INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES
HRMARS MANAGEMENT ACADEMIC RESEARCH SOCIETY EXPLORING INTELLECTUAL CAPITAL
www.hrmars.com
ISSN: 2222-6990

Evaluation of Addiction Recovery Index among Drug Addicts in Malaysian Rehabilitation Centers

Wan Shahrazad Wan Sulaiman, Ezarina Zakaria, Fauziah Ibrahim & Mohammad Rahim Kamaluddin

To Link this Article: http://dx.doi.org/10.6007/IJARBSS/v12-i10/15379 DOI:10.6007/IJARBSS/v12-i10/15379

Received: *11* August 2022*,* ***Revised:*** *18* September 2022*,* ***Accepted:*** *29* September 2022

Published Online: *15* October 2022

In-Text Citation: (Sulaiman et al., 2022)

To Cite this Article: Sulaiman, W. S. W., Zakaria, E., Ibrahim, F., & Kamaluddin, M. R. (2022). Evaluation of Addiction Recovery Index among Drug Addicts in Malaysian Rehabilitation Centers. *International Journal of Academic Research in Business and Social Sciences*, *12*(10), 1642 – 1654.

Vol. 12, No. 10, 2022, Pg. 1642 – 1654

http://hrmars.com/index.php/pages/detail/IJARBSS | **JOURNAL HOMEPAGE**

Full Terms & Conditions of access and use can be found at
http://hrmars.com/index.php/pages/detail/publication-ethics

INTERNATIONAL JOURNAL OF ACADEMIC RESEARCH IN BUSINESS & SOCIAL SCIENCES
HRMARS MANAGEMENT ACADEMIC RESEARCH SOCIETY
EXPLORING INTELLECTUAL CAPITAL
www.hrmars.com
ISSN: 2222-6990

Evaluation of Addiction Recovery Index among Drug Addicts in Malaysian Rehabilitation Centers

Wan Shahrazad Wan Sulaiman, Ezarina Zakaria, Fauziah Ibrahim & Mohammad Rahim Kamaluddin

Psychology Programme, Centre for Research in Psychology and Human Well-being, Faculty of Social Sciences and Humanities, Universiti Kebangsaan Malaysia, 43600 Bangi, Selangor, Malaysia

Corresponding Author's Email: shara@ukm.edu.my

Abstract

One of the focuses of the rehabilitation program is to assess the level of dependence and the severity of the client's addiction. However, not many instruments assessing addiction recovery can be found in the Malaysian context. Therefore, the objectives of this study are to develop the addiction recovery index and test the difference of the recovery index of clients in rehabilitation centers and clients in the community. This study employed a cross-sectional survey design. A total of 662 respondents participated in the study and they were selected through a stratified random sampling technique. The Addiction Recovery Scale was developed by the researchers which contained three dimensions namely health, stability and security, and religiosity and belief. The findings of the study showed that the Addiction Recovery Scale has good validity and reliability. The overall results found that the recovery index for clients at rehabilitation centers was 77.56 which was significantly higher than the recovery index for clients in the community which was 71.47. This index provides information on the aspects that need to be paid attention to improve individual recovery among the clients so that their potential can be developed to remain free from drug addiction.

Keywords: Drug Addiction, Recovery, Index, Content Validity, Reliability

Introduction

In general, professional clinical models define recovery as the tendency to improve certain symptoms and functionality through treatment while models from the client or individual perspective emphasize peer support, empowerment, and real personal experiences (Bellack et al., 2006). According to the Substance Abuse and Mental Health Association (SAMHSA), recovery refers to helping individuals develop skills to prevent relapse, rebuilding broken relationships, or forming new relationships, actively engaging in meaningful activities, and taking steps to build a secure home and family. White (2007) on the other hand views recovery from addiction as a process and maintenance of status that involves not only individuals with addiction problems but also their families and the community around them.

Most previous studies evaluate the recovery process using the model of readiness to change proposed by Prochaska and Velicer (1997) which explains the readiness to change through four stages namely pre-contemplation, contemplation, taking action, and maintenance. Psychological tests that are commonly used are the University of Rhode Island Change Assessment Scale (URICA) and the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) with a good assessment of the client's recovery progress when they are in the 'contemplation' or 'taking action' stage. However, the measurement of recovery and relapse tendency in the Malaysian context has yet to find an objective instrument to obtain accurate information about the effectiveness of the treatment received.

Some other psychological aspects also need to be assessed to ensure that an individual has recovered from drug addiction. Inciardi (1994) states that clinical evaluation needs to build a psychological profile that includes the level of anxiety and depression, personality disorder, locus of control, level of psychological development, brain organic syndrome, central nervous system functionality and damage, history of sexual, emotional, and physical abuse and a history of violent behaviour. In addition, the study by Fauziah et al (2012) evaluated the effectiveness of treatment and recovery based on the individual dimension (self-confidence and resilience) and the social environment (family, community, and employer support).

Literature Review

Individuals with addiction problems need to be willing to change if they want to be free from addiction problems. Carey et al (2002) state that the main reason for the failure of individuals to change their addictive behaviour is due to the lack of motivation. Self-determination theory suggests that the formation of human behaviour can be influenced by internal and external factors. The formation of behaviour that is influenced by internal instinctive factors will produce more lasting behavioural changes compared to changes that are influenced by external factors (Deci & Ryan, 2000). A study on readiness to change by Fauziah et al (2010) using the Stages of Change Readiness and Treatment Eagerness Scale (SOCRATES) found that most respondents scored high in readiness to change when they were at the level of recognition and taking action to change. On the other hand, the majority of respondents at the ambivalent stage were uncertain that they can control problems related to drug addiction.

A study by Neale et al (2014) using the Delphi group method involving 25 experts (addiction psychiatrists, n=10; rehabilitation staff, n=9; detoxification unit staff, n=6) suggested measuring addiction recovery through 15 domains, namely: (1) substance abuse , (2) treatment/support, (3) psychological health, (4) physical health, (5) use of time, (6) education/training/employment, (7) income, (8) residence, (9) relationships, (10) social functioning, (11) antisocial behaviour, (12) well-being, (13) identity/self-awareness, (14) goals/aspirations, and (15) spirituality. Individuals involved in drug addiction can also be measured using the Drug Abuse Screening Test (DAST-20). This test was developed based on the model of the Michigan Alcoholism Test (Selzer, 1971). Skinner (1982) conducted a psychometric study of the DAST on 256 drug and alcohol abuse clients and found that internal consistency was good with a Cronbach's alpha coefficient of 0.95 for the entire sample and 0.86 for the drug abuse sample. Most clients with alcohol problems scored 5 or below, while the majority of clients with drug abuse problems scored 6 or above on the DAST-20. DAST-20 is also highly correlated with DAST-10 (r=0.98). Further studies have evaluated the DAST among diverse populations including psychiatric patients (Cocco & Carey, 1998; Maisto et al.,

2000; Staley & El Guebaly, 1990), prison inmates (Peters et al., 2000), substance abuse patients (Gavin et al., 1989), employees in the workplace (El-Bassel et al., 2001), and has been adapted for use with adolescents (Martino et al., 2000). Overall, these studies support the reliability and validity of the DAST diagnosis in a variety of contexts.

Past studies have identified several psychological, social, and spiritual factors in the individual recovery process. Among the psychological factors that have been identified are mental health, personality, self-control, and aggressive behaviour. The study of Nasim et al (2014) found that the depression, anxiety, and stress scores of opiate addicts were higher than normal individuals. From the personality aspect, high neuroticism traits and low psychoticism traits, low tendency for aggressive behaviour and hostility significantly predicted readiness to change among drug addicts (Shahrazad et al., 2010). The study of Sulaiman et al (2021) also found that self-control was a significant predictor of hope among drug addicts. In addition, the results of Ryan's (1995); Gideon's (2010) studies explained that the motivation found in individuals can contribute to behavioural changes as well as create the desire and determination to be part of society. On the other hand, lack of motivation can influence relapse among individuals with drug addiction.

A study by Moss and Tarter (1993) found that the effects of alcohol and drug addiction on aggressive and violent behaviour are influenced by a complex interaction between: (1) pharmacological effects and specific doses of drugs, (2) psychological and biological characteristics of individuals who abuse drugs, and (3) the situational context in which drug use occurs. The relationship between drug addiction and aggressive behaviour was supported by Fauziah et al (2012) who conducted a study on 200 teenagers from three Henry Gurney schools in Malaysia. Results of the study showed that the majority of teenagers involved in heroin and morphine addiction have moderate and high levels of aggressive behaviour. The problem of drug abuse is very difficult to treat, and addicts usually relapse because it is difficult to maintain recovery and integrate themselves into society after receiving treatment and rehabilitation. One of the factors that cause this relapse is because they are not accepted by society and experience stigma which results in difficulty getting employment and establish stability in life. A study by Lookatch et al (2019) showed that a supportive social network leads to the effectiveness of recovery. The findings of this study found that respondents who undergo treatment for drug addiction and at the same time receive social support can reduce substance use and increase their willingness to change. Social roles based on social activities and relationship with society and community have also shown to be successful in increasing the recovery among individuals with drug abuse problems (Rettie et al., 2019). Furthermore, the results of Visher et al (2003); Capaldi and Patterson (1996) found that in order to reduce the risk of relapse and succeed in the social integration process, individuals need support and positive acceptance from existing social network in the community.

According to Venema et al (2016), the term integration can be divided into three main aspects namely, (i) physical integration, (ii) functional integration and (iii) social integration. McNeill (2014) explains that an individual can succeed in the process of social integration if; (i) there is a positive change in individual behaviour, (ii) there is a change in individual identity and (iii) individuals feel that they are part of the community. In addition, Fox (2015) states that the individual's determination to adapt in the social environment as well as the willingness of community to accept individuals who have been involved in crime can help reduce stigma and

discrimination, thus making the process of social integration a success. Religiosity and spirituality have been found to be correlated in studies on crime, substance abuse, family health, physical and mental well-being, self-esteem, and coping (Cochran et al., 1994; Brown, 2006; Bazargan et al., 2004; Weaver et al., 2006; Wallace & Bergeman, 2002; Park et al., 1998; Cotton et al., 2006). At the individual level, qualitative and quantitative studies support the finding that religiosity is negatively related to substance abuse and that it is useful in the recovery process (Brown, 2006; Bazargan et al., 2004). Empirical evidence has also shown that religiosity and spirituality are protective factors that prevent the use of alcohol and illicit drugs in various groups (Brizer, 1993; Hodge, 2001; Marsiglia et al., 2005; Pullen et al., 1999; Walker et al., 2007).

Pardini et al (2000) who conducted a study among 237 substance use individuals undergoing recovery found that a high level of religious and spiritual beliefs predicted an optimistic life orientation, a higher perception of social support, a higher resilience to stress and lower anxiety. This is in line with the study of Jarusiewicz (2000) who conducted a cross-control study on 20 relapse respondents and 20 respondents who had recovered from a hospital-related addiction rehabilitation centre with 60% of the respondents being men. The results showed that individuals undergoing recovery have higher levels of faith and spirituality. Heinz, Epstein, and Preston (2007) also reported in their study that more time devoted to religious and spiritual activities showed better outcomes among opiate or cocaine users undergoing rehabilitation treatment. A longitudinal study by Connor, Anglin, Annon and Longshore (2008) was conducted among 315 respondents that included 29% women, 40% black and 35% Hispanic. Respondents with a consistent level of spirituality showed less days using heroin. Several other studies have also shown evidence that spirituality has a relationship with recovery and relapse prevention as well as better mental health status (Brome et al., 2000; Miller, 1998; Pardini et al., 2000).

Research Objectives

The objectives of this study are to

1. assess the validity and reliability of Addiction Recovery Scale
2. develop the recovery index for screening and evaluation purposes, and
3. test the difference of the recovery index of clients in rehabilitation centers and clients in the community.

Research Methods

Research Design

This research is a survey based, exploratory descriptive cross-sectional study. The location of this study is at designated Drug Rehabilitation Centers in Peninsular Malaysia. This study employed the distribution of questionnaires in collecting data. The distribution of questionnaires was done face to face with the respondents.

Respondents

All the respondents were clients at drug rehabilitation centers in Peninsular Malaysia and had undergone at least three months of rehabilitation program. In addition, individuals undergoing rehabilitation in the community were also included in the study. The study involved 662 respondents comprising 444 respondents from the rehabilitation centres and 218 clients undergoing treatment in the community. A total of 137 respondents were selected

for a pilot study that aimed to examine the validity and reliability of the Addiction Recovery Scale that was developed by the researchers.

Research Instruments

The Addiction Recovery Scale was developed to measure three dimensions, which are health, stability and security, and religiosity and belief. In addition, the scale has eight sub-dimensions, namely physical health, self-control, emotional stability, financial security, employment and home stability, religiosity, life goals and desire for recovery. The distribution of items according to dimensions and sub-dimensions is shown in Table 1. The measurement scale used is a 4-point Likert scale from Strongly Disagree to Strongly Agree.

Table 1
Distribution of items according to dimensions and subdimensions

Dimension	Sub-dimension	Number of Items
Health	Physical health	7
	Self-control	9
	Emotional stability	3
Stability and security	Financial security	8
	Employment and home stability	8
Religiosity and belief	Religious and spirituality	14
	Life goals	12
	Desire for Recovery	6

The calculation of this index has been done by referring to several index studies namely the (Malaysian Youth Index, 2011). Using the recommendations of the Malaysian Youth Index (2011), the score used is in the range of 0-100. The calculation of the index will adjust the score of each dimension in an equivalent measure, starting with the normalization of the score of each individual to the mean score. To obtain the overall score of the dimension and index, each indicator and sub-dimension is given the same weight. The addiction recovery index uses a score of 100 as the maximum scale where the higher the score value obtained, the better the respondent's recovery level. The level of the index is determined into 4 categories of scores as shown in Table 2.

Table 2
Categories for scores

Score	Category
0-25	Not recovered
26-50	Low Recovery
51-75	Moderate Recovery
76-100	High Recovery

Results

Demographic Profile

Table 3 shows the demographic profile of the respondents. The study involved 662 respondents consisting of clients undergoing treatment in rehabilitation centres and clients undergoing treatment in the community. Respondents' age ranged from 15 years to 61 years with the mean age of 34.34. The respondents consisted of 565 male respondents (85.3%) and 97 female respondents (14.7%). A total of 593 (89.6%) respondents were Malay, 24 (3.6%) were Chinese, 34 (5.1%) were Indian and 11 (1.7%) were from other races. In terms of marital status, the majority of respondents were single, namely 353 respondents (53.3%), 205 respondents (31%) were married, 57 respondents (8.6%) were divorced/separated, and 47 respondents (7.1%) were widows/widowers.

Table 3
Demographic profile of respondents

Demography		**Frequency**	**Percentage (%)**
Gender	Male	565	85.3
	Female	97	14.7
Ethnicity	Malay	593	89.6
	Chinese	24	3.6
	Indian	34	5.1
	Others	11	1.7
Marital Status	Single	353	53.3
	Married	205	31.0
	Divorced/Separated	57	8.6
	Widower/Widow	47	7.1

Results of content validity and reliability of instrument

This 67-item Addiction Recovery Scale was assessed for validity through content validity. The process of content validation was conducted to assess that the content of the scale consisted of items that measured addiction recovery. In this process, among the questions raised by the experts were: does the scale measure what it is supposed to measure and does the scale measure all the things about the construct. Based on the technique of content validity ratio (CVR), the scale was evaluated by the two subject matter experts. According to Gregory (2011), the panels have to evaluate based on the suitability of an item whether "Suitable" or "Not Suitable". Items evaluated as "Suitable" refer to the items measuring the construct while items evaluated "Not Suitable" indicated that the items were not suitable to measure the construct intended. Hence, to obtain the content validity ratio the calculation was done based on the evaluation of these two experts. Results of the evaluation of Expert Panel 1 and Expert Panel 2 showed that the result of the content validity of the Addiction Recovery Scale was good with CVR of 0.88. Results of reliability also reported that all sub-dimensions in the scale have satisfactory reliability ranging from Cronbach alpha 0.757 to 0.971 (Table 4).

Table 4
Results of Reliability

Dimension	Subdimension	Cronbach Alpha
Health	Physical health	0.757
	Self-control	0.790
	Emotional stability	0.774
Stability and security	Financial security	0.841
	Employment and home stability	0.830
Religiosity and belief	Religious and spirituality	0.919
	Life goals	0.900
	Desire for Recovery	0.870

Results of Addiction Recovery Index

The results shown in Table 5 found that the Addiction Recovery Index recorded was 77.56 for clients in rehabilitation centres and 71.47 for clients in the community. Of the three dimensions for clients in rehabilitation centres, the Religiosity and Belief dimension recorded the highest score of 85.53, followed by the Stability and Security dimension (76.71), and Health dimension (70.44). The results for clients in the community showed that of the three dimensions, the Religiosity and Belief dimension recorded the highest score of 79.01 followed by the Health dimension (67.33), and the Stability and Security dimension (66.17).

Table 5
Addiction Recovery Index Scores by Dimension

Dimension	Index	Level
Clients in rehabilitation centres		
Overall	77.56	High Recovery
Health	70.44	Moderate Recovery
Stability and security	76.71	High Recovery
Religiosity and belief	85.53	High Recovery
Clients in community		
Overall	71.47	Moderate Recovery
Health	67.33	Moderate Recovery
Stability and security	66.17	Moderate Recovery
Religiosity and belief	79.01	High Recovery

Difference of Addiction Recovery Index between clients in rehabilitation centres and clients in community

Results of t-test in Table 6 showed that there was significant difference between clients in the rehabilitation centres and in community for all the three dimensions of recovery. There was a significant difference of health between clients in rehabilitation centres and in community, $t = 2.557$, $p < .05$. Results also showed significant difference of stability and security dimension between clients in rehabilitation centres and in community, $t = 7.991$, $p < .000$. Finally, there was also significant difference of religiosity and belief between clients in rehabilitation centres and in community, $t = 6.685$, $p < .000$.

Table 6
T-test result for the difference of addiction recovery based on clients' category

Dimension	Category	N	Mean	SD	df	t	p
Health	Clients in rehabilitation	444	70.44	14.45	659	2.557	0.011
	Clients in community	218	67.33	15.31			
Stability and security	Clients in rehabilitation	444	76.71	15.13	660	7.991	0.000
	Clients in community	218	66.17	17.50			
Religiosity and belief	Clients in rehabilitation	444	85.53	10.45	372.58	6.685	0.000
	Clients in community	218	79.01	12.40			

Discussion

The results of the study can conclude that the client's Religiosity and Belief scores can be categorized at the high recovery level. This situation shows the importance of religious beliefs and practices in helping individuals maintain the recovery process. This positive practice must always be maintained so that individuals in the recovery process can build self-confidence to be able to live independently. While for the stability and security dimension, the results found that most clients at the rehabilitation centres and clients in the community undergoing rehabilitation program are at the Moderately Recovered level. Similar findings were obtained for the dimensions of Health which showed Moderately Recovered scores. These two dimensions should be given attention by the National Anti-Drug Agency (AADK) which is responsible for implementing rehabilitation programs in Malaysia. The health dimension consisting of self-control, physical health and emotional stability was found to show the lowest score compared to other dimensions. Further exploration needs to be done to find out how drug addiction affects individual emotions because if the rehabilitation program does not emphasize emotional control strategies, individuals may tend to experience emotional disorders such as depression, aggressive behaviour, anger management and physical health. Education about emotional control techniques and strategies and personal health care needs to be emphasized more widely among clients during counseling sessions and in rehabilitation modules. It aims not only to help improve the client's self-resilience, but indirectly help them avoid relapse.

Overall, there was a significant difference in the level of recovery for clients in the rehabilitation centres and clients undergoing rehabilitation in the community. National Anti-Drug Agency is advised to pay more attention to rehabilitation modules and programs for clients in the community. This is because the results of the study showed that most clients in the community were at the moderate recovery level. Although the score for the dimension of Religiosity and Belief is at the High Recovery level, the score for Health and Stability and Security still showed a Moderately Recovered level, it shows that the individual has not yet reached a full recovery level. In conclusion, this index has successfully shown the important dimensions in determining the level of recovery among drug addicts undergoing rehabilitation in Malaysia. It describes the current situation in relation to aspects of health, stability and

security, and religiosity and belief which are consistent with the domains that have been recommended by the Substance Abuse and Mental Health Services Administration (SAMHSA). Through the formation of the addiction recovery index, it also enables those responsible for drug treatment and rehabilitation programs to monitor the client's progress and recovery from time to time. This index is beneficial to provide guidance to all interested parties about objective methods in making screening and decisions. This index provides information on the aspects that need to be paid attention to improve the level of recovery and build self-reliance of the clients so that their potential and skills can be developed.

The implications of this study indicated that the relapse rate among clients can be reduced by addressing the dimensions and sub-dimensions of the addiction recovery index. The rehabilitation program designed should be holistic to include aspects of health, psychology, religion and family, employer and community support that can help in the reintegration process of individuals with drug abuse problems. In this way the tendency of individuals to relapse can be monitored and indirectly indicates the effectiveness of the rehabilitation programs.

Conclusion

This study has successfully developed the Addiction Recovery Scale to be used in the screening process to determine the level of recovery of clients at rehabilitation centres and clients undergoing rehabilitation in the community. The instrument developed was found to have good validity and reliability. The index calculation was done with the overall result showing that the recovery index for clients at the rehabilitation centres was categorized at the High Recovery level while the recovery index for clients in the community was categorized as Moderately Recovered. The scale can be used as a screening tool to evaluate the recovery level of individuals involved in drug abuse and further intervention can address specific areas of recovery to ensure they become free of drug addiction.

Acknowledgements

The researchers would like to express gratitude to the Ministry of Higher Education for approving the Fundamental Research Grant Scheme FRGS/1/2021/SS0/UKM/02/13. We would also like to thank the National Anti-Drug Agency Malaysia for approving this research and allowing the researchers to distribute the questionnaire to the clients in the rehabilitation centres and community.

References

Bazargan, S., Sherkat, D., & Bazargan, M. (2004). Religion and alcohol use among African-American and Hispanic inner-city emergency care patients. *Journal for the Scientific Study of Religion, 43*(3), 419-428.

Bellack, A. S., Bennett, M. E., Gearon, J. S., Brown, C. H., Ye Yang. (2006). A randomized clinical trial of a new behavioral treatment for drug abuse in people with severe and persistent mental illness. *Archives of General Psychiatry*, 63(4), 426-432.

Brizer, D. A. (1993). Religiosity and Drug abuse among psychiatric inpatients. *American Journal of Drug and Alcohol Abuse,* 19(3), 337-345.

Brome, D. R., Owens, M. D., Allen, K., & Vevaina, T. (2000). An examination of spirituality among African American women in recovery from substance abuse. *Journal of Black Psychology, 26*(4), 470-486.

Brown, E. (2006). The integral place of religion in the lives of rural African American women who use cocaine. *Journal of Religion and Health,* 45(1), 19-39.

Capaldi, D. M., & Patterson, G. R. (1996). Can violent offenders be distinguished from frequent offenders? prediction from childhood to adolescence. *Journal of Research in Crime and Delinquency,* 33, 206-31.

Carey, K. B., Carey, M. P., Maisto, S. A., & Purnine, D. M. (2002). The feasibility of enhancing psychiatric outpatients' readiness to change their substance use. *Psychiatric Services*, 53, 602 608.

Cocco, K. M., & Carey, K. B. (1998). Psychometric properties of the Drug Abuse Screening Test in psychiatric outpatients. *Psychological Assessment*, 10(4), 408-414.

Cochran, J., Wood, P., & Arneklev, B. (1994). Is the religiosity-delinquency relationship spurious? A test of arousal and social control theories. *Journal of Research in Crime & Delinquency,* 31(1), 92-123.

Connor, B. T., Anglin, M. D., Annon, J., & Longshore, D. (2008). Effect of religiosity and spirituality on drug treatment outcomes. *Journal of Behavioral Health Services & Research*, 36(2), 189-198.

Cotton, S., Puchalski, C., Sherman, S., Mrus, J., Peterman, A., Feinberg, J., Pargament, K., Justice, A., Leonard, A., & Tsevat, J. (2006). Spirituality and religion in patients with HIV/AIDS. *Journal of General Internal Medicine,* 21, S5-13.

Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry*, 11, 227-268.

Fauziah I., Arifin Z., Shahrazad, W. W. S., Lukman, Z. M., Murni, R. A. R., Zainah, A. G., & Fatihah, S. G. (2010). Measuring motivational readiness to change among drug addicts in Malaysia: A descriptive analysis. *The Social Sciences,* 5(5), 429-432.

Fauziah, I., Mohamad, M. S., Chong, S. T., & Abd Manaf, A. (2012). Substance Abuse and Aggressive Behavior among Adolescents. *Asian Social Science*, 8(9), 92-97.

Fox, K. (2015). Theorizing community integration as desistance-promotion. *Criminal Justice & Behavior,* 42, 82-94.

Gavin, D. R., Ross, H. E., & Skinner, H. A. (1989). Diagnostic Validity of the Drug Abuse Screening Test in the Assessment of DSM-III Drug Disorders. *British Journal of Addiction*, 84(3), 301-307.

Gideon, L. (2010). Family Role in the Reintegration Process of Recovering Drug Addicts: A Qualitative Review of Israeli Offenders*. International Journal of Offender Therapy and Comparative Criminology*, 51(2), 212-226.

Heinz, A., Epstein, D. H., Preston, K. L. (2007). Spiritual/Religious experiences and in-treatment outcome in an inner-city program for heroin and cocaine dependence. *Journal of Psychoactive Drugs*, 39, 41–49.

Hodge, D. R. (2001). Spiritual assessment: A review of major qualitative methods and a new framework for assessing spirituality. *Social Work, 46*(3), 203-214.

Inciardi, J. A. (1994). Screening and Assessment for Alcohol and Other Drug Abuse Among Adults in the Criminal Justice System. *Treatment Improvement Protocol (TIP) Series 7.* U.S. Department of Health and Human Services (DHHS).

Malaysian Youth Index. (2011). Institute for Youth Research Malaysia.

Jarusiewicz, B. (2000). Spirituality and addiction. *Alcoholism Treatment Quarterly*, 18(4), 99-109.

Lookatch, S. J., Wimberly, A. S., & McKay, J. R. (2019). Effects of Social Support and 12-Step Involvement on Recovery among People in Continuing Care for Cocaine Dependence. *Substance Use & Misuse*, 54(13), 2144-2155.

Maisto, S. A., Carey, M. P., Carey, K. B., Gleason, J. G., & Gordon, C. M. (2000). Use of the AUDIT and the DAST-10 to identify alcohol and drug use disorders among adults with a severe and persistent mental illness. *Psychological Assessment,* 12, 186–192.

Marsiglia, F. F., Kulis, S., Nieri, T., & Parsai, M. (2005). God Forbid! Substance use among religious and nonreligious youth. *American Journal of Orthopsychiatry, 75*(4), 585-598.

Martino, S., Grilo, C. M., & Fehon, D. (2000). Development of the Drug Abuse Screening Test for Adolescents (DAST-A). *Addictive Behaviors*, 25(1), 57-70.

McNeill, F. (2014). Punishment as rehabilitation. In Bruinsma, G. & Weisburd, D. (eds). *Encyclopaedia of Criminology and Criminal Justice*. New York: Springer Science and Business Media.

Miller, W. R. (1998). Researching the spiritual dimensions of alcohol and other drug problems. *Addiction, 93*, 979-990.

Moss, H. B., & Tarter, R. E. (1993). Substance Abuse, Aggression, and Violence: What Are the Connections? *The American Journal on Addictions*, 2(2), 149–160.

Neale, J., Finch, E., Marsden, J., Mitcheson, L., Rose, D., Strang, J., Tompkins, C., Wheeler, C. & Wykes, T. (2014). How should we measure addiction recovery? Analysis of service provider perspectives using online Delphi groups. *Drugs: Education, Prevention and Policy*, 21(4), 310–323.

Pardini, D. A., Plante, T. G., Sherman, A., & Stump, J. E. (2000). Religious faith and spirituality in substance abuse recovery: Determining the mental health benefits. *Journal of Substance Abuse Treatment, 19*, 347-354.

Park, J., Meyers, L., & Czar, G. (1998). Religiosity and spirituality: An exploratory analysis using the CPI 3-vector model. *Journal of Social Behavior and Personality, 13*(3), 541-552.

Prochaska, J. O., & Velicer, W. F. (1997). The transtheoretical model of health behavior change. *American Journal of Health Promotion*, 12(1), 38-48.

Pullen, L., Modrcin-Talbott, M., West, W., & Muenchen, R. (1999). Spiritual high vs high on spirits: Is religiosity related to adolescent alcohol and drug abuse? *Journal of Psychiatric and Mental Health Nursing, 6,* 3-8.

Rettie, H. C., Hogan, L. M., & Cox, W. M. (2019). The Recovery Strengths Questionnaire for alcohol and drug use disorders. *Drug & Alcohol Review*, 38(2), 209-215.

Ryan, R. M. (1995). Psychological needs and the facilitation of integrative processes. *Journal of Personality*, 63(3), 397-427.

Selzer, M. L. (1971). The Michigan alcoholism screening test: The quest for a new diagnostic instrument. *American Journal of Psychiatry*, 127, 1653–1658.

Skinner, H. A. (1982). The Drug Abuse Screening Test. *Addictive Behaviors*, 7(4), 363–371.

Staley, D., & El Guebaly, N. (1990). Psychometric properties of the Drug Abuse Screening Test *in a psychiatric patient population. Addiction Behavior, 15(3), 257-264.*

Venema, E., Otten, S., & Vlaskamp, C. (2016). Direct support professionals and reversed integration of people with intellectual disabilities: Impact of attitudes, perceived social norms and meta-evaluations. Journal of Policy and Practice in Intellectual Disabilities,13(1), doi.org/10.1111/jppi.12145.

Visher, C. A., & Travis, J. (2003). Transitions from prison to community: Understanding individual pathways. *Annual Review of Sociology*, 29, 89–113.

Walker, C., Ainette, M. G., Wills, T. A., & Mendoza, D. (2007). Religiosity and substance use: *Test of an indirect-effect model in early and middle adolescence. Psychology of Addictive Behaviors, 21(1), 84-96.*

Wallace, K., & Bergeman, C. (2002). Spirituality and religiosity in a sample of African American elders: A life story approach. *Journal of Adult Development, 9*(2), 141-154.

Sulaiman, W. W. M. S., Ismail, Z., Sulaiman, W. W. S., & Kawangit, R. M. (2021). Dataset relating self-control and hope among participants in Malaysian rehabilitation centers. *Data in Brief*, 35, 106890.

Shahrazad, W. S., Lukman, Z. M., Murni, R. A. R., Arifin, Z., Zainah, A. Z., Fauziah, I., & Fatihah, S. G. (2010). Personality traits and readiness to change among drug addicts in Malaysia. *Research Journal of Applied Sciences,* 5(4), 263-266.

Weaver, A., Pargament, K., Flannely, K., & Oppenheimer, J. (2006). Trends in the scientific study of religion, spirituality, and health: 1965-2000. *Journal of Religion and Health, 45*(2), 208-214.

White, W. (2007) Addiction recovery: Its definition and conceptual boundaries. *Journal of Substance Abuse Treatment*, 33, 229-241.