



## Stress of Male Homosexual Students: A Structure Model

Prawichaya Nutthakornkul<sup>1</sup> --- Prasart Isarapreeda<sup>2\*</sup>

<sup>1</sup>Social Technology Faculty, Rajamangala University of Technology, Isan, Kalasin Campus, Thailand

<sup>2</sup>Faculty of Education, Chaiyaphum Rajabhat University, Thailand

### Abstract

**Objective:** To investigate male homosexual students' stress and validate the consistency of the male homosexual students' stress model and empirical data. **Materials and Methods:** A snowball technique was used to recruit 416 male homosexual students studying in the academic year 2010 at the institutions of higher education in the northeastern region of the Kingdom of Thailand. The instrument used was a questionnaire eliciting data concerning stress with fifteen item, 3 factors namely depressive factor consisted of 5 aspects including feeling of inferiority, loneliness, lament, committing suicide, and despair. The anxiety factor consisted of 5 aspects including feeling fear, jittery, impatient, restless, and terrorized. The hostility factor consisted of 5 aspects including feeling moody, cross, agitated, hassle, and pernicious. The collected data were analyzed through computer program. **Results:** The male homosexual students showed stress, as a whole, in a moderate level. The confirmatory factor analysis of stress model revealed 3 factors namely depressive anxiety and hostility factor. The results revealed that depressive factor was the most important for stress model, anxiety and hostility factor, followed by factor loading ranking. The validation of a goodness of fitted model yielded  $\chi^2 = 220.55$ ,  $df = 113$ ,  $p = .00$ ,  $\chi^2/df = 1.95$ ,  $GFI = .95$ ,  $AGFI = .94$ ,  $CFI = .99$ ,  $RMR = .04$  and  $RMSEA = .04$ . **Conclusion:** The stress model of male homosexual students revealed 3 factors namely depressive anxiety and hostility factors. The variables in this stress model exhibited congruence with the empirical data collected by the researcher at a statistically significant level.

**Keywords:** Stress. Male homosexual students.



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### 1. Introduction

The Thai society has positive and negative attitudes towards the male homosexual or the men loving/having sex with men. Seemingly, the negative one is more influential, particularly the family members' negative reactions. According to a study in the U.S., 30% of male homosexuals report that their family members express the negative reactions after disclosing their sexual orientation (Telljohan and Price, 1993). This may explain why most of them (77%) unveil it to their close friends and why only 33% of family members and 43% of the general public (e.g. workplaces or educational institutions) are told about the male homosexuality. Perkins (2003) Under the social value, the male homosexuality should be kept in secrete because it is embarrassing, saddens the parents and causes the family's negative reactions. The male homosexuals' experience of being humiliated and different from others as well as social bias and hatred towards them may be an important cause of their stress leading to their feelings of loneliness, depression, anxiety and hostility.

Also, the bias and hatred may hurt or threaten their emotions and contribute to a low level of self-esteem. Savin-Williams (1995) Their behavioral self-control may be severely impacted, which has a positive relation with the unsafe anal sex - a contributory factor of the infection of sexually transmitted diseases e.g. AIDS and with the suicidal risk.(D'Augelli, 1992; Martin and Knox, 1997) The researchers thus desire to develop a structure model of stress of male homosexual students at the institutions of higher education in the northeastern region of the Kingdom of Thailand. The confirmatory factor analysis is conducted in order to reflect the factors that precisely agree with the actual conditions of stress along, while the conceptual framework and research result of Crepaz and Marks are applied. Crepaz and Marks (2001) Both of them believe that the depressive, anxiety and hostility factors are the 3 problematic behaviors that cause the male homosexuals' stress as shown in Figure 1.

All these factors have a very close relation with the health risks because, with a very high level of stress, the normal behavior control can be negatively and severely affected resulting in the behavioral deviance (Department of Mental Health, 1999) AIDS-risk behaviors and suicide, which is eventually the loss of valuable human resources.

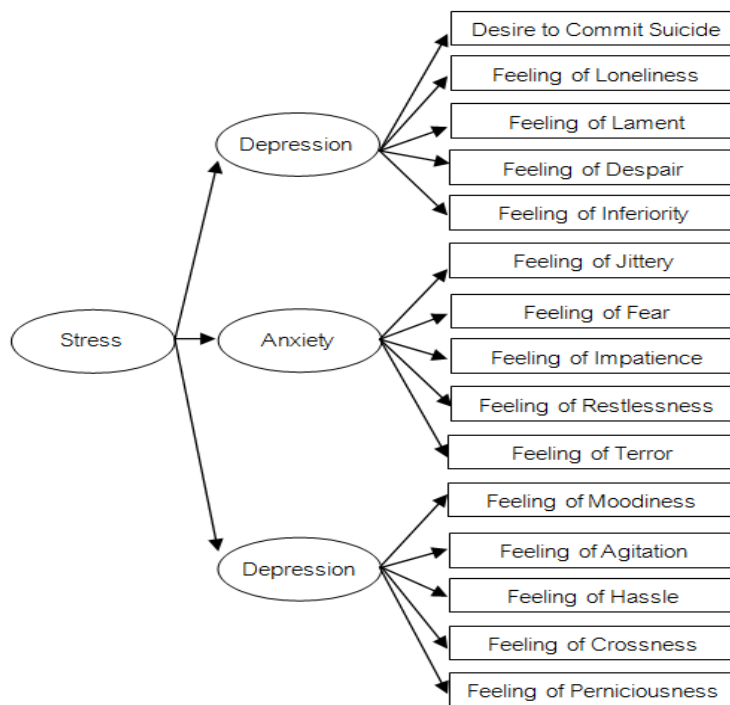


Figure-1. A Structure Model of Stress of Male Homosexual Students at the Institutions of Higher Education in the Northeastern Region

### 2. Research Instrument and Methodology

The survey research technique is used in this study because the exact number of the male homosexual students at the institutions of higher education in the northeastern region, academic year 2010, is unknown. Therefore, the sample size is determined based on the results of the previous study. (Phanomketman; Wipha and Atcharaphorn, 2004) It is believed that the male homosexual students account for approximately 10% of total male populations. According to the matrix of Krejcie and Morgan (1970) the sample consists of 369 persons but, in this particular research, the sample size is increased by 16% to 416 persons. The snowball technique is then used in the selection of sample from the 4 categories of institutions of higher education in northeastern region as shown in Table 1.

Table-1. Amount of Populations and Samples of Male Homosexual Students at the institutions of higher education in northeastern region, academic year 2010

Categories of Institutions of Higher Education in Northeastern Region	Populations (Persons)	Sample (Persons)
Rajamangala University of Technology Isan	1,194	51
Rajabhat University	4,571	197
Other Public Universities	2,999	130
Private Institutions of Higher Education	923	38
Total	9,687	416

The data collection instrument is the fifteen-item questionnaire. According to the expert's opinions, the question items have an index of congruence between .80 and 1.00 and validity of .93. The t-test is used in identifying the

discrimination, which is between 5.15 and 8.51. The questionnaire reliability as measured by Cronbach’s alpha coefficient is .91. It consists of 3 following parts:

- Part 1: It has 5 question items concerning the depression assessment.
- Part 2: It has 5 question items concerning the anxiety assessment.
- Part 3: It has 5 question items concerning the hostility assessment.

**2.1. Data Collection**

The researcher chooses 5 research assistants from the students who accept their male homosexuality. They are explained about the research objectives and data collection methods to ensure that they can do it correctly. They are requested to nominate the qualified persons for the sample to create a network. Those qualified persons are questioned about their acceptance. After being accepted, they are asked to answer to the questionnaire. If they encounter any difficulties in responding to the question items, the interview will be an alternative for data collection. Then, the researcher and research assistants recheck the completeness of the data filled in questionnaire prior to scoring and data analysis.

**2.2. Data Analysis**

In this research, the researcher has conducted the data analysis using the package software.

1. The package software is used in the analysis of the general data of the sample according to the examined variables with an aim to identify the sample’s characteristics including the average, standard deviation, skewness and kurtosis.

2. The correlation coefficient among the observed variables in the male homosexual students’ stress model is analyzed by means of Pearson’s correlation coefficient in order to reflect the correlation matrix of those observed factors. The correlation matrix used in the factor analysis is then examined whether it has a significant difference from zero by taking into account Bartlett’s Test of Sphericity and Kaiser-Meyer-Olkin Measures of Sampling Adequacy.

3. The qualified correlation matrix is explored through the confirmatory factor analysis with the application of package software. The Maximum Likelihood (ML) is implemented in the parameter estimation for verifying the construct validity with the consideration of the consistency of structural equation model under the relevant theories and empirical data. The goodness-of-fit measures are Chi-Square ( $\chi^2$ ), Relative Chi-square ( $\chi^2/df$ ), Goodness-of-Fit Index (GFI), Adjusted Goodness-of-Fit Index (AGFI), Comparative Fit Index (CFI), Root Mean Squared Residual (RMR) and Root Mean Square Error of Approximation (RMSEA). The confirmatory factor analysis is divided in to the 2 following steps:

**Step1** :The construct validity of the observed variable in each stress factor is examined through the confirmatory factor analysis. The factor scale is developed on the basis of the total score of fifteen factors.

**Step2**:The secondary order confirmatory factor analysis aims to verify the construct validity of the 3 factors and to compare between the factor loading and empirical data. Besides, it also analyzes the factor scale (Step 1) in order to identify the factor loading of 15 factors.

**3. Results**

1. According to the study of the male homosexual students’ stress, their overall stress is above the threshold at a moderate level with an average of 2.95 and standard deviation of .94. After the factor categorization, one stress factor is found to be above the threshold at a high level and the other two are above the threshold at a moderate level. Besides, the feelings of loneliness, lament and inferiority and the desire to commit suicide are the 4 aspects of stress, which are above the threshold at a high level with an average between 3.04 and 3.53 and a standard deviation between .87 and .93. Meanwhile, the other 11 aspects of stress that are above the threshold at a moderate level are the feelings of despair, jittery, fear, impatience, restlessness, terror, moodiness, agitation, hassle, crossness and perniciousness. They have an average between 2.62 and 2.99 and a standard deviation between .90 and .98. This is shown in the [Table 2](#).

**Table-2.** Mean and Standard Deviation of the Male Homosexual Students’ Stress

Variables	$\bar{X}$	SD	Definitions
<b>1. Depression</b>	3.18	.91	Above the Threshold at a High Level
Desire to Commit Suicide	3.04	.93	Above the Threshold at a High Level
Feeling of Loneliness	3.23	.87	Above the Threshold at a High Level
Feeling of Lament	3.15	.89	Above the Threshold at a High Level
Feeling of Despair	2.95	.94	Above the Threshold at a moderate Level
Feeling of Inferiority	3.53	.92	Above the Threshold at a High Level
<b>2. Anxiety</b>	2.87	.95	Above the Threshold at a Moderate Level
Feeling of Jittery	2.95	.90	Above the Threshold at a Moderate Level
Feeling of Fear	2.99	.94	Above the Threshold at a Moderate Level
Feeling of Impatience	2.86	.96	Above the Threshold at a Moderate Level
Feeling of Restlessness	2.72	.98	Above the Threshold at a Moderate Level
Feeling of Terror	2.87	.98	Above the Threshold at a Moderate Level
<b>3. Hostility</b>	2.82	.96	Above the Threshold at a Moderate Level
Feeling of Moodiness	2.99	.94	Above the Threshold at a Moderate Level
Feeling of Agitation	2.62	.98	Above the Threshold at a Moderate Level
Feeling of Hassle	2.87	.96	Above the Threshold at a Moderate Level
Feeling of Crossness	2.90	.96	Above the Threshold at a Moderate Level
Feeling of Perniciousness	2.76	.98	Above the Threshold at a Moderate Level
Total	2.95	.94	Above the Threshold at a Moderate Level

### 4. Confirmatory Factor Analysis

2.1 The confirmatory factor analysis aims to create a factor scale and to compare the factor loadings of depression, anxiety and hostility. Then, the scale factor is created to identify the new variables for the subsequent data analysis. In particular, the depressive, anxiety and hostility factors consist of 5 variables each with the factor loading of .77 to .82, .64 to .81, and .69 to .86, respectively.

2.2 According to the confirmatory factor analysis, the stress model consists of 3 factors, which are listed from highest to the lowest factor loading as shown in Table 3.

The feeling of inferiority, feeling of loneliness, feeling of lament, desire to commit suicide and feeling of despair are the 5 aspects of depressive factor with the factor loadings of .82 .80 .77. 80 and .77, respectively.

The anxiety factor has 5 aspects, namely, feeling of fear, feeling of jittery, feeling of impatience, feeling of restlessness and feeling of terror. Their factor loadings are .81 .80.80 .64and 6.4, respectively.

The hostility factor comprises 5 aspects: feeling of moody, feeling of agitation, feeling of hassle, feeling of crossness and feeling of perniciousness. They have the factor loadings of .86 .72 .69 .69 and .69, respectively.

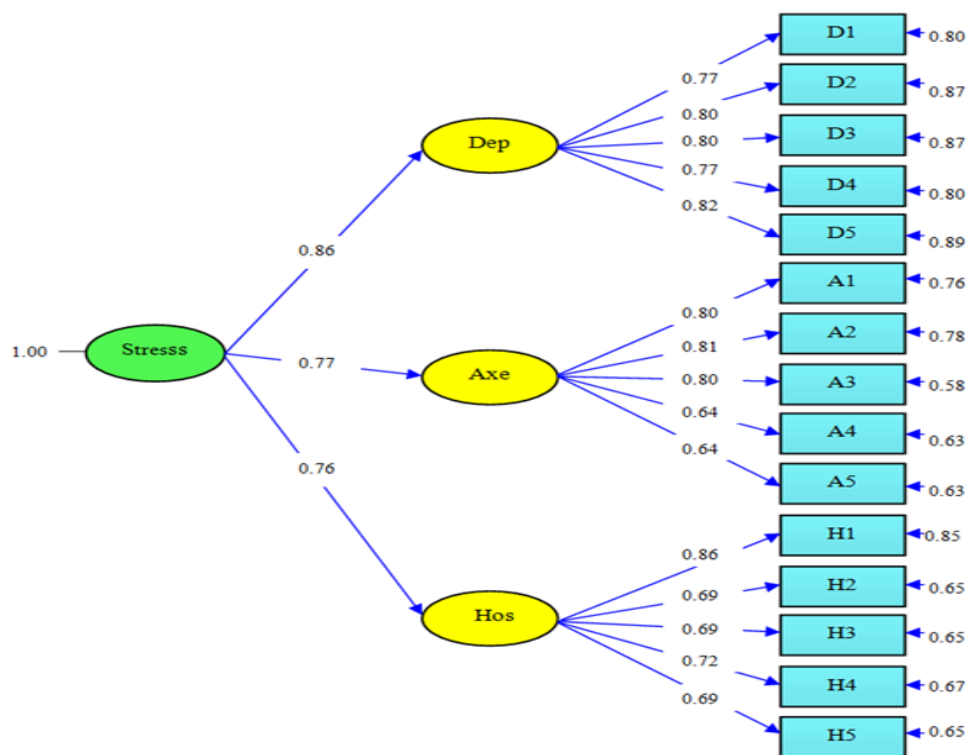
2.3 The examination of construct validity through the confirmatory factor analysis reveals that the depressive factor has the highest factor loading followed by the anxiety and hostility factors. Their factor loadings are .86 .77 and .76, respectively. This is shown in Table3.

**Table-3.** Factor Loading, Standard Error, T-Test of Statistical Significance and Coefficient of Determinant based on the Analysis of Main Factors and Indicative Behaviors of Main Factors of Stress

Factors/Indicators	<i>b</i>	<i>SE</i>	<i>T</i>	<i>R</i> <sup>2</sup>
<b>1. Depression</b>	.86	.07	14.62**	.91
Desire to Commit Suicide	.77	.06	13.09**	.80
Feeling of Loneliness	.80	.06	13.60**	.87
Feeling of Lament	.80	.08	13.91**	.87
Feeling of Despair	.77	.05	13.24**	.80
Feeling of Inferiority	.82	.06	13.94**	.89
<b>2. Anxiety</b>	.77	.07	10.94**	.78
Feeling of Jittery	.80	.04	11.39**	.76
Feeling of Fear	.81	.05	11.78**	.78
Feeling of Impatience	.80	.24	10.34**	.58
Feeling of Restlessness	.64	.08	10.09**	.63
Feeling of Terror	.64	.05	10.35**	.63
<b>3. Hostility</b>	.76	.08	13.50**	.85
Feeling of Moodiness	.86	.06	11.45**	.85
Feeling of Agitation	.69	.09	10.37**	.65
Feeling of Hassle	.69	.08	10.45**	.65
Feeling of Crossness	.72	.06	11.29**	.67
Feeling of Perniciousness	.69	.07	10.57**	.65

\*\**p*<.01

2.4 According to the results of the examination of the consistencybetween the male homosexual students’ stress model and the empirical hypothesis, the Goodness-of-Fit Index between the stress model and the empirical data is as follows:  $\chi^2 = 220.55$ , *df* = 113, *p* = .00,  $\chi^2/df = 1.95$ , GFI= .95, AGFI = .94, CFI = .99, RMR= .04 and RMSEA = .04. Consequently, it can be said that the hypothesized model has a consistency with the empirical data (Figure 2).



**Figure-2.**Analysis of Main Factors and Indicative Behaviors of Main Factors of Stress  
Chi-Square = 220.55, *df* = 113, *P*-value = 0. 00, RMSEA = 0.040



## 5. Discussions

1. The overall stress of the male homosexual students at the institutions of higher education in northeastern region is above the threshold at a moderate level because they need to hide their own sexual orientation. In spite of higher understanding and acceptance of sexual diversity in the Thai society, the negative perceptions towards male homosexuality still exist. This may be a contributory factor to the male homosexual students' stress. Likewise, a study on the male homosexuality in the US also reveals a similar finding that the feeling of imperfectness, embarrassment of being different from others and social bias or hatred are the cause of stress and of negative self-concept. Meyer (1995) This results in the feelings of anxiety, fear, terror, moodiness, hostility, agitation, despair and perniciousness.

2. The male homosexual students' stress is above the threshold at a high level because of their anxiety and despair. Besides, the negative social attitudes towards them can cause the depression and ignite the feelings of inferiority, loneliness and lament. All these result eventually in a high level of desire to commit suicide. This is in conformance with many reports confirming that the male homosexuals have more mental health problem than the straight males. (Cochran and Mays, 2006; Lewis, 2009) The previous studies also indicate that the male homosexuals' rate of depression is 1.5-3.57 folds higher than the straight males. Meanwhile 40-55% of male homosexuals have attempted to commit suicide but only 18-30% (Lewis, 2009) of straight males having tried to do so. Importantly, the male homosexuals have higher level of depression and bad temper when compared to the straight males with a statistical significance. (Cochran and Mays, 2006)

3. The researcher has determined that the hypothesized model of the male homosexual students' stress consists of 3 factors: the depression, anxiety and hostility. This hypothesized model agrees with the conceptual framework of Crepaz and Marks (2001) who believe that the male homosexuals' stress consists of the depression, anxiety and hostility. It is also a problematic behavior that has a close relation with the health risks. An intense stress severely affects the normal behavior control process resulting in the behavioral deviance. (DMH, 1999)

## 6. Conclusion

The male homosexual students' stress model consists of 3 factors. Firstly, the depressive factor has 5 aspects: the feeling of inferiority, feeling of loneliness, feeling of lament, feeling of despair and desire to commit suicide. Secondly, the anxiety factor also comprises 5 aspects, namely, the feeling of fear, feeling of jittery, feeling of impatience, feeling of restlessness and feeling of terror. Lastly, the hostility factor consists of 5 aspects, which are the feeling of moodiness, feeling of crossness, feeling of agitation, feeling of hassle and feeling of preciousness. In this regard, the depressive factor has the highest factor loading of .86, while the anxiety and hostility factors have the close factor loading of .77 and .76, respectively. In addition, the consistency between the hypothesized model of stress factors and the empirical data is found as follows: Chi-square ( $\chi^2$ ) of 220.55 with the degree of freedom of 113, possibility of .00, Relative Chi-square ( $\chi^2/df$ ) of 1.95, Goodness-Of-Fit Index (GFI) of .95, Adjusted Goodness of Fit Index (AGFI) of .94, Comparative Fit Index (CFI) of .99, Root Mean Squared Residual (RMR) of .04 and Root Mean Square Error of Approximation (RMSEA) of .04.

## 7. Acknowledgement

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