Assessing Drug Abuse Treatment and Rehabilitation Through Psychological Functioning, Mental Wellbeing, and Life Satisfaction: Scales Adaptation and Development

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Abstract— Drug abuse is one of the perennial global pandemics since the 1960s, and persons who use drugs (PWUDs) have been subjected to an array of treatment courses and rehabilitation efforts. This study underscored the adaptation and development of assessment tools to measure progress among PWUDs undertaking drug abuse treatment and rehabilitation through these frontiers. Based on the literature, people engaging in illicit drug use often experience difficulties in terms of their affective, behavioral, and cognitive functioning as well as in their mental wellbeing and life satisfaction. Hence, through a Bootstrap Approach to test construction and guided by strict ethical procedures, 100 college students and 100 PWUDs from a treatment and rehabilitation center were selected to estimate the psychometric properties of the adapted Warwick-Edinburg Mental Wellbeing Scale (Tennant et al., 2007) and Life Satisfaction Scale (Deiner et al., 1985) and the developed Psychological Functioning Scale. Based on Pearson r statistics, the translations of the W-EMWS, $r(92) = 0.95$, $p < 0.01$, and the LSS, $r(92) = 0.82$, $p < 0.01$, were statistically accurate. Cronbach's alphas of both tests were also very strong (W-EMWS: $\alpha = 0.92$; LSS: $\alpha = 0.87$) similar with the subscales of the PFS (affective: $\alpha = 0.87$; behavioral: $\alpha = 0.66$; cognitive: $\alpha = 0.89$). These results indicated that the three scales are all statistically sound and thus can be used to reliably measure the progress of the PWUDs who are recovering from illicit drug use. Pertinent conclusions were thereby drawn, and various recommendations were duly suggested.

Keywords— Psychological Functioning, Mental Wellbeing, Life Satisfaction, Drug Abuse, Persons Who Use Drugs.

INTRODUCTION

Addiction is often linked to other mental health issues though there is no clear directionality to this relationship. For instance, Volkow (2004) identified that people who have mood or anxiety disorders are almost twice as likely to have a substance use disorder; people who suffer from substance use disorders are approximately twice as likely to also struggle with a mood or anxiety disorder. It is not conclusive which disorder is causing the other, but the relationship is strong nevertheless.

Depression is one of the most common long-term mental health disorders associated with substance use disorder (Volkow 2004; NIDA, 2016); others include anxiety (NIDA, 2017a) and paranoia (NIDA, 2017b). Other psychological effects of drug addiction include wild mood swings, hallucinations, violence, decreased pleasure in everyday life, confusion, mental illness complications, psychological intolerance, and increased risky behavior (Tracy, 2012). Furthermore, substance use can also increase a user's risk of developing a mental disorder though considerably speaking, genetic predisposition plays a vital role in this case as "substance addiction, and mental illness is disorders that develop.

Emotional stress can also be one of the impacts of illicit drug use, and the inability to control compulsive behaviors may also lead to more problems for those who use the illicit substance (Szalavitz, 2016). It results from the brain's inability to function normally as it seeks higher and higher doses of the substance until it leads to addiction. Rosenfeld (2017) identified drug addiction as associated with "trauma caused by (or the result of) a repressed, buried event or series of events in their past." He further noted that addiction is an "escape mechanism, a powerful source of pleasure to counter a powerful cause for emotional stress."

Based on the Diagnostic and Statistical Manual of Mental Disorders of the American Psychiatric Association (2013), a person who is struggling with a SUD possesses the following diagnostic criteria:

"Taking a substance in higher doses or for longer than intended, wanting to quit using but being unable to, spending much time trying to get, use, or recover from

the substance, craving the substance, or having a strong desire to use it, being unable to fulfill school, home, or work obligations because of substance use, continuing to use the substance despite recurring or persistent social or interpersonal problems related to use, reducing or stopping important social, recreational, or occupational activities due to substance use, recurrent substance use in physically dangerous situations, and consistent substance use despite knowing knowledge that it is causing or worsening psychological or physical problems."

On top of these, several psychosocial and behavioral changes that addicted individuals often exhibit are "lying to friends/family members, becoming more secretive and suspicious, changing friend groups, increased alertness, weakened body when the drugs wear off resulting to wanting it more, getting into legal trouble and going into debt/spending money exorbitantly" (APA, 2013). Substance use also alters the neuronal systems that underlie cognitive functions. Vilchez (2018) identified these cognitive functions: knowledge, strategies, skills, beliefs, and attitudes. Substance use impacts these systems by making cognitive performances slower. Likewise, compulsive drug use is related to changes in executive functions such as memory, planning, impulse control, self-regulation, and decision making (Bausela, 2018). In other studies, the executive functions are the most complex functions negatively impacted by the impairment produced by illicit drug use (Madoz, & Ochoa, 2012).

Experiencing a mental health issue or condition can make a person more likely to use drugs, and other people may use drugs that contribute to the development of a mental health issue or condition (Deady et al., 2013). There are also instances where a person may experience both issues without causing or contributing to the other (Santucci, 2012). In 2019, people with a diagnosed or treated mental health condition in the past 12 months were almost twice as likely (1.7 times) to have used any illicit drug in the last 12 months compared to people who did not have a mental health condition. Additionally, 26% of people who had recently used any illicit drug reported experiencing high or very high psychological distress (Marsh et al., 2019). Environmental factors such as chronic stress, trauma, and negative childhood experiences are associated with an increased risk of developing drug use problems and mental health conditions (USDHSS, 2016).

Life satisfaction is defined as the cognitive evaluation that people make about the overall quality of their lives or the quality of specific domains (e.g., family, friends, school) within their lives (Gilman & Huebner, 2003) and the cognitive component of subjective wellbeing (Diener & Diener, 1995). It was described as an individual's conscious, cognitive appraisal of the quality of his or her life (Heady & Wearing, 1992). Life satisfaction covers the general individual perception of their satisfaction with life. High levels of life satisfaction are related to positive outcomes in intrapersonal, interpersonal, vocational, health, and educational arenas, while low levels of life satisfaction are similarly predictive of various adverse outcomes, including illicit drug use (Ye et al., 2014). Satisfaction with life has been reported to be a buffer against harmful effects of stress and the development of psychopathological behavior, including illicit drug use (Suldo & Huebner, 2004). In connection, individuals with low levels of life satisfaction were found to engage in substance abuse (Sun & Shek, 2010).

This study aimed to develop assessment tools to measure the progress of persons who use drugs (PWUDs) undertaking drug abuse treatment and rehabilitation through psychological functioning, mental wellbeing, and life satisfaction. Specifically, this study adapted two standardized research questionnaires for mental well-being and life satisfaction in Filipino and constructed a scale to assess the overall psychological functioning of PWUDs in terms of affective, behavioral, and cognitive components. Altogether, these tests with established psychometric properties will ascertain progress among PWUDs who are advocating self-development through drug abuse treatment and rehabilitation efforts.

A Bootstrap Approach to test construction (Erford, 2013) guided this study in adapting and constructing the said tests in achieving this feat. In this approach, the translations and drafting of the test items were done based on set theories. Subsequently, empirical procedures are followed and used to verify that the items measure or are highly related to the construct they are theorized to measure.

METHOD

Research Design

This study utilized a quantitative descriptive research design to investigate psychological functioning, mental

wellbeing, and life satisfaction as variables are done through statistical analysis and sophistication.

Participants and Locale

To estimate the Correlation between the original and translated standardized questionnaire for mental wellbeing and life satisfaction, 100 random college students (with 92 valid responses) from Central Luzon State University, Science City of Munoz, Nueva Ecija were selected. Further, for the estimate of the internal consistency of the said questionnaires and the researcher-made questionnaire for the psychological functioning of the PWUDs, 100 random residents (with 97 valid responses) from Mega Drug Abuse Treatment and Rehabilitation Center in Fort Magsaysay, Palayan City, Nueva Ecija were selected.

Instrumentation

This study made use of the following:

- Warwick-Edinburgh Mental Wellbeing Scale. A 14-item scale with positively worded items (Tennant et al., 2007) was "developed to enable the measuring of mental wellbeing in the general population and the evaluation of projects, programs and policies which aim to improve mental wellbeing" (Stewart-Brown, 2020). This scale is widely used nationally and internationally for monitoring, evaluating, and investigating the determinants of mental wellbeing.
- Life Satisfaction Scale. It is a short 5-item instrument "designed to measure global cognitive judgments of satisfaction with one's life" (Deiner et al., 1985).
- Psychological Functioning Questionnaire. It is a 35-item 7-point Likert scale categorized into three domains (affective, behavioral, and cognitive) designed to measure the PWUDs' overall psychological functioning.

Data Gathering Procedures

The following procedures were followed:

- *For Phase 1: Establishment of Correlation between the Original and Translated Scales*
1. Random selection of 100 college students and solicitation of consent. The original and translated versions of the Warwick-Edinburgh Mental Wellbeing Scale and the Life Satisfaction Scale were distributed across the campus through student enumerators. The signing of the informed consent form precedes accomplishing the said questionnaires.
2. Collation of the accomplished questionnaires. All accomplished questionnaires were collated and scanned for completeness; uncompleted and/or those showing possible response bias were excluded for analysis.

- *For Phase 2: Establishment of Internal Consistency*
1. Seeking permission and defining objectives and selection of participants. This involved pursuing a formal request letter to the Mega DATRC, thereby defining perspectives on how the study will be conducted. It also established common expectations as to the roles of the researcher in the process. Included in this step is selecting the participants by the program staff based on the set criteria and the solicitation of consent.
2. The accomplishment of the questionnaires. This involved the actual distribution and answering of the questionnaire by the PWUDs in the center.
3. Collation of the accomplished questionnaires. All accomplished questionnaires were secured from the center that facilitated the distribution of the scales. There were collated and scanned for completeness; uncompleted and/or those showing possible response bias were excluded for analysis.

Data Analysis

The following test statistics were used in this study:

- Descriptive statistics. Means and standard deviations were used across the entire study to describe, show and summarize various data in a meaningful way.
- Pearson product-moment correlation coefficient. The Correlation between the original version and the translated version of the Life Satisfaction Scale and Psychological Wellbeing Scale was established using this test.
- Cronbach's Alpha reliability statistics. The study's internal consistency of the three scales in this study, namely the Psychological Functioning Scale, Mental Wellbeing Scale, and Life Satisfaction Scale, was established using this test.

RESULTS AND DISCUSSION

The Life Satisfaction Scale (Deiner et al., 1985) and the Warwick–Edinburgh Mental Well-being Scale (Tennant et al., 2007) were adapted by translating them into Filipino to conform to the cultural context and language

of the drug reformist. The translation was done by the researcher using the bootstrap approach that focuses on the practical understanding of the items being translated based on the context of the PWUDs and then subjected to statistical analysis. The results using correlational statistics are shown in table 1 below:

Table 1. The correlation coefficient between the original and translated versions of the Life Satisfaction Scale and the Warwick–Edinburgh Mental Wellbeing Scale

			T	O
Life Satisfaction Scale	T	Pearson Correlation	1	.816**
		Sig. (2-tailed)		.000
		N	92	92
	O	Pearson Correlation	.816**	1
		Sig. (2-tailed)	.000	
		N	92	92
Warwick–Edinburgh Mental Wellbeing Scale	T	Pearson Correlation	1	.936**
		Sig. (2-tailed)		.000
		N	92	92
	O	Pearson Correlation	.936**	1
		Sig. (2-tailed)	.000	
		N	92	92
Notes: **** Correlation is significant at the 0.01 level (2-tailed).** **T = Translated version** **O = Original English version**				

It indicated that the original English-language (O) scale and the Filipino translated (T) version of the Life Satisfaction Scale, r(92) = 0.82, p < 0.01, and the Warwick–Edinburgh Mental Wellbeing Scale, r(92) = 0.95, p < 0.01 essentially measure the same construct as they showed very strong correlations. It further indicated that the Filipino translation of the researcher was more or less adequate to what the original statements intended. More specifically, the original scale was written, and the translated version can be said to have fundamentally the same level of comprehension among the participants.

The reliability estimates of the three questionnaires used in this study were established using appropriate statistical treatments to estimate their utility to assess the designed comprehensive psychological intervention program's impact, usefulness, and effectiveness. The results were shown below:

Table 2. The internal consistency of the questionnaires.

Questionnaire	Cronbach's Alpha	N of Items
Filipino-translated Warwick–Edinburgh Mental Well-being Scale	.915	14
Filipino-translated Life Satisfaction Questionnaire	.871	5
Affective Functioning Subscale	.867	15
Behavioral Functioning Subscale	.664	10
Cognitive Functioning Subscale	.894	15

Legends: < 0.60 *Poor* 0.81 – 0.90 *Very good*
0.61 – 0.70 *Moderate* 0.91> *Excellent*
0.71 – 0.80 *Good*

The Filipino-translated Warwick–Edinburgh Mental Well-being Scale (α = 0.92) has been validated for use among PWUDs undergoing drug abuse treatment and rehabilitation with excellent internal consistency. This validated scale aims to measure the mental wellbeing of the PWUDs. It further indicated that the translated scale can still measure its intended purpose since its components are internally consistent.

Further, the Filipino-translated Life Satisfaction Scale's internal consistency (α = 0.87) was rated 'very good, which indicated that the said scale is a valid measure in assessing the overall satisfaction in the lives of the PWUDs undergoing drug abuse treatment and rehabilitation as it consisted of internally reliable items.

Finally, the researcher-made Psychological Functioning Scale, which has three subscales that measure affective, behavioral, and cognitive domains, also yielded very favorable results. Specifically, the affective functioning subscale (α = 0.87) is rated 'very high' based on the reliability statistics, which indicated that it consisted of internally consistent items that measured up the emotional functioning relative to the experiences of the drug reformists.

On the other hand, the behavioral subscale (α = 0.66) was rated 'moderate' based on the reliability statistics, which indicated that it consisted of internally consistent items that can measure the behavioral functioning relative to the experiences of the PWUDs. Lastly, the cognitive functioning subscale (α = 0.89) was rated 'very high' based on the reliability statistics, which indicated that it consisted of internally consistent items that measured up cognitive functioning relative to their experiences.

CONCLUSION

In light of the significant implications of the data gathered in this study, the following conclusions are hereby made:

1. Progress in the drug abuse treatment and rehabilitation among PWUDs can proactively be measured by delving into their overall psychological functioning in terms of their affective, behavioral, and cognitive domains, sense of mental wellbeing, and life satisfaction.

2. The Warwick–Edinburgh Mental Well-being Scale and the Life Satisfaction Scale, which garnered solid correlations and high-reliability indexes, are adapted for local use here in the Philippines for use among PWUDs. The latter are undertaking drug abuse treatment and rehabilitation in a center setting.

3. Similarly, the constructed Psychological Functioning Scale with three subscales measuring affective, behavioral, and cognitive domains is a reliable measure among PWUDs for the said purposes.

RECOMMENDATIONS

With the data presented, the following are hereby recommended to shed more use of the adapted and developed scales:

- Utilize the three scales for PWUDs in a DATRC setting to assess related programs that aim to improve their recovery process against drug addiction.
- Subject the three scales to more in-depth statistical analysis and sophistication to further improve their psychometric properties.
- Explore the possible utility of the three adapted and developed scales among PWUDs advocating the same changes in a community-based setting.

REFERENCES

[1] American Psychiatric Association. (2013). Diagnostic and statistical manual of mental disorders (5th ed.). Arlington, VA: Author.

[2] Bausela H. E. (2018). Neuropsicologia y adicciones [Neuropsychology and addictions]. Revista Chilena de Neuropsicologia 3(2): 1-3.

[3] Deady, M., Teesson, M., & Brady, K. T. (2013). Chapter 55 - Impact of Substance Use on the Course of Serious Mental Disorders. https://doi.org/10.1016/B978-0-12-398336-7.00055-3

[4] Diener, E., & Diener, M. (1995). Cross-cultural correlates of life satisfaction and self-esteem. Journal of Personality and Social Psychology, 68, 222–663.

[5] Erford, B. T. (2013). Assessment for counselors. Brooks/Cole: USA.

[6] Gilman, R., & Huebner, S. (2003). A review of life satisfaction research with children and adolescents. School Psychology Quarterly, 18, 192–205. https://10.1521/scpq.18.2.192.21858

[7] Heady, B., & Wearing, A. (1992). Understanding happiness: A theory of subjective wellbeing. Melbourne: Longman Cheshire.

[8] Madoz, G. A., Ochoa, M. E. (2012). Alterations of cognitive and executive functions in cocaine-dependent patients: Case-control study. Revista de Neurologia, 54, 199-208.

[9] Marsh, B., Carlyle, M., Carter, E., Hughes, P., McGahey, S., Lawn, W., Morgan, C. J. . (2019). Shyness, alcohol use disorders and "hangxiety": A naturalistic study of social drinkers. Personality and Individual Differences, 139, 13–18. https://doi.org/10.1016/j.paid.2018.10.034

[10] National Institute on Drug Use (NIDA). (2017a). Health consequences of drug misuse.

https://www.drugabuse.gov/publications/health-consequences-drug-misuse/cardiovascular-effects

[11] National Institute on Drug Use (NIDA). (2017b). What is marijuana?. https://www.drugabuse.gov/publications/drugfacts/marijuana

[12] National Institute on Drug Use (NIDA). (2016). What are the short-term effects of cocaine use?. https://www.drugabuse.gov/publications/research-reports/cocaine/what-are-short-term-effects-cocaine-use

[13] Rosenfeld, J. (2017). Five studies: New approaches in treating addiction as a disease. https://psmag.com/social-justice/five-studies-treating-addiction-as-disease#.z8tkxosx4

[14] Santucci K. (2012) Psychiatric disease and drug abuse. Curr Opin Pediatr. 24(2):233-237. https://doi:10.1097/MOP.0b013e3283504fbf

[15] Stewart-Brown, S. (2020). The Warwick-Edinburgh Mental Wellbeing Scales – WEMWBS. https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs/

[16] Suldo, S. M., & Huebner, E. S. (2004). Does life satisfaction moderate the effects of stressful life events on psychopathological behavior during adolescence? School Psychology Quarterly, 19, 93–105.

[17] Sun, R. C. F., & Shek, D. T. L. (2010). Life satisfaction, positive youth development, and problem behavior among Chinese adolescents in Hong Kong. Social Indicators Research, 95, 455–474.

[18] Szalavitz, M. (2016). 'Unbroken brain' offers new insights on addiction. https://www.npr.org/sections/13.7/2016/04/29/475991514/unbroken-brain-offers-new-insights-on-addiction

[19] Tennant, R., Hiller, L., Fishwick, R., et al. (2007). The Warwick-Edinburgh Mental Well-being Scale (WEMWBS): development and UK validation. Health Qual Life Outcomes 5, 63. https://doi.org/10.1186/1477-7525-5-63

[20] Tracy, N. (2012). Effects of Drug Addiction (physical and psychological), Healthy Place. https://www.healthyplace.com/addictions/drug-addiction/effects-of-drug-addiction-physical-and-psychological

[21] US Department of Health and Human Services (USDHHS). (2016). Office of the Surgeon General, Facing Addiction in America: The Surgeon General's Report on Alcohol, Drugs, and Health. Washington, DC.

[22] Vilchez, J. L. (2018). Cognitive effects of drugs. Journal of Scientific and Technical Research, 5(1), 1-3. https://doi:10.26717/BJSTR.2018.05.001138

[23] Volkow, N. D. (2004). The reality of comorbidity: Depression and drug abuse. Biological Psychiatry, 56(10), 714-717.

[24] Ye, M., Li, L., Li, Y., Shen, R., Wen, S., & Zhang, J. (2014). Life satisfaction of adolescents in Hunan, China: Reliability and validity of Chinese brief multidimensional students life satisfaction scale (BMSLSS). Social Indicator Research, 118, 515–522. https://doi:10.1007/s11205-013-0438-0