Socio-Demographic Factors												
Poverty rates	.029	.017	1.030	.079	-	-	-	-	.059	.020	1.061	.004*
Income	-.088	.091	.916	.331	-.227	.118	.797	.056	-	-	-	-
Health insurance	.379	.245	1.461	.122	.385	.306	1.470	.208	-	-	-	-
Health-related Factor												
Chronic disease	.380	.194	1.463	.050*	.352	.229	1.442	.124	.456	.236	1.592	.048*
Smoking												
Smoking	.108	.375	1.114	.773	.229	.459	1.258	.618	-	-	-	-
Former smoker	.596	.334	1.816	.074	1.586	.354	4.885	<.001*	-	-	-	-
Never				.203				<.001*	-	-	-	-
Alcohol	-	-	-	-	-	-	-	-	.370	.180	1.448	.040*
Health Status	-	-	-	-	-	-	-	-	-.047	.021	.954	.022*
General Life Stressor												
Level of Stress	.151	.042	1.163	<.001*	.181	.046	1.199	<.001*	.082	.049	1.086	.095
Loneliness	1.011	.255	2.748	<.001*	.850	.301	2.340	.005*	.433	.332	1.542	.192
Minority-Specific Stressors												
Discrimination (social identity)	.000	.104	1.000	.998	.130	.126	1.139	.301	-	-	-	-
Discrimination (situations)	.113	.049	1.120	.021*	.016	.056	1.016	.776	.015	.057	1.015	.791
Experience of victimization	-	-	-	-	.418	.204	1.520	.041*	-	-	-	-
Sexual identity outness	-.110	.080	.896	.168	-	-	-	-	-	-	-	-
Internalized homophobia	.209	.126	1.232	.098	-	-	-	-	.364	.153	1.439	.018*
-2LL	411.468				295.508				258.461			
	X^2 = 107.256, df = 12, p < .001				X^2 = 97.631, df = 10, p < .001				X^2 = 41.340, df = 8, p < .001			
Nagelkerke R^2	32.7%				34.5%				18.7%			
Hosmer & Lemeshow test	p = .667				p = .137				p = .119			
Classification accuracy	71.7%				84.4%				87.8%			

B = Unstandardized parameter estimates, SE = Standard error, OR = Odd ratio, p = p-value, SI = suicidal ideation

APPENDICES

APPENDIX A

Request for Modification(s) and/or Information
Expedited Review
Initial Review

November 14, 2017

20171182-108234-1

Priyoth Kittiteerasack, PhD Student
Health Systems Science
708 South Racine Ave. (Apt-E)
M/C 802
Chicago, IL 60607
Phone: (312) 307-2548

RE: Research Protocol # 2017-1182
"Suicidality in Thai LGBT (Lesbian, Gay, Bisexual, and Transgender) Adults"

Dear Mr. Kittiteerasack:

Your Initial Review received on October 27, 2017 was reviewed by members of the Institutional Review Board (IRB) # 2 under expedited review procedures [45 CFR 46.110(b)(2)] on November 10, 2017. It was determined that modification and/or additional information about the research is required. The IRB requests the following:

1.0 <u>Issues regarding research protocol and /or research protocol application:</u>

1.1.1 **Initial Review Application (IRA), 10-18-2017:**

1.1.2 **Page 5, VI, D:** Please discuss and inform subjects that they will be asked for sensitive and personal information that may be visible to others if social media sites are used to link to the survey; thus, in addition to certifying compliance with individual website business rules or "terms of service," please also disclose possible risks to subjects' privacy such as that other sites and/or other "friends" of subjects could follow embedded link or see what subjects are participating in and identify subjects. Please also inform subjects that forwarding recruitment documents onto others such as friends and social networks will identify those who participated. Please address this issue in the recruitment and consent documents as well as in the following sections of the *IRA: pages 10-11, IX, (A) and (B); pages 11-12, X, (A) and (B).*

1.1.3 **Page 5, VI, D, 2nd paragraph, 1st sentence:** Please explain what are investigator's Facebook meet-up groups; and delineate the Face-Book meet-up groups' recruitment procedures.

1.1.4 **Page 5, VI, D, 2nd paragraph, 6th sentence:** Please clarify what is done with the contact information for the compensation. Please also explain where it is stored and when destroyed, in the following sections of the *IRA*, *page 15 , XII, B(3a) (3b) (3d).*

1.1.5 **Page 9, VIII, C:** Please discuss whether the population that will be recruited and enrolled in this study includes population vulnerable to coercion or undue influence.

Please move risks to privacy and confidentiality issues currently discussed in this section to *pages 11-12, X, (A) and (B); and pages 14-15, XII of the IRA.*

1.1.6 **Page 14, XII, A:** Please explain in greater detail how each of the precautions listed will minimize breach of privacy and confidentiality

1.1.7 **Pages 15, XII, B(1):** Please check-mark that subjects' email addresses and phone numbers will be identifiers obtained for compensation.

1.1.8 **Page 16, XII, B (3)(a):** Please explain whether data collected from the subjects will be assigned a code that can be linked to a master list containing identifiers. If no, please explain. Please also explain the rational for indicating that Limited Data set will be obtained.

1.1.9 **Page 16, XII, B(3)(d):** Please verify whether email addresses and phone numbers are the only subject identifiers collected; if no, please list or check-mark all other identifiers that will be collected; if yes, please provide rational for keeping email addresses and phone numbers until the end of data collection if these identifiers are only used for subjects' compensation.

1.2.0 **Page 18, XIV, C:** Please un-check "no" and check-mark "yes," and describe how the consent process will be conducted in Thai language. Please note that translations of the recruitment and consent documents and the study questionnaire have been uploaded with this submission.

1.2.1 **Questionnaire, v1.0, 10/18/17:**

a) **The end of questionnaire:** Please "thank" subjects for participating instead of "congratulating" them for participating.

b) **Page 28, top:** Please fill out missing contact information instead of leaving blanks to be filled out.

1.2.2 Please submit a ***local IRB equivalent approval;*** along with the revised Appendix P listing a contact information of the local on-site supervisor/s and/or advisor/s.

1.2.3 **Research Protocol (RP): Suicidality in Thai LGBT (Lesbian, Gay, Bisexual, and Transgender) Adults, v1, 10/18/17, Page 10, (1):**

a) Please discuss translation of relevant questionnaire and documents discussed in this section of the RP in the appropriate sections of IRA as well.

b) Please also discuss whether local personnel listed in this section of the RP will have additional roles in this research project, in addition to translating the research materials in Thai. If so, please explain.

2.0 <u>Issues regarding the informed consent process and/or document:</u>

2.1 Please separate recruitment, information sheet (consent), questionnaire, email language, other scripts and materials, so that each can be approved and stamped separately. In the running footer of each document, please indicate document's distinct name (for example flyer instead of recruitment material). Maintaining parallel English and Thai translation within one and the same document, as currently uploaded, is acceptable.

2.2 **Flyer and Poster (English and Thai), v1, 10/18/17:** Please discuss and inform subjects that they will be asked for sensitive and personal information that may be visible to others if social media sites are used to link to the survey; thus, in addition to certifying compliance with individual website business rules or "terms of service," please also disclose possible risks to subjects' privacy such as that other sites and/or other "friends" of subjects could follow embedded link or see what subjects are participating in and

identify subjects. Please also inform subjects that forwarding recruitment documents onto others such as friends and social networks will identify those who participated.

2.3 **Advertisement Card (English and Thai); v1.0, 10/18/17:** Please discuss and inform subjects that they will be asked for sensitive and personal information that may be visible to others if social media sites are used to link to the survey; thus, in addition to certifying compliance with individual website business rules or "terms of service," please also disclose possible risks to subjects' privacy such as that other sites and/or other "friends" of subjects could follow embedded link or see what subjects are participating in and identify subjects. Please also inform subjects that forwarding recruitment documents onto others such as friends and social networks will identify those who participated.

2.4 **Information Sheet (at the beginning of the survey), v1.0, 10/18/17:**

a) Please submit as a separate document so it can be stamped.
b) Please add faculty advisor name, title, and contact information.
c) Please add local supervisor/s name, title, and contact information.
d) Please provide local IRB-equivalent contact information.
e) Please explain how secure is to use WiFi to complete the survey.
f) Please clearly state that there are no benefits for participating in this study.
g) Please clarify whether or not subjects can start and resume survey at a later time.
h) Please inform subjects that forwarding recruitment documents onto others such as friends and social networks will identify those who participated.

2.5 **Participant Incentive Receipt Form:**

a) Please create a separate document for stamping and revise the name of the document to ensure that it does not imply receiving a receipt for $3 compensation.
b) Please "thank" subjects for their participation instead of "congratulating" them.
c) Please inform subjects that forwarding recruitment documents onto others such as friends and social networks will identify those who participated.

2.6 Please develop and submit for a review a script that will be used for in-person recruitment when communicating with subjects, such as after investigator gives subject a card and before investigator hands subject the questionnaire.

When submitting your response upload the following via OPRSLive:

1. <u>A cover or response letter, either</u>:
    a. **Unlock the Request for Modifications letter from the IRB** and insert your response to each of the IRB's items directly beneath that item (request 1.1, response 1.1; request 1.2, response 1.2, etc), save this response letter with a new name and upload it with your response submission packet to the IRB; **<u>OR</u>**
    b. **Copy the Request for Modifications letter from the IRB to a new document**, insert your response to each of the IRB's items directly beneath that item, save this new document and upload it with your response submission packet to the IRB.

2. <u>For modifications that involve the research protocol and/or research protocol application form</u>:
    a. **Upload one copy** of the revised application **with track changes** plus **one copy without track changes but with all of the changes incorporated** into the document.

b. Insert a footer on each page that includes the next sequential **version number and latest revision date**.

3. For issues that involve the informed consent document(s) and/or consent process:
   a. **Upload one copy** of each revised recruitment or consent document **with track changes** plus **one copy without track changes but with all of the changes incorporated** into the document so that it can be date-stamped and returned to you.
   b. Leave sufficient blank space for the IRB approval stamp (2-1/2 inches wide by 1-1/2 inches high) in the upper right corner of the first page.
   c. Include a **short descriptor** (to describe each document and differentiate among various documents in the same research protocol) in the footer of each page.
   d. Include the next sequential **version number and latest revision date** in the footer of each page.
   e. Be sure the pages are numbered: Page 1 of #, Page 2 of #.

The IRB has determined that your response to these required modifications may be reviewed under expedited review procedures without being scheduled for review at a convened IRB meeting. Based on your response, the IRB has the right to ask further questions, seek additional information, require further modifications, or refer your response to the convened IRB.

Please note that you ***may not*** initiate the research, including the recruitment of subjects, until you receive a ***written notice of IRB approval*** that will include the date-stamped informed consent document(s) to use when seeking consent from subjects.
If you do not respond to the IRB's requests within 60 days of this letter, you will receive a reminder. The reminder notes that you have 30 additional days to respond to the IRB's requests. If you do not respond to the reminder within this 30 days period, your research protocol submission will be automatically withdrawn from the review process and the IRB will not take any further action.

If you have any questions or need further help, please contact the OPRS office at (312) 996-1711 or me at (312) 413-1518. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Alma Milat, BS
IRB Coordinator, IRB #2
Office for the Protection of Research Subjects

Enclosure(s): None

cc: Colleen Corte, Health Systems Science, M/C 802
Alicia K. Matthews, Faculty Advisor, Health Systems Science, M/C 802

APPENDIX A (continued)

Approval Notice
Initial Review (Response To Modifications)

February 21, 2018

Priyoth Kittiteerasack, PhD Student
Health Systems Science
708 South Racine Ave. (Apt-E)
M/C 802
Chicago, IL 60607
Phone: (312) 307-2548

RE: Protocol # 2017-1182
"Suicidality in Thai LGBT (Lesbian, Gay, Bisexual, and Transgender) Adults"

Dear Mr. Kittiteerasack:

Please note that stamped .pdfs of all approved recruitment and consent documents have been uploaded to OPRSLive, and can be accessed under "Approved Documents" tab. Please remember to use only those approved documents to recruit and enroll subjects into this research project. OPRS/IRB no longer issues paper letters or stamped/approved documents.

Your Initial Review (Response To Modifications) was reviewed and approved by the Expedited review process on February 14, 2018. You may now begin your research

Please note the following information about your approved research protocol:

Protocol Approval Period: February 14, 2018 - February 14, 2019
Approved Subject Enrollment #: 440
Additional Determinations for Research Involving Minors: These determinations have not been made for this study since it has not been approved for enrollment of minors.
Performance Sites: UIC, Rainbow Sky Association of Thailand (RSAT)
Research Protocol(s):

a) Initial Review Application: Suicidality in Thai LGBT (Lesbian, Gay, Bisexual, and Transgender) Adults,01/28/2018

Recruitment Material(s):

a) Online Survey Completion Form in English and Thai, Version 1.2, 01/28/2018
b) The recruitment script before starting the in-person survey (English and Thai), Version 1.2, 01/28/2018
c) The snowball recruitment script after completing the in-person survey (English and Thai), Version 1.2, 01/28/2018

d) In-Person Survey Completion Form in English and Thai, Version 1.3, 02/14/2018
e) Flyer and Poster Combined English and Thai versions, Version 1.4, 02/17/2018
f) Advertisement Card in English and Thai, Version 1.4, 02/17/2018

Informed Consent(s):

a) Information Sheets (English and Thai), Version 1.2, 01/28/2018
b) A waiver of documentation (electronic consent/no written signature obtained) has been granted under 45 CFR 46.117 subjects complete all research activities online; minimal risk; subjects will be provided with an information sheet containing all of the elements of consent.

Your research meets the criteria for expedited review as defined in 45 CFR 46.110(b)(1) under the following specific category(ies):

(7) Research on individual or group characteristics or behavior (including but not limited to research on perception, cognition, motivation, identity, language, communication, cultural beliefs or practices and social behavior) or research employing survey, interview, oral history, focus group, program evaluation, human factors evaluation, or quality assurance methodologies.

Please note the Review History of this submission:

Receipt Date	Submission Type	Review Process	Review Date	Review Action
10/27/2017	Initial Review	Expedited	11/10/2017	Modifications Required
01/08/2018	Response To Modifications	Expedited	01/23/2018	Modifications Required
02/02/2018	Response To Modifications	Expedited	02/14/2018	Approved

Please remember to:

→ Use your **research protocol number** (2017-1182) on any documents or correspondence with the IRB concerning your research protocol.

→ Review and comply with all requirements on the guidance,
"UIC Investigator Responsibilities, Protection of Human Research Subjects"
(http://research.uic.edu/irb/investigators-research-staff/investigator-responsibilities).

Please note that the UIC IRB has the prerogative and authority to ask further questions, seek additional information, require further modifications, or monitor the conduct of your research and the consent process.

Please be aware that if the scope of work in the grant/project changes, the protocol must be amended and approved by the UIC IRB before the initiation of the change.

We wish you the best as you conduct your research. If you have any questions or need further help, please contact OPRS at (312) 996-1711 or me at (312) 413-1518. Please send any correspondence about this protocol to OPRS at 203 AOB, M/C 672.

Sincerely,

Alma Milat, BS
IRB Coordinator, IRB # 2
Office for the Protection of Research Subjects

Enclosure(s): Following approved recruitment and consent documents have been uploaded under "approved documents" tab in OPRSLive:

1. **Informed Consent Document(s):**
   a) Information Sheets (English and Thai), Version 1.2, 01/28/2018
2. **Recruiting Material(s):**
   a) Online Survey Completion Form in English and Thai, Version 1.2, 01/28/2018
   b) The recruitment script before starting the in-person survey (English and Thai), Version 1.2, 01/28/2018
   c) The snowball recruitment script after completing the in-person survey (English and Thai), Version 1.2, 01/28/2018
   d) In-Person Survey Completion Form in English and Thai, Version 1.3, 02/14/2018
   e) Flyer and Poster Combined English and Thai versions, Version 1.4, 02/17/2018
   f) Advertisement Card in English and Thai, Version 1.4, 02/17/2018

cc: Colleen Corte, Health Systems Science, M/C 802
Alicia K. Matthews, Faculty Advisor, Health Systems Science, M/C 802

APPENDIX A (continued)

Approval Notice

Final Report

February 6, 2019

Priyoth Kittiteerasack, PhD Student
Health Systems Science
Phone: (312) 307-2548

RE: **Protocol # 2017-1182**
"Suicidality in Thai LGBT (Lesbian, Gay, Bisexual, and Transgender) Adults"

Dear Mr. Kittiteerasack:

Your Final Report was reviewed and approved by the expedited review process on February 6, 2019.

We would like to thank you for submitting a final report to keep UIC's Human Subject Protection Program informed about your research.

If you have any questions or need further help, please contact the OPRS office at (312) 996-1711 or me at (312) 996-2014. Please send any correspondence about this protocol to OPRS via OPRSLive.

Sincerely,

Sandra Costello
Assistant Director, IRB # 2
Office for the Protection of Research Subjects

cc: Colleen Corte, Health Systems Science, M/C 802
Alicia K. Matthews (faculty advisor), Health Systems Science, M/C 802

APPENDIX B

สมาคมฟ้าสีรุ้งแห่งประเทศไทย
Rainbow Sky Association of Thailand

Rainbow Sky Association of Thailand
No. 1 and 3, Soi-Ramkhamhaeng 97/2, Huamark sub-district
Bangkapi district, Bangkok 10240 THAILAND
Tel. +66-2-731 6532/3 Fax. +66-2-731 6534
Email: info@rsat.info
www.facebook.com/rsat.info, www.rsat.info

No. RSAT 152/2560(2017)

27 September 2017

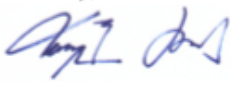
Dear: Dr. Alicia K. Matthews
Professor, Department of Health Sciences System, College of Nursing, UIC
Subject: Letter of Support

This letter is to confirm our official partnership and that Rainbow Sky Association of Thailand (RSAT) will provide support to Mr. Priyoth Kittiteerasack, a Ph.D. student at the University of Illinois at Chicago (UIC) College of Nursing, United States on the project "Suicidality in Thai LGBT (Lesbian, Gay, Bisexual and Transgender) Adults. This support will includes posting advertisements about the project in all of our sites as well as online platforms (wherever possible and appropriate) and we will grant access to Mr. Kittiteerasack to collect data from each of our site. Please note that Mr. Kittiteerasack is required to uphold Human Subjects Protection in accordance with internationally accepted standards such as the Declaration of Helsinki and the Belmont Report.

Rainbow Sky Association of Thailand (RSAT) is a registered nonprofit community organization under the National Cultural Commission of Thailand since 2003. Through our 120 staff members, seven offices across the country and four community health clinics, we are promoting health and human rights for people with sexual diversity in line with the laws of the Royal Kingdom of Thailand. We are a permanent collaborative partner with the Thai Red Cross AIDS Research Center, the Ministry of Public Health Department of Disease Control, the Bangkok Metropolitan Administration Division of AIDS, Tuberculosis and Sexually Transmitted Infections, the Ministry of Social Development and Human Security Department of Women's Affairs and Family Development and the National Human Rights Commission.

Should you have any further clarification, please do not hesitate to contact us.

Sincerely,



Rapeepun Jommaroeng, PhD Graduand, MPA, MBA, MA (Dev. Comm.), MA (Pop. & RH Res.)
Deputy secretary-general
Rainbow Sky Association of Thailand
Mobile: +66 82 098 3339
Email: rapeepun@rsat.info

สมาคมฟ้าสีรุ้งแห่งประเทศไทย
Rainbow Sky Association of Thailand

Rainbow Sky Association of Thailand
No. 1 and 3, Soi-Ramkhamhaeng 97/2, Huamark sub-district
Bangkapi district, Bangkok 10240 THAILAND
Tel. +66-2-731 6532/3 Fax. +66-2-731 6534
Email: info@rsat.info
www.facebook.com/rsat.info, www.rsat.info

No. RSAT 153/2560(2017)

27 September 2017

Dear: Mr. Priyoth Kittiteerasack
Department of Health Sciences System, College of Nursing, UIC
Subject: Letter of Confirmation

This letter is to confirm that Rainbow Sky Association of Thailand (RSAT) will provide support your study entitled "Suicidality in Thai LGBT (Lesbian, Gay, Bisexual and Transgender) Adults. This support will includes posting advertisements about the project in all of our sites as well as our Facebook Page and Twitter. We will also grant access for you to collect the data from each of our site. Please note that you are strictly required to uphold Human Subjects Protection in accordance with internationally accepted standards such as the Declaration of Helsinki and the Belmont Report.

Rainbow Sky Association of Thailand (RSAT) is a registered nonprofit community organization under the National Cultural Commission of Thailand since 2003. Through our 120 staff members, seven offices across the country and four community health clinics, we are promoting health and human rights for people with sexual diversity in line with the laws of the Royal Kingdom of Thailand. We are a permanent collaborative partner with the Thai Red Cross AIDS Research Center, the Ministry of Public Health Department of Disease Control, the Bangkok Metropolitan Administration Division of AIDS, Tuberculosis and Sexually Transmitted Infections, the Ministry of Social Development and Human Security Department of Women's Affairs and Family Development and the National Human Rights Commission.

Should you have any further clarification, please do not hesitate to contact us.

Sincerely,

Rapeepun Jommaroeng, PhD Graduand, MPA, MBA, MA (Dev. Comm.), MA (Pop. & RH Res.)
Deputy secretary-general
Rainbow Sky Association of Thailand
Mobile: +66 82 098 3339
Email: rapeepun@rsat.info

APPENDIX C

UNDERSTANDING FOR ALL

Understanding for All is a research study to evaluate mental health and define contributing factors influencing mental health among Thai LGBT (lesbians, gays, bisexual, and transgender) adults. Priyoth Kittiteerasack, a Ph.D. student at the University of Illinois at Chicago, United States, has developed this project for raising the voice of health equality from sexual and gender minorities throughout Thai communities. The research outcome will represent a broad picture of Thai LGBT health status and provide fundamental knowledge for the future research in sexual/gender minority areas. For any questions, please contact the PI (pkitti3@uic.edu) or the UIC Office for the Protection of Research Subjects (uicirb@uic.edu).

From a total of 160 questions, some sensitive ones about sexual/gender identity experience, smoking/drug use, and mental health issues will be asked. However, remember that your responses are confidential, no personal identifying information will be collected (name, address, and contact information). Due to online surveys, there are not 100% secure, and participants may experience a breach of privacy or confidentiality. Still, we will take all possible steps to reduce the risk of loss of confidentiality, such as each data set will be assigned by an ID number; only the PI has authority to access the data by requiring the username/password or the lock/key; data will be destroyed at the end of the study and presented as an overview to societies.

Interested individuals who are Thai, aged 18-60, read/write in Thai and want to participate in this study as a volunteer, please step into the questionnaire package by clicking the "Agree" button on the online screen or saying "Agree" in front of the PI. Conversely, you have the right to withdraw from the study without any conditions by clicking or saying "Disagree." By participating in this survey, there are no direct benefits, but your voice will be adding in motivating numbers of LGBT research in Thailand. This survey will take approximately 30 – 45 minutes to finish. For online participants, please be assured that you are in a convenient location with Wi-Fi access and have enough time to complete before starting the survey.

Thank you for your involvement, I do appreciate your time and effort!

We value your participation in this confidential and anonymous survey. As a token of thanks, you will be eligible to receive $3. (USD) for completing this survey.

** Thank you in advance for completing this survey **

PLEASE READ INSTRUCTIONS CAREFULLY

1. Do not put your name/personal data anywhere on this survey.
2. Please read the questions carefully and select answers by using scales/options below that best match your feelings, regardless of what others will think, there are no right or wrong answers.
3. In most cases, you will check only "one" answer for each question. However, for some questions you will be asked to check as many answers that apply to you.
4. Please answer each item on the survey unless instructed to skip a question.
5. Do not spend too much time in answering, your immediate response is likely to be the most accurate.

DEMOGRAPHIC

First, we would like to ask you a few questions about yourself and your background.

1. How old are you?.....years
2. What is the highest level of school you completed?
   - ○ No schooling
   - ○ Elementary Level
   - ○ High School
   - ○ Diploma Level
   - ○ Bachelor Level
   - ○ Graduate level or higher
3. How do you identify your nationality?
   - ○ Thailand
   - ○ Asian
   - ○ American
   - ○ European
   - ○ African
   - ○ Other…….
4. How do you identify your ethnicity?
   - ○ Thai
   - ○ Chinese
   - ○ Malay
   - ○ Mon
   - ○ Khmer
   - ○ Other……..……

5. How do you identify your religion?

○ Buddhism	○ Islam
○ Christianity	○ Hindu
○ No religious/unknown	○ Other…….

6. What Thai province do you live in? .....
7. What is your total monthly household income?

○ Less than 10,000 Bath	○ 10,001 – 20,000 Bath
○ 20,001 – 30,000 Bath	○ 30,001 – 40,000 Bath
○ 40,001 – 50,000 Bath	○ More than 50,001 Bath

8. Who are you currently living with?

○ Alone	○ Friend/roommate
○ Partner/spouse	○ Family members

9. How would you describe your <u>current</u> relationship status?

○ In married status (go to 10)	○ In unmarried status (go to 11)

10. If you are in married status, what is the best description of your status at the present?
    - ○ I'm in a monogamous relationship with my spouse
    - ○ I have another relationship with same-sex partner
    - ○ I have another relationship with opposite-sex partner
    - ○ I have another relationship with both sex partners
    - ○ Others ……..
11. If you were unmarried, what is the best description of your status at the present?
    - ○ Single/No currently in a relationship
    - ○ Dating with the but not in a committed relationship with same-sex partner
    - ○ Dating but not in a committed relationship with opposite-sex partner
    - ○ Dating but not in a committed relationship with both sex partners
    - ○ In a committed relationship with same-sex partner
    - ○ In a committed relationship with opposite-sex partner
    - ○ I have a same-sex partner, but I also have relationship with other partners
    - ○ I have a opposite-sex partner, but I also have relationship with other partners
    - ○ Others ……...

SEX AND GENDER-RELATED MEASUREMENT

This next section asks about your sexual identity and orientation

12. In terms of biological sex, what sex were you assigned at birth, meaning on your original birth certificate?

    ○ Male ○ Female

13. In terms of gender identity, what is your current gender identity?

    ○ Male ○ Female

    ○ Trans male/Trans man ○ Trans female/Trans woman

    ○ Questioning ○ Different identity (please state):……

14. In terms of gender expression, a person's appearance, style, or dress may affect the way people think of them. On average, how do you think people would describe your appearance, style, or dress? (mark one answer)

    ○ Feminine

    ○ Equally feminine and masculine

    ○ Masculine

15. In terms of sexual orientation, do you consider yourself to be:……..….

    ○ Heterosexual or straight

    ○ Homosexual or gay/lesbian

    ○ Bisexual

16. In terms of sexual behavior, in the past, with whom had you sex?

    ○ Men only ○ Women only

    ○ Both men and women ○ I have not had sex

17. In terms of sexual attraction, people are different in their sexual attraction to other people. Which best describes your feelings? Are you:……..

    ○ Only attracted to females ○ Equally attracted to females and males

    ○ Only attracted to males ○ Not sure/no-attraction

18. How old were you when you first became aware of having same-sex feelings?.....years old.

CONCEALMENT/REJECTION MEASUREMENT

Use the following rating scale to indicate how open you are about your sexual orientation to the people listed below. Please circle the number relating to your sexual status. Try to respond to all of the items but use not applicable if the question does not apply to you.

Please use these scales to explain your outness level with a person/group in each question**;**

1 = person definitely does NOT know about your sexual orientation status

2 = person might know about your sexual orientation status, but it is NEVER talked about

3 = person probably knows about your sexual orientation status, but it is NEVER talked about

4 = person probably knows about your sexual orientation status, but it is RARELY talked about

5 = person definitely knows about your sexual orientation status, but it is RARELY talked about

6 = person definitely knows about your sexual orientation status, and it is SOMETIMES talked about

7 = person definitely knows about your sexual orientation status, and it is OPENLY talked about

0 = not applicable to your situation; there is no such person or group of people in your life

Please use these scales to explain how a person/group reacts if they know your LGBT identity;

1 = Totally unaccepted (negative)

2 = Rarely unaccepted

3 = Not sure

4 = Mostly accepted

5 = Totally accepted (positive)

19. Mother	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If she knows, how did she react?	(Negative) 1-----2-----3-----4-----5 (Positive)
20. Father	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If he knows, how did he react?	(Negative) 1-----2-----3-----4-----5 (Positive)

21. Siblings: sisters, brothers	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If they know, how did they react?	(Negative) 1-----2-----3-----4-----5 (Positive)
22. Extended: family/relatives	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If they know, how did they react?	(Negative) 1-----2-----3-----4-----5 (Positive)
23. My <u>new</u> straight friends	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If they know, how did they react?	(Negative) 1-----2-----3-----4-----5 (Positive)
24. My work peers	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If they know, how did they react?	(Negative) 1-----2-----3-----4-----5 (Positive)
25. My work supervisor (s)	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If they know, how did they react?	(Negative) 1-----2-----3-----4-----5 (Positive)
26. Leaders/members of my religious community	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If they know, how did they react?	(Negative) 1-----2-----3-----4-----5 (Positive)
27. Strangers, new acquaintances	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If they know, how did they react?	(Negative) 1-----2-----3-----4-----5 (Positive)
28. My <u>old</u> heterosexual friends	1------2------3------4------5------6------7 or 0 (Definitely not knows) (Definitely knows)
If they know, how did they react?	(Negative) 1-----2-----3-----4-----5 (Positive)

29. If you are not out to all of your friends and family members, what are your reasons? (Check all that apply)

    ○ I'm out.

    ○ It is a private matter that I rarely discuss with anyone.

    ○ I'm not out because I fear losing my family and children.

    ○ I'm not out because I fear it would affect my career/education.

    ○ I'm afraid of being rejected by my friends or family members.

    ○ I'm afraid of verbal or physical violence.

    ○ I think most people know, but we just don't want to talk about it.

    ○ I have tried to come out to them, but they make it clear they don't want to talk about it.

    ○ It goes against my religion/culture, so I keep it hidden.

    ○ Other……..…

30. About how old were you when you first told someone you are LGBT?

    ○ I did not tell anyone.

    ○ When I was ..... years old.

31. Do you engage in any LGBT communities/networks/organizations?

    ○ No

    ○ Yes (please describe the name)…….

32. From the Q.31, what is the level of perceived community connectedness?

    ○ I'm not engaged in any LGBT connections.

    ○ I feel a little connected to the LGBT communities/networks/organizations.

    ○ I feel connected to the LGBT communities/networks/organizations.

    ○ I feel strongly connected to the LGBT communities/networks/organizations.

DISCRIMINATION EVENT MEASUREMENT

This next section will ask how you and others like to be treated, and how you respond.

33. Have you ever experienced discrimination, been prevented from doing something, or been hassled or made to feel inferior in any of the following situations because of your sexual orientation, gender identity, or gender presentation?

A. At home? (such as from family or relative members)

○ Never ○ Once ○ 2-3 times ○ 4 or more

B. At school? (such as from friends, teachers, or staffs)

○ Never ○ Once ○ 2-3 times ○ 4 or more

C. At temple, church, or religious places? (such as from monk or religious leaders)

○ Never ○ Once ○ 2-3 times ○ 4 or more

D. At work? (such as from senior or junior colleagues)

○ Never ○ Once ○ 2-3 times ○ 4 or more

E. Getting or losing a job? (get hire, get promote, or lose job)

○ Never ○ Once ○ 2-3 times ○ 4 or more

F. Getting or losing housing/apartment? (refused to get or rent house/apartment/hotel or evicted from house/apartment/hotel)

○ Never ○ Once ○ 2-3 times ○ 4 or more

G. Getting medical care? (such as clinic, hospital, health insurance, or equal treatment)

○ Never ○ Once ○ 2-3 times ○ 4 or more

H. Getting to public services? (such as store, restaurant, library, cleaner)

○ Never ○ Once ○ 2-3 times ○ 4 or more

I. Getting credit, bank loans, or a mortgage? (refused to get money or financial credit)

○ Never ○ Once ○ 2-3 times ○ 4 or more

J. In public settings? (such as streets, public transportations, or social networks)

○ Never ○ Once ○ 2-3 times ○ 4 or more

K. From the police or in the courts/prison? (unfair treatment by law or legal service)

○ Never ○ Once ○ 2-3 times ○ 4 or more

L. Blood or organ donation? (Refused to donate blood or organs)

○ Never ○ Once ○ 2-3 times ○ 4 or more

34. Do you think discriminations you experienced were due to your…….

A. Ethnicity	○ Yes	○ No	○ Uncertain
B. Religion	○ Yes	○ No	○ Uncertain
C. Sexual orientation	○ Yes	○ No	○ Uncertain
D. Gender identity	○ Yes	○ No	○ Uncertain
E. Gender expression	○ Yes	○ No	○ Uncertain
F Other reasons (please specific)			
-…….	○ Yes	○ No	○ Uncertain
-……..	○ Yes	○ No	○ Uncertain
-……..	○ Yes	○ No	○ Uncertain

35. If you feel you have been treated unfairly, do you usually: (please select the best response)

○ Accepted it as a fact of life

○ Tried to do something about it

36. If you have been treated unfairly, do you usually: (please select the best response)

○ Accepted it as a fact of life

○ Tried to do something about it

○ Worked harder to prove them wrong

○ Realized that you brought it on yourself

○ Talked to someone about who you were feeling

○ Expressed anger or got mad

○ Prayed about the situation

VICTIMIZATION EVENT MEASUREMENT

This next section asks about your victimization experience. Please indicate your agreement with each of the following statements by using the options below.

37. When you were growing up (before age 18), how often were you harassed (e.g. name calling, jokes, fights) for being or appearing to be LGBT?

    ○ Never happened ○ Sometimes happened

    ○ Often happened ○ Happened almost daily

38. After age 18, how often have you been harassed (e.g. name calling, jokes, fights) for being or appearing to be LGBT?

    ○ Never happened ○ Sometimes happened

    ○ Often happened ○ Happened almost daily

39. How worried are you about being physically attacked because of your sexual orientation?

    ○ Never worried ○ Sometimes worried

    ○ Often worried ○ Very worried

40. How worried are you about being physically attacked because of your gender identity?

    ○ Never worried ○ Sometimes worried

    ○ Often worried ○ Very worried

41. How worried are you about being physically attacked because of your gender expression?

    ○ Never worried ○ Sometimes worried

    ○ Often worried ○ Very worried

INTERNALIZED HOMOPHOBIA MEASUREMENT

The following are several statements that you may agree or disagree. Please indicate your agreement with each of the following statements by using the answers below. There are no right or wrong answers. Please answer each question as honestly as possible.

Statement	Disagree strongly	Disagree moderately	Neutral	Agree moderately	Agree strongly
42. I wish I weren't LGBT					
43. I have tried to stop being attracted to people of my same sex or gender.					
44. If someone offered me the chance to be completely heterosexual, I would accept the chance.					
45. I feel that being lesbian/gay/bisexual/transgender is a personal weakness for me.					
46. I would like to get professional help in order to change my sexual orientation from LGBT to heterosexual.					
47. I wish I was more like a regular man or woman.					

HEALTH STATUS MEASUREMENT

The following questions ask for your views about your health, how you feel and how well you can do usual activities. If you are unsure how to answer any questions, please give the best answer you can.

48. In general, would you say your health is ……

- ○ Excellent
- ○ Very good
- ○ Good
- ○ Fair
- ○ Poor

49. Are you now limited in moderate activities, such as moving a table, pushing a vacuum cleaner, dancing, aerobics, or jogging? Does your health limit you much, little or not at all?

- ○ Yes, limited much
- ○ Yes, limited a little
- ○ No, not limited at all

50. How about climbing several flights of stairs? Would you say your health does not limit you much, little or not at all?

- ○ Yes, limited much
- ○ Yes, limited a little
- ○ No, not limited at all

51. During the past four weeks, how much time have you had with any of the following problems in your work or regular daily activities as a result of your physical health? How much time have you accomplished less than you would like?

- ○ All of the time
- ○ Most of the time
- ○ Some of the time
- ○ A little of the time
- ○ None of the time

52. How much time were you limited in the kind of work or other activities you could do?
    - ○ All of the time
    - ○ Most of the time
    - ○ Some of the time
    - ○ A little of the time
    - ○ None of the time
53. During the past four weeks, how much pain interfered with your normal work including both outside the home and housework, would you say……...?
    - ○ Extremely
    - ○ Quite a bit
    - ○ Moderately
    - ○ A little bit
    - ○ Not at all
54. How much time during the past four weeks did you have much energy? Would you say….?
    - ○ All of the time
    - ○ Most of the time
    - ○ Some of the time
    - ○ A little of the time
    - ○ None of the time
55. During the past four weeks, how much time have you had any of the following problems with your work or other daily activities as a result of any emotional problems (i.e., feeling depressed or anxious). How much time have you accomplished less than you would like?
    - ○ All of the time
    - ○ Most of the time
    - ○ Some of the time
    - ○ A little of the time
    - ○ None of the time
56. How much time did you have trouble doing work or other activities as carefully as usual?
    - ○ All of the time
    - ○ Most of the time
    - ○ Some of the time

○ A little of the time

○ None of the time

57. How much time during the past four weeks have you felt calm and peaceful? Would you say…..?

○ All of the time

○ Most of the time

○ Some of the time

○ A little of the time

○ None of the time

58. How much time during the past four weeks have you felt downhearted and blue?

○ All of the time

○ Most of the time

○ Some of the time

○ A little of the time

○ None of the time

59. During the last four weeks, how much time has your physical health or emotional problems interfered with your social activities, like visiting with friends, relatives, etc.?

○ All of the time

○ Most of the time

○ Some of the time

○ A little of the time

○ None of the time

60. Do you have chronic diseases? Please check all apply the diseases you have.

	Do you have this problem?		Do you receive treatment?	
Heart disease	○ Yes	○ No	○ Yes	○ No
High blood pressure	○ Yes	○ No	○ Yes	○ No
Lung disease	○ Yes	○ No	○ Yes	○ No
Diabetes	○ Yes	○ No	○ Yes	○ No
Ulcer or stomach disease	○ Yes	○ No	○ Yes	○ No
Kidney disease	○ Yes	○ No	○ Yes	○ No

Liver disease	○ Yes	○ No	○ Yes	○ No
Cancer	○ Yes	○ No	○ Yes	○ No
Depression/psychiatric disease	○ Yes	○ No	○ Yes	○ No
Osteoarthritis/arthritis	○ Yes	○ No	○ Yes	○ No
HIV/AIDS	○ Yes	○ No	○ Yes	○ No
Others……	○ Yes	○ No	○ Yes	○ No

61. Regarding sexual behavior, I only have sexual intercourse with my partner without using condoms.

○ Every time ○ Most of the time

○ Sometime ○ None

62. I also have sexual intercourse with someone else who is not my partner without using condoms.

○ Every time ○ Most of the time

○ Sometime ○ None

63. I always refuse to have sexual intercourse without protection.

○ Every time ○ Most of the time

○ Sometime ○ None

64. According to your health care insurance, does it cover most of your health care needs?

○ Yes ○ No

65. How long has it been since you have seen a doctor or nurse for a checkup?

○ Within 6 months ○ Within 7 – 12 months

○ About 1 – 3 years ○ About 3 – 5 years

○ More than 5 years ○ I’ve never been to a doctor or nurse

SUBSTANCE USE MEASUREMENT

Now, we would like to ask you a few questions about your health history. We are also interested in learning about your lifestyle and behaviors that may affect your health.

66. Smoking status

- ○ I currently smoke cigarettes
- ○ I used to smoke but I quit
- ○ I've never smoked cigarettes

67. If you smoke, how many cigarettes do you smoke each day?.....per day.

68. Think back over the last 12 months, about how often did you drink alcoholic beverages? Would you say it was……...?

- ○ At least once a day
- ○ Several times a week
- ○ Several times a month
- ○ Once a month or less
- ○ Not at all (Skip to 72)

69. Think back over the last 12 months, about how many drinks would you have on a usual day when you drank?

- ○ 1 or 2 drinks
- ○ 3 or 4 drinks
- ○ 5 or 6 drinks
- ○ 7 or 8 drinks
- ○ 9 or more drinks

70. Have you ever sought treatment for drinking or alcohol use?

○ Yes ○ No

71. Are you currently in any kind of treatment for drinking or alcohol use?

○ Yes ○ No

72. Have you ever used any kind of drugs before?

○ Yes ○ No (Skip to 77)

73. If yes, have you ever used any of the following drugs? (please check X)

Drug	Before 3 months		Within past 3 months	
	Yes	No	Yes	No
A. Depressant drugs (opium, morphine, heroin, inhalants, LSD, sleeping pills, sedative drugs, antidepressant drugs, alcohol, barbiturates, gasoline, lacquer, thinner)				
B. Stimulants drugs (amphetamine, cocaine, weed, ecstasy, amphetamine, caffeine drinking)				
C. Hallucinogen drugs (LSD, DMP, ketamine, psilocybin mushroom)				
D. Mixed sort drugs (marijuana)				
E. Others (please describe) -……..…… -……..……				

74. How do you use drugs?

○ Injection ○ Smoke, Inhalation

○ Eat, chew, suck ○ Rub, apply on skin

○ Others…….

75. Have you ever sought treatment for drug use or addiction? ○ Yes ○ No

76. Are you currently in any kind of treatment for drug use? ○ Yes ○ No

<u>"This survey includes 160 questions. You are almost halfway finished."</u>

The following items will ask you regarding your mental health status including various emotional questions, such as, suicidal behavior, depression, and stress.

If you feel uncomfortable, you can contact the various mental health clinics across the country as stated in the link (<u>click here</u>) or at the end of the survey.

"Please note that we are concerned about your feelings and we're happy to help you"

SUICIDAL BEHAVIOR MEASUREMENT

77. Have you ever felt so sad, blue, or unhappy you wanted to die?

○ Yes ○ No

78. In the past 12 months, have you felt so low you have thought of killing yourself?

○ Yes ○ No

79. Have you ever tried to take your own life? (attempted suicide)?

○ Yes ○ No (skip to 82)

80. How old were you when you attempted suicide?

1st time…….years old

2nd time…….years old

3rd time…….years old

If you attempted more than three times, please describe the age and the number

……

……

81. What was the main reason for your suicide attempt(s)?

……

……

82. If you ever had stress, depression, suicidal behavior, or mental health needs, have you ever received health care services?

○ Yes ○ No (Skip to 85)

83. What types of services did you receive? (Check all that apply)

○ Medication ○ Group therapy

○ Counseling ○ Others…….

84. Were the services useful or effective?

○ Yes ○ No

85. Currently, what types of mental health services do you feel you need? (Check all that apply)

○ Medication ○ Group therapy

○ Counseling ○ Others…….

STRESS MEASUREMENT

This section asks about stress. Please select by marking an X for each that matches with the most symptoms you have experienced during the past four weeks.

Symptoms, Behaviors, or Feeling	Level			
	Rarely	Occasionally	Frequently	Usually
86. Having sleep problems (insomnia or hypersomnia)				
87. Attention deficit				
88. Frustrated, distracted, restless				
89. Bored, exhausted				
90. Social isolation				

LONELINESS MEASUREMENT

INSTRUCTIONS: Indicate how often each of the statements below is descriptive of you.

Statement	Never	Rarely	Sometimes	Often
91. How often do you feel that you are "in tune" with the people around you?				
92. How often do you feel that you lack companionship?				
93. How often do you feel that there is no one you can turn to?				
94. How often do you feel alone?				
95. How often do you feel part of a group of friends?				
96. How often do you feel that you have a lot in common with the people around you?				
97. How often do you feel that you are no longer close to anyone?				
98. How often do you feel that your interests and ideas are not shared by those around you?				
99. How often do you feel outgoing and friendly?				
100. How often do you feel close to people?				
101. How often do you feel left out?				
102. How often do you feel that your relationships with others are not meaningful?				
103. How often do you feel that no one really knows you well?				
104. How often do you feel isolated from others?				
105. How often do you fee1 you can find companionship when you want it?				
106. How often do you feel that there are people who really understand you?				

107. How often do you feel shy?				
108. How often do you feel that people are around you but not with you?				
109. How often do you feel that there are people you can talk to?				
110. How often do you feel that there are people you can turn to?				

DEPRESSION MEASUREMENT

These questionnaires consist of 20 groups of statements. Please read each group of statements carefully, and then pick out the <u>one statement</u> in each group that best describes the way you have been feeling during the <u>past two weeks, including today.</u> Circle the number beside the statement you have chosen. If several statements in the group seem to apply equally well, circle the highest number for that group.

111. 0 – I do not feel sad.
1 – I feel sad.
2 – I am sad all time and I can't snap out of it.
3 – I am so sad and unhappy that I can't stand it.

112. 0 – I am not particularly discouraged about the future.
1 – I fell discouraged about the future.
2 – I feel I have nothing to look forward to.
3 – I feel the future is hopeless and that things cannot improve.

113. 0 – I am not a failure.
1 – I feel I have failed more than the average person.
2 – As I look back on my life, all I can see are many failures.
3 – I feel I am a complete failure as a person.

114. 0 – I get as much satisfaction out of things as I used to.
1 – I don't enjoy things the way I used to.
2 – I don't get real satisfaction out of anything anymore.
3 – I am dissatisfied or bored with everything.

115. 0 – I don't feel particularly guilty.
1 – I feel guilty a good part of the time.
2 – I feel quite guilty most of the time.
3 – I feel guilty all of the time.

116. 0 – I don't feel I am being punished.
1 – I feel I may be punished.
2 – I expect to be punished.
3 – I feel I am being punished.

117. 0 – I don't feel disappointed in myself.

1 – I am disappointed in myself.

2 – I am disgusted with myself.

3 – I hate myself.

118. 0 – I don't feel I am any worse than anybody else.

1 - I am critical of myself for my weaknesses or mistakes.

2 – I blame myself all the time for my faults.

3 – I blame myself for everything bad that happens.

119. 0 – I don't cry any more than usual.

1 – I cry more now than I used to.

2 – I cry all the time now.

3 – I used to be able to cry, but now I can't cry even though I want to.

120. 0 – I am no more irritated by things than I ever was.

1 – I am slightly more irritated now than usual.

2 – I am quite annoyed or irritated a good deal of the time.

3 – I feel irritated all the time.

121. 0 – I have not lost interest in other people.

1 – I am less interested in other people than I used to be.

2 – I have lost most of my interest in other people.

3 – I have lost all of my interest in other people.

122. 0 – I make decisions as well as I ever could.

1 – I put off making decisions more than I used to.

2 – I have greater difficulty in making decisions more than I used to.

3 – I can't make decisions at all anymore.

123. 0 – I don't feel that I look any worse than I used to.

1 – I am worried that I am looking old or unattractive.

2 - I feel there are permanent changes in my appearance that make me look unattractive.

3 – I believe that I look ugly.

124. 0 – I can work as well as before.

1 – It takes an extra effort to get started doing something.

2 – I have to push myself very hard to do anything.

3 – I can't do any work at all.

125. 0 – I can sleep as well as usual.

1 – I don't sleep as well as I used to.

2 – I wake up 1 – 2 hours earlier than usual and find it hard to get back to sleep.

3 – I wake up several hours earlier than I used to and cannot get back to sleep.

126. 0 – I don't get more tired than usual.

1 – I get tired more easily than I used to.

2 – I get tired from doing almost anything.

3 – I am too tired to do anything.

127. 0 – My appetite is no worse than usual.

1 – My appetite is not as good as it used to be.

2 – My appetite is much worse now.

3 – I have no appetite at all anymore.

128. 0 – I haven't lost much weight, if any, lately.

1 – I have lost more than five pounds.

2 – I have lost more than ten pounds.

3 – I have lost more than fifteen pounds.

129. 0 – I am no more worried about my health than usual.

1 – I am worried about physical problems like aches, pains, upset stomach, or constipation.

2 – I am very worried about physical problems and it's hard to think of much else.

3 – I am so worried about my physical problems that I cannot think of anything else.

130. 0 – I have not noticed any recent changes in my interest in sex.

1 – I am less interested in sex than I used to be.

2 – I have almost no interest in sex.

3 – I have lost interest in sex completely.

I do appreciate your effort and time. You have finished more than half.

From this point, it will take approximately 10 minutes to complete.

Please note that we are concerned about your feelings. We also provide the contact information of excellent mental health clinic at the end of the survey.

SOCIAL SUPPORT MEASUREMENT

INSTRUCTIONS: Please select the best answer describing the social support you've received

Situation	True	Partly true	Not true
131. Social Support: Information			
A. You have an opportunity to meet and talk with others about health.			
B. You have an opportunity to listen to radio, watch TV or read a book about healthy information.			
C. You have a chance to receive useful information from health care providers.			
D. You have been advised rights and benefits of heath assistance from others.			
E. You receive health information from multimedia.			
F. You promptly have health assistance giving advice when having problems.			
132. Social Support: Resources			
A. Health facilities provide care for you as well.			
B. You can receive help from neighbors or others, such as food, clothing, labor or money when you live in the same environment.			

C. Neighbors or others allow you to join or participate in social activities.			
D. You receive help about job opportunities from organizations.			
E. You receive medical care privileges.			
F. You have resources providing goods/money when you have problems.			
133. Social Support: Emotional and Social			
A. Relatives, neighbors or others likely visit you and your family regularly.			
B. When you have problems, you can consult with other people pleasantly.			
C. Others share generosity and concern about you and your family.			
D. Neighbors or others supply truth and fidelity to you and your family.			
E. You and your family have roles to help the community and society.			
F. You/your family have opportunities to participate in community activities.			
G. In this community, you and your family are liked more than disliked.			
H. You enjoy living in this community and do not think about moving anywhere else.			

COPING MEASUREMENT

In difficult and troubling situations, you would have several reactions to circumstances. These questions ask you about how you did when confronted with these situations. Please carefully read and select the answer that best matches your feelings.

Method	Usually	Frequently	Fair	Rarely	None
134. I begin to resolve the cause of problems.					
135. I try to complete work before the due date.					
136. I express my feelings with someone, and then I feel better.					
137. I solve the problem step by step.					
138. I take care of myself to be healthy, such as exercise, sports, and nutritious food.					
139. I discuss the issue with others to find the solution.					
140. I suppress emotions and feelings.					
141. I ask for help from teachers or friends.					
142. I hope that a miracle will happen to bring back good luck.					
143. I think I am the cause of the problem.					
144. I eat or sleep different from what I used to do.					
145. I search for the best way out to solve the problems.					
146. I act after consideration.					
147. I discuss my problems and feel people understand me.					
148. I am concerned about my future.					

149. I consider each step of resolution before solving problems.					
150. I think about the problem's solution without interferences.					
151. The experience forces me to improve and change myself.					
152. I am hopeless about the future					
153. I blame myself.					
154. I exercise to relieve stress.					
155. I try to tell myself certain events have not happened.					
156. I recognize the problem and try to understand it.					
157. I improve relationships with others.					
158. I don't feel well.					

159. How did you learn of this study?

○ RSAT staff/organization ○ Website/Webpage//Facebook

○ Flyer/bulletin board ○ Friends

○ The researcher ○ Others……

160. How are you completing this survey?

○ By online ○ By paper-pencil

"You have completed the questionnaire."

The next section will provide social support and mental health clinics/counseling centers. They are willing to serve you.
We appreciate your time and effort and would like to offer you 3 USD as an incentive provided in the next section.

If you would like to speak with Priyoth Kittiteerasack (the principle investigator of this project) about any aspect of this study, you may contact him directly at tel- …….. or pkitti3@uid.edu. If you have any questions concerning your rights in connection with the study, you may contact the Rainbow Sky Association of Thailand (tel-……) or the UIC office for the Protection of Research Subjects: OPRS (uicirb@uic.edu). As noted in the beginning of the survey, we understand that some of the questions asked may have caused you some sadness, anxiety, or stress; please be aware that these feelings are normal. However, you are encouraged to contact the service providers listed in the Resource List, please feel free to consult with them. Included in the list below are many excellent resources for counselling available for you in the community. These lists are provided for your benefit and we hope you find them helpful.

1. Hotline (Department of Mental Health, Thailand) 1667, 1323
2. Rainbow Sky Association of Thailand
   - Central region 0-2993-6207
   - North-east region 045-957070
   - Northern region 084 040 5592
   - Eastern region 0-3845-5508
   - Southern region 0-7423-2101 ext. 16
   - Western region 0-7423-2101 ext. 11
3. Online resources
   - Department of Mental Health, Thailand http://www.forums.dmh.go.th/index.php
   - Thailand Medical Clinic http://www.thaiclinic.com/link/1667.html
   - Bangkok Counseling Service http://www.bangkokcounsellingservice.com/site-map

Thank you for your interest in the "Understanding for All" project and complete the survey. I'm writing to ask whether you would be willing to pass along the enclosed information to friends and/or social networks who may also be interested in sharing their experience. You are under no obligation to share this information and whether or not you share this ad-link will not affect to you.

Again, thank you for your consideration and participant in this study

Facebook Link: https://www.facebook.com/Understanding-for-All-200834853760738

REMINDER: In appreciation for your time and effort, you are eligible to receive $3 (USD) for completing this survey.

Participant Incentive Receipt Form

1. Paper pencil technique:

CONGRATULATIONS on your decision to participate in the project

"*Understanding for All*"

I do appreciate that you completed this survey. Thank you again for raising your voice to Thai societies. I would like to compensate your time with this incentive. Please sign up for receiving the gift card for participating in the "*Understanding for All*" project. This gift card is worth $3 (100 Baht), which you can use to purchase anything at 7-11 convenience stores.

_____ _____

Signature Date

Please note: In order to maintain the confidentiality of your identity, this incentive record **will not be kept** in the study dataset. Instead, the support verifying that the participant received the incentive is maintained by the Principal Investigator only.

2. Online technique

CONGRATULATIONS on your decision to participate in the project

"*Understanding for All*"

I do appreciate that you completed survey. Thank you again for raising your voice to Thai societies. I would like to compensate your time with this incentive. Please provide your email/phone number at the PI's email for receiving the gift card for participating in the "*Understanding for All*" project. This gift card is worth $3 (100 Baht), which you can use to purchase anything at 7-11 convenience stores. Please fill the information, copy messages in the box, and send to the PI (pkitti3@uic.edu). Then, the gift card will be directly sent to you.

I am a volunteer for research projects "Understanding for All." This email is being sent to the researcher so I may receive 100 baht as a gift-voucher. I allow the researcher to submit the gift-voucher code by replying via this email or by phone number, using this information for research purposes only. (Copy this message and send email/message to the PI).

Please note: In order to maintain the confidentiality of your identity, this incentive record **will not be kept** in the study dataset. Instead, the support verifying that the participant received the incentive is maintained by the Principal Investigator only.

CURRICULUM VITA

NAME:	Priyoth Kittiteerasack
EDUCATION:	Ph.D., Nursing, University of Illinois at Chicago, 2020 M.S.N, Nursing, Chulalongkorn University, Bangkok, Thailand, 2004 BSN, Nursing, Burapha University, Chonburi, Thailand, 1999
PROFESSIONAL EXPERIENCE:	Assistance Professor, Thammasat University, Thailand, 2015-present Assistant Dean of International Affairs, Faculty of Nursing, Thammasat University, Thailand, 2013-2014 Nursing Instructor, Thammasat University, Thailand, 2007-2015 Nursing Instructor, Srinakharinwirot University, Thailand, 2004-2007 Registered nurse, Rayong Hospital, Thailand, 1999-2002
RECOGNITION, HONORS, AND AWARDS:	Seth and Denise Rosen Memorial Research Award, UIC, 2020 Dean Fund College of Nursing Award to Represent UIC as Student Poster Competition in the 44th MNRS (Midwest Nursing Research Society) Annual Research Conference, Schaumburg IL, 2020 Helen Grace Funds for Student Poster Presentation in the 2020 ICPMHN (International Conference on Psychiatric-Mental Health Nursing), Miami FL, 2020 Dean Fund College of Nursing Award to Represent UIC as Student Poster Competition in the 43rd MNRS (Midwest Nursing Research Society) Annual Research Conference, Kansas City MO, 2019 Traveling Award to attend the Mini-Symposium hosted by Nursing Journal of Indonesia, 2019 Ph.D. Alumni Award, UIC, 2019 College of Nursing PhD Student Research Award, 2019 Represented as a UIC Student Who Pursued Pursue College/Career Success, UIC On Course e-Newsletter, 2019 Student/Trainee Scholarship for the 35th GLMA (Health Professionals Advancing LGBT Equality) Annual Conference, 2017 Virginia M. Ohlson (International Student) Award, 2016 Scholarship for studying a doctoral degree from Thammasat University, Thailand, 2014
PUBLICATIONS:	**Kittiteerasack, P.,** Matthews, A. K., & Park, C. (2020). Psychometric Properties of the Measure of Internalized Sexual Stigma in LGBT Populations. *Thai Science and Technology Journal* (under review). **Kittiteerasack, P.,** Steffen, A. &Matthews, A. K. (2020). The Influence of Minority Stress on Depression among Thai LGBT Adults. *Nursing Journal of Indonesia*. (in-press).

CURRICULUM VITA (continued)

Kittiteerasack, P., Matthews, A. K., & Park, C. (2020). Content Validity and Reliability of the Thai version of Experience of Discrimination (EOD) Measure for Lesbian, Gay, Bisexual, and Transgender (LGBT) Research in Thailand. *The Journal of Psychiatric Nursing and Mental Health.* (in-press)

Kittiteerasack, P., Matthews, A. K., & Steffen, A. & (2019). The Validity and Linguistic Testing of Translated Measures of Sexual Orientation and Gender Identity for Research in Lesbian, Gay, Bisexual, and Transgender (LGBT) Populations in Thailand. *Nursing Journal. 46*(4). 122-137.

Kittiteerasack, P. & Matthews, A. K. (2019). Minority Stress Model (MSTM): A Conceptual Framework of Mental Health Risk in Sexual and Gender Minority Populations. *The Journal of Psychiatric Nursing and Mental Health. 33*(1). 1-12.

Matthews A. K., Breen, E. & **Kittiteerasack, P.** (2018). Social Determinants of LGBT Cancer Health Inequities. *Seminars in Oncology Nursing.* 34(1). 12-20.

Kittiteerasack, P., Sangngam, J. & Matthews, A. K. (2017). The Fundamentals of Child and Adolescent Nursing in Improving Mental and Psychosocial Health among Gender Variant Children in Thailand. *Journal of Nursing Science* 36(1). 4-16.

Kittiteerasack, P. & Matthews, A. K. (2017). Definitional Issues in the Study of Sexual/Gender Diversity among Sexual/Gender Minority Populations in Thailand. *The Journal of Psychiatric Nursing and Mental Health*. 31(2), 1-15.

Kittiteerasack, P. & Muijeen, K. (2015). Psychometric Properties of the Thai version of the Scale for Suicidal Ideation (SSI-Thai Version 2014). *The Journal of Psychiatric Nursing and Mental Health.* 29(1), 93-102.

Kittiteerasack, P. (2012). Trend and Assistance of Suicidal Behavior. *The Thammasat Journal of Science and Technology*, 20(5).

Sumneangsanoh, T. & **Kittiteerasack, P.** (2008). Study of Knowledge and Skill for Substance Abuse Relapsing Prevention of Substance Abuse Users Before and After Utilizing Intervention Programs. *The Journal of Psychiatric Nursing and Mental Health.* 22, 69 – 82.

CURRICULUM VITA (continued)

BOOK CHAPTERS: Khamphalikhit, S. and others (2012). The Manuals of Health Promotion in Under-Graduate Nursing Students. Khon Kaen. Khon Kaen University.

Senadisai, S. and others (2012). Tobacco and Health: Role of Nursing Professional Toward Tobacco Free Environment. 2nd edition. Bangkok, Thailand Tobacco-Free Nurse' Network.

Boonthong, T. and others. (2008). Tobacco and Health: Role of Nursing Professional Toward Tobacco Free Environment. Chiang Rai. Chiang Rai Rung Roj.

POSTER PRESENTATIONS: **Kittiteerasack, P.**, Steffen, A. & Matthews, A. K. (2020, April). The Influence of Minority Stress on Indicators of Suicidality among Thai Lesbian, Gay, Bisexual, and Transgender Adults. Accepted for a poster presentation session for MNRS 44rd Annual Research Conference, Schaumburg, IL

Kittiteerasack, P., & Matthews, A. K. (2020, March). Psychometric Properties of the Thai Version of Experience of Discrimination Measure for Lesbian, Gay, Bisexual, and Transgender Research. Accepted for a poster presentation session for 12th Annual Brinson Foundation Nursing Research and Evidence-Based Practice Symposium, Chicago, IL

Kittiteerasack, P., & Matthews, A. K. (2020, March). Prevalence Rates of Mental Health Disparities among Non-Heterosexual Men in Thailand, Where Inequity of LGBT-Rights and Laws Exists. Accepted for a poster presentation session for Queertopia 2020: New Queer and Trans Politics?, Chicago, IL

Kittiteerasack, P., Steffen, A. & Matthews, A.K. (2020, March). The Influence of Minority Stress on Depression among Thai Lesbian, Gay, Bisexual, and Transgender Adults. Accepted for an oral presentation session for ICPMHN 2020: International Conference on Psychiatric-Mental Health Nursing, Miami, FL

Kittiteerasack, P. & Matthews, A. K. (2019, March). Validation of Translated Measures of Sexual Orientation and Gender Identity (SOGI) for Use in Lesbian, Gay, Bisexual, and Transgender (LGBT) Research in Thailand. Accepted for a poster presentation session for MNRS 43rd Annual Research Conference, Kansas City, MO

Kittiteerasack, P. & Matthews, A. K. (2019, March). The Validation of Linguistic Comprehension and Acceptability of Translated Measures of Sexual Orientation and Gender Identity (SOGI) for Use in Thai LGBT

Research. Accepted for a poster presentation session for 2019 Annual CUGH (Consortium of Universities for Global Health) Global Health Conference: Translation and Implementation for Impact in Global Health. Chicago, IL

Kittiteerasack, P. & Matthews, A. K. & Park, C. (2018, April). Validation of Translated Measures of SOGI for Use in LGBT Research in Thailand. Accepted for a poster presentation session for MNRS (Midwest Nursing Research Society) 42nd Annual Research Conference, Cleveland, OH

CONTENT EXPERT EXPERIENCES:

Development of suicidal ideation detection tests in patients with depressive disorder: Electroencephalogram study (Doctoral Dissertation, Burapha University Thailand), 2020

The Effect of a Brief Intervention Program on Suicidal Ideation in Suicidal Attempter (Master Thesis, Chulalongkorn University Thailand), 2017

The Relationship Between Social Support and Suicidal Ideation in Depressive Patients Who Admitted in Psychiatric Hospital, Southern Thailand (Master Thesis, Prince of Songkla University Thailand), 2016

The Effect of Motivational Interviewing to Enhance Living Program on Suicide Ideation Among Alcohol Use Disorders (Master Thesis, Chulalongkorn University Thailand), 2016

PROFESSIONAL MEMBERSHIP:

Midwest Nursing Research Society
The Nurses' Association of Thailand
Psychiatric Nurse Association of Thailand
Journal of Psychiatric Nursing and Mental Health, Thailand

LICENSE, CERTIFICATE, TRAINING:

How to write manuscript topics that can be an international context: Manuscript Clinic, Mini Symposium Jurnal Keperawatan Indonesia 2019, Jakarta, Indonesia, 2019
Short Course in Clinical and Translational Research Method, UIC, 2019
Nursing License Grade I, Thailand Nursing and Midwifery Council, Thailand, 2019
Certificate of Collaborative Institutional Training Initiative Program (CITI Program), UIC, 2016
Certificate of Completion CER: Community Engaged Research Boot Camp 2015, UIC, 2015