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Measure of Personal Stigma and Perceived Stigma: An Exploratory Factor Analysis

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Abstract: The role of stigma in people's decision to seek help for mental health concerns had been argued due to conflicting research findings. To date, there are few instruments that assess mental health stigma. The present study aimed to examine the validity and develop a modified version of the Depression Stigma Scale to check if it is a valid instrument in assessing Filipino college students' mental health stigma and know the underlying dimensions of mental health stigma among Filipino college students. To fit the requirements needed, the Depression Stigma Scale which originally had 16 items is reduced to 14 items since they are not applicable to college students. The instrument is administered to 1077 Filipino college students (N=1077) who participated in the online survey. Only a total of 797 (74%) participants qualified in the study satisfying the requirements including personal and parental consent, 367 were male (46%) and 430 (54%) were female with ages ranged from 15 to 21, mean age of 16.57 and SD 0.78. Result of Exploratory Factor Analysis (EFA) of the 14-item scale confirms that mental health stigma among Filipino college students includes 2 factor solutions for the personal stigma scale (Weak-not-sick; and Dangerous/undesirable) and supports findings from previous studies that there are 2 dimensions under personal stigma. However, Perceived stigma scale is a unitary dimension in the current study and differs from the result of previous studies conducted. Implication, limitations and recommendation for future researches are discussed.

Key Words: Mental Health; Personal Stigma; Perceived Stigma; Depression

1. INTRODUCTION

Mental health stigma is known to play much influence in people's decisions to seek help regarding their mental health problems (Angermeyer & Dietrich, 2006; Jorm, Angermeyer & Katschnig, 2000; Salve et al., 2013; Kabir et al., 2004). This is crucial, particularly in the academe, as reports of increasing number of cases and growing complexity of mental health problems have been documented among college students in different parts of world (Hunt & Eisenberg, 2010; MacKean, 2011). However, despite the presence of mental illness and risk for suicide, students still fall short in making use of mental health services that are available to them (Eisenberg, Golberstein & Gollust, 2007; Marsh & Wilcoxon, 2015; Augsberger, et al., 2015). This trend has also been observed among Filipino college students. In a study conducted by Que-Legaspi, Reyes & Datu (2014), it

was found that one of the reasons why college students avoid counseling is because of their worries over what other people think of them. This suggests how stigma influences people's decisions to seek help.

Stigma, as defined by the World Health Organization (2001) is "a mark of shame, disgrace or disapproval which results in an individual being rejected, discriminated against, and excluded from participating in a number of different areas of society." There is a lot of stigma in mental health. For instance, the mentally ill are believed to be dangerous and unpredictable (Eisenberg, Golberstein & Hunt, 2009), despite evidences that such is not always the case (Andrews & Wilding, 2004). People with mental disorders are also believed to be capable of 'snapping out of it' instead of being seen as someone who has a medical condition (Reavley & Jorm, 2011). Being weak in character is another stigmatizing belief on people with mental illness particularly those who have depression or schizophrenia (Amasuriya, Jorm, Reavley & McKinnon, 2015). Furthermore, bringing shame to the family has also been attached to mental illness and has been observed more among Asians as compared to those from western cultures (Shamblaw, Botha & Dozois, 2015). Such stigma has detrimental effects on the lives of the mentally ill as it can negatively affect their self-esteem, limit their access to opportunities that are essential for them to achieve their full potentials, and impede their integration in the community (Corrigan, 2004).

Given the debilitating effects of mental health stigma in people's lives, it is imperative to address this concern. However, reports of interventions that aimed to lower mental health stigma among specific populations only gave little evidences of effectivity (Griffiths, et al., 2004; Griffiths, Carron-Arthur, Parsons & Reid, 2014). Boerema, et al. (2016) suggested that in order to optimize such interventions, it is important to examine the multifaceted nature of stigma.

Corrigan (2004) described two types of mental health stigma. First is self-stigma which is internalized beliefs of people with mental health problems based on what other people think about mental illness. Second is public stigma which refers to stigmatized beliefs of the general public regarding people with mental disorders. Although each one has distinct features, the impact of these forms of stigma is believed to be caused by their interplay.

Other forms of stigma which have been previously studied are personal stigma and perceived public stigma. Personal stigma refers to one's negative perceptions and personal biases regarding people with mental illness while perceived public stigma refers to what one perceives to be the public's negative attitude towards the mentally ill (Lally, et al., 2013). The latter has also been referred to as perceived stigma (Reavley & Jorm, 2011).

Previous studies that focused on personal and perceived stigma revealed varied and some conflicting results. For instance, higher personal stigma has been observed more among men and those with lower levels of education (Griffiths, Christensen & Jorm, 2008). One study found higher levels of perceived stigma among females (Busby Grant, Bruce & Batterham, 2015) while another reported no gender differences in perceived stigma (Griffiths, Christensen & Jorm, 2008).

There are only limited measures that have been validated to assess mental health stigma, therefore it is important to make use of existing tools that are reliable and valid. One commonly used measure is the Depression Stigma Scale or DSS (Griffiths, Christensen & Jorm, 2008) which is designed to assess both personal and perceived stigma. The scale exhibited good internal consistency and high test-retest reliability in studies done in first world countries such as Australia, Germany, Japan and Netherlands (Yap, MacKinnon, Reavley, Jorm, 2014; Griffiths, et al., 2004; Dietrich, Mergl & Rummel-Kluge, 2014; Griffiths, Nakane, et al., 2006; Boerema, et al., 2016).

Several studies made use of factor analysis in examining the personal and perceived stigma of Depression Stigma Scale and they revealed similarities and differences in their findings. For instance, Yap, MacKinnon, Reavley & Jorm (2014) reported that personal stigma and perceived stigma are not unidimensional. Two dimensions under each of the personal stigma and perceived stigma have been identified and labelled as 'Weak

not sick' and 'Dangerous/ unpredictable'. This is supported by Boerema, et al.(2016), however instead of two, a three-factor solution for both personal stigma and perceived stigma have been reflected. Factors were labelled as 'Weak-not-sick-avoidance', 'Dangerous/unpredicatable' and 'Discrimination'. Two factors are also observed under personal stigma in a study conducted by Amatsuriya, Jorm, Reavley and MacKinnon (2015) and are labelled as 'Weak-not-sick' and 'Dangerous/ undesirable'. Meanwhile, Jorm and Wright (2008) identified four factors which are 'Social distance', `Dangerous/unpredictable', `Weak not sick' and `Stigma perceived in others'. Jorm and Wright (2008) stated that there are really no agreed set of dimensions for stigma as they are dependent on the pool of items utilized, as well as type of disorder being measured. Other factors that may have contributed to the differences in results are culture, methods used, demographic factors of the participants such as age, gender, education level as well as previous exposure to mental illness (Amarisuya, Jorm, Reavley & MacKinnon, 2015; Yap, MacKinnon, Reavley & Jorm , 2014; Boerema, et al.; and Jorm & Wright, 2008).

2. MAIN CLAIM/S

The study of stigma will directly benefit mental health professionals and mental health advocates. By becoming aware of the specific components of stigma, they can better design and strategize their mental health awareness and mental health stigma-reduction campaigns as for them to be more effective, especially with the recently approved Philippine Mental Health Law which strongly requires the promotion of mental health awareness in schools and communities. For counselors, psychotherapists and psychologists, understanding the complex nature of mental health stigma can help them come up with better psychoeducational and counseling interventions to clients with mental health problems and to their families.

To date, there has not been a study done in the Philippine setting that attempted to dissect mental health stigma, which made the current research valuable. A larger study on mental health literacy among Filipino college students made use of the Youth Boost Survey which included a modified version of the Depression Stigma Scale.

To fit the requirements needed for the mental health literacy study, the Depression Stigma Scale which originally had 16 items (Griffiths, et, al., 2008) was then reduced to 14 items because two items were not applicable to college students. The deleted items were: ('…would not employ someone who has…' and 'would not vote for a politician…'). This study looked into the factor structure of the 14-item modified version of the Depression Stigma Scale to ensure that stigma structure may be applicable and support evidence on its generalizability to Filipino university students.

The study aimed to answer two specific questions: 1.) Can the modified version of the Depression Stigma Scale be a valid instrument in assessing Filipino college students' mental health stigma? 2.) What are the underlying dimensions of mental health stigma among Filipino college students?

3. METHODOLOGY

Participants

The study made use of purposive sampling, including all freshmen from different colleges such as Computer Sciences, Engineering, Science, Education, Business & Economics, and Liberal Arts. The freshmen are found be the best choice of participants for the study as they are at the entry level to college, thus, they are not yet exposed to any factors that may affect the results of the study such as taking previous Psychology courses and receiving mental health-related interventions given by the university. Participant ages are from 15 to 21 years old.

Out of N=1077 students that participated in the online survey, only a total of 797 (74%) participants qualified in the study satisfying the requirements that they should be able to give their personal consent in being included in the research and submission of fully accomplished parental consent forms signifying that those who were minors were given permission to participate. Of the total 797 participants, 367 were male (46%) and 430 (54%) were female. Their ages ranged from 15 to 21 with the mean age of 16.57 and SD 0.78.

Procedure

Approval from the concerned administrators of the university was sought prior to collecting data. Consent to participate and parental consent was sought from the participants after the approval from the university.

The study was part of the bigger study on Mental Health Literacy among freshmen university students done in the year 2015. It made use of the Mental Health Literacy (MHL) instrument developed by Jorm (2000) that was utilized in a national study on mental health in Australia in 2011. Freshmen students were invited by the university counselors through verbal announcement as well as written invitation to participate in the online study during their orientation activities in the first trimester. Students were given the link to where they can access the online Mental Health Literacy survey.

As part of the ethical considerations of the study, the protection of participants' rights of was ascertained by enumerating the conditions of the study in the consent letter that were signed by the participants. Conditions that were stipulated include: 1.) Participation in the study is only on voluntary basis and written parental consent is required for minors; 2.) Results of the study are treated with utmost confidentiality; 3.) Participants may inquire about the results from the author after the completion of the study. 4) Due to the sensitive nature of the study, participants who would feel uncomfortable after participating in the study are encouraged to seek professional help from the university counseling center. Office locations, contact details and operational schedules of the Counseling Centers were enumerated in the debrief section of the study.
Data gathering started by introducing a vignette of a person that exhibited symptoms of depression to the students and then followed by several questions which assessed their notions of what could be wrong with the person, who they think can help the person, what treatments and management strategies do they think are effective, etc. Participants were asked to read a vignette that depicted a person that exhibited 5 out of 9 symptoms of major depressive disorder. Participants were then asked to rate each item of the stigma scale based on a 5-point Likert scale, indicating whether they 'strongly agree', 'agree', 'neither agree nor disagree', 'disagree' or 'strongly disagree' with the given statement. Higher scores indicated higher levels of mental health stigma. Results of the first part of the study indicated differences among students understanding of depression in terms of its causes, treatment, management strategies, as well as products and persons that can help for someone who is suffering from depression.

The second part of the larger study on MHL made use of the Depression Stigma Scale developed by Griffiths (2008) and focused solely on stigma, which was modified to make suitable for the participants of the local research, and from which data was extracted and used in this current study. This also made use of the same 5-point Likert scale described above for which the results were tallied and described in percentages. Results of the bigger study indicated that Filipino college students have personal and perceived mental-health related stigma.

Instrument

The study made use of the depression vignette in the Mental Health Literacy by A.F. Jorm (2000) that was used as stimulus in the larger study conducted among Filipino college freshmen. Permission was previously sought from the author (A.F. Jorm) through email in utilizing the Mental Health Literacy instrument among Filipino college students (Please see Appendix A). The vignette depicted several symptoms of depression that are found in the Diagnostic and Statistical Manual of Mental Disorders or DSM-5.

The second part of the larger Philippine study was a modified version of the Depression Stigma Scale (Griffiths, 2008) from which data from this current research was extracted. Permission from the author was also obtained through email (Please see Appendix B). The modified stigma scale was designed to measure Filipino college students' attitudes towards mental illness.

It comprised of 14 items, seven under personal stigma and seven under perceived stigma. Same scale was repeated on the second set of seven (7) items indicating personal beliefs and perceived people's beliefs. Two items from the original scale ('…would not employ someone who has…' and 'would not vote for a politician…') were removed as they were inapplicable to the college population making the current items as 14. Below is the list of items that were retained:

Personal stigma
1. "…can snap out of it"
2. "… sign of personal weakness"
3. "…not a real medical condition"
4. "… are dangerous"
5. "… best to avoid…"
6. "…are unpredictable"
7. "…would not tell anyone."

Perceived Stigma
Most people believe…
8. "…can snap out of it"
9. "… sign of personal weakness"
10. "…not a real medical condition"
11. "… are dangerous"
12. "… best to avoid…"
13. "…are unpredictable"
14. "…would not tell anyone"

Data Analysis

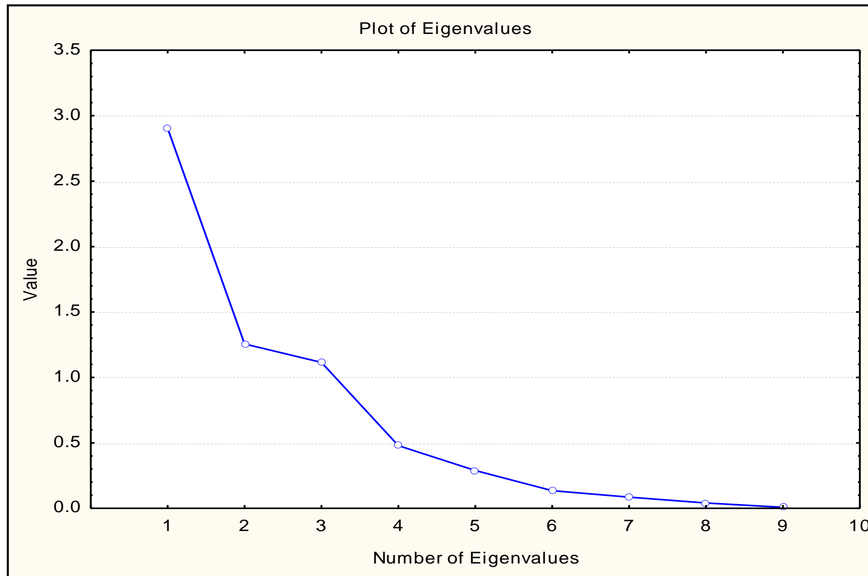
Exploratory Factor Analysis (EFA) was used as statistical method in the current study as it is the most commonly used statistical method in determining dimensions of a given construct. EFA has been defined as "a variable reduction technique which identifies the number of latent constructs and the underlying factor structure of a set of variables" (Suhr, n.d.)
Exploratory Factor Analysis was performed on the 14-item stigma scale employing Principal Axis Factoring as the factor extraction. A factor loading of .30 was set and was used to determine the loading coefficient of each of the 14-items. Eigenvalues and scree plot was considered in analyzing the number of factors that loaded.

4. FINDINGS

The current study validated the mental health stigma scale included in the Youth Boost Survey by Reavley & Jorm, 2011 to establish a measure of personal stigma and perceived stigma among Filipino freshmen university students. Considerations were made on the possible cultural differences in mental health stigma and the current study validated if the existing 2-factor structure of personal stigma and 2-factor structure of perceived stigma of the mental health stigma scale was evident in the Filipino university student samples.

Scree plot and eigenvalues showed that three (3) components should be taken. This is shown on Figure 1 and Table 1.

Figure 1: *Screeplot of the Stigma Scale*



Results of the eigenvalues extracted from the data are presented in Table 1.

Table 1 : *Eigenvalues of Stigma Scale*

Factor	Eigenvalue	% Total Variance	Cumulative Eigenvalue	Cumulative % Total
1	2.90	20.74	2.90	20.74
2	1.26	8.97	4.16	29.71
3	1.11	7.96	5.27	37.67

Of the 14 items from the original stigma measure composed of 7 items personal stigma and 7 items perceived stigma, only 11 items significantly loaded in the new factors that were extracted. Factors that load with greater than .30 were 6 items for perceived stigma, 3 items for weak-not-sick (personal stigma) and 2 items for dangerous-undesirable (personal stigma). The result shows that the original 2 factor structure of perceived stigma only loaded with 1 while the 2 factor structure of personal stigma (weak-not-sick and dangerous-undesirable) loaded with the same 2 factors in the Filipino university students' sample. It can be observed that some items did not load in any of the factors indicating that there were items in the original measure that were not applicable to measure stigma among Filipinos.

Perceived Stigma from the original 2 factor structure with labels as weak-not-sick and dangerous-undesirable was now a one factor in the current study. All 7-items loaded in the single factor however 1 item loaded for both perceived and personal stigma with higher loading in perceived stigma. Perceived stigma refers to what one perceives to be the public's negative attitude towards the mentally ill (Lally, et al, 2013). As can be seen from the items (Table 2), it indicates that they were all statements pertaining to how one perceives it to be a public

negative attitude thereby perceived public stigma as a label was used in the current study.

Item numbers 1 to 5 loaded under personal stigma with labels as weak-not-sick and dangerous-undesirable from the original measure. The same label for the items were used in the present study. Personal stigma refers to one's negative perceptions and personal biases regarding people with mental illness (Lally, et al, 2013). Result indicates (Table 2) that the 3 items from weak-not-sick (Item numbers 1 to 3) in the original measure also loaded under the same factor in the current study. Items indicate one's personal bias on mental illness as a sign of weakness and not being sick. There were only 2 items (item numbers 4 and 5) out of the original 4 items that were loaded under dangerous-undesirable. The 2 items were personal stigma related to mental illness as dangerous and undesirable. There were 2 items which did not load in any of the factors. Those items were related to problems as experienced by the person and one's willingness to share it with others. This may be the reason why it did not load in any of the factors in the current study indicating that those items were not personal nor perceived stigma among Filipino samples. Factor loadings of the items were shown in Table 2.

Table 2: *Factor Loadings of the Items*

	Perceived Public Stigma	Personal Stigma	
		Weak-not-sick	Dangerous-Undesirable
1. "… snap out of it he/she wanted"	0.09	**0.63**	-0.07
2. "… is a sign of personal weakness"	0.04	**0.60**	0.03
3. "… is not a real medical problem"	-0.04	**0.41**	0.06
4. "… is dangerous to others"	0.13	0.25	**0.63**
5. "… avoid M so that I won't develop the same problem myself"	-0.08	0.12	**0.66**
6. "… problem makes him/her unpredictable"	0.19	0.27	0.18
7. "… not tell anyone if I had a problem like M".	0.05	-0.10	0.29
8. "… other people believe that M could snap out of it he/she wanted"	0.50	0.34	-0.24
9. "… other people believe that M's problem is a sign of personal weakness"	**0.65**	0.21	-0.14
10. "… other people believe that M's problem is not a real medical problem"	**0.45**	0.03	-0.08
11. "… other people believe that M is dangerous to others"	**0.81**	-0.12	0.27
12. "… other people believe that it is best to avoid M so that they won't develop the same problem themselves"	**0.75**	-0.16	0.21
13. "… other people believe that M's problem makes him/her unpredictable"	**0.60**	0.12	0.08
14. "… other people would not tell anyone if they	**0.52**	-0.06	0.03

had a problem like M".			

The result indicates that the personal and perceived stigma measure composed of 11 items measuring perceived stigma with 6 items (item numbers 9 to 14) and 2 factors of personal stigma with 3 items for weak-not-sick (item numbers 1 to 3) and 2 items for dangerous-undesirable (item numbers 4 and 5).

Table 3: *Descriptive Indices of the New Scale*

	Factor	No. of Items	M	SD	Cronbach alpha
1	**Perceived** Public Stigma	6	2.72	1.19	.80
2	**Personal Stigma** Weak-not-sick	3	3.16	1.26	.58
3	**Personal Stigma** Dangerous-Undesirable	2	4.33	.91	.59

5. ANALYSIS

To date, there has not been a study done in the Philippine setting that focused on assessing the complex nature of mental health stigma specifically looking into the underlying structure of the stigma scale, which made the current research valuable. A larger study on mental health literacy among Filipino college students made use of the Youth Boost Survey which included a modified version of the Depression Stigma Scale. This particular stigma scale is already used in several countries and in different populations but was not studied in the Philippine setting. The current study validated the mental health stigma scale and the result shows that mental health stigma among Filipino university students includes 2 factor solution for the personal stigma scale (Weak-not-sick; items 1, 2 3 Dangerous/undesirable: items 4 & 5) and unitary dimension for the perceived public stigma scale (items 9 to 14). This result confirms that personal stigma is not a unitary dimension and includes two factors, namely 'weak-not-sick' and 'dangerous-undesirable'. This is similar to the result of Australian study (Yap, MacKinnon, Reavley & Jorm, 2014). However, they labeled the 2nd factor as 'dangerous-unpredictable'. This also supports Dutch study (Boerema, et al., 2016) with labels as 'Weak-not-sick-avoidance' and 'Dangerous/unpredictable' but they included in their study the Social Distance scale that loaded as 3rd factor and labeled as 'Discrimination'. Two factors are also observed under personal stigma in a study conducted in Sri Lanka by Amatsuriya, Jorm, Reavley and MacKinnon (2015) and are labelled as 'Weak-not-sick' and 'Dangerous/ undesirable'. It is also consistent with the result from Japan (Yoshioka, K., Reavley, N., MacKinnon, A., & Jorm, A., 2014) with labels as Weak-not-sick and Dangerous/Unpredictable.

Personal stigma scale has 2 items that did not load to .30 factor loading, item 6 (…problem makes him/her unpredictable) with factor loading of .18 and item 7 (…not tell anyone if I had a problem like "M") with factor loading of .29. The result is also similar to Sri Lanka (Amatsuriya, Jorm, Reavley and MacKinnon, 2015) in which they found that the 2 items regarding "unpredictability did not fit within the measurement structure that was identified for the dimension". This result is also the same for the Philippine setting in which

unpredictability is not identified to be part of the measurement structure and the factor is named as Dangerous-Undesirable.

Perceived stigma scale is a unitary dimension in the current study. The result is different from the Australian study (Yap, MacKinnon, Reavley & Jorm, 2014) in which there is a 2-factor structure in their perceived stigma scale. Dutch study by Boerema, et al., 2016 noted that they cannot confirm the factor structure of perceived stigma scale in their study citing that it may lie in the different samples and methods they used. Other studies did not explore on the factor structure of perceived stigma scale since they only used personal stigma scale in their studies.

6. CONCLUSION

Mental health stigma has debilitating effects in the lives of those who suffer from mental from mental illness and those who are around them. The limited number of available instruments that measure mental health stigma prompts the need to validate their applicability and generalizability in different cultures. The study demonstrated that the modified DSS is a valid measure in determining Filipino college students' stigma on mental illness. It also showed that stigma among Filipino college students, includes 2 factors under personal stigma ("weak-not-sick" and "dangerous-undesirable") while perceived stigma is unidimensional in nature.

Future research will be helpful to further determine the generalizability of the model across different age group and setting. The sample in the current study is limited to freshmen university students and may not be a representative sample of the entire population among their age group. Based on the result of the study, it is recommended that; Future research should be done to further determine the generalizability of the model across different age group and setting; Further validation of perceived stigma is needed and different samples in Philippine setting can be explored to further improve perceived stigma scale in the future research; Future studies can be conducted focusing on the predictors of personal and perceived public stigma in order to better understand the nature of the stigma in the Philippine context as well as the direct effects of this on people's help-seeking behavior; and Future researches be done focusing on conceptualizing mental health stigma in order to develop specific tools that can assess it and its' effects to individuals or groups.

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