

FACTOR STRUCTURE AND RELIABILITY OF THE MALAY VERSION OF THE CHILDHOOD TRAUMA QUESTIONNAIRE- SHORT FORM (M-CTQ-SF) AMONG DRUG ADDICTS IN MALAYSIA

¹Loy See Mey, ^{2*}Mohammad Rahim Kamaluddin, ³Rozainee Khairudin, ⁴Tengku Elmi Azlina
Tengku Muda, ⁵Noremy Md Akhir, ⁶Fauziah Ibrahim

ABSTRACT--*Some studies in the literature have suggested that individuals with drug addiction problem often associated with high prevalence of child abuse and neglect in their life histories. Therefore, the evaluation of childhood maltreatment experiences among the population suffering from drug addiction is essential for the development of effective treatment and psychosocial interventions. The Childhood Trauma Questionnaire (CTQ-SF) is the commonly used measurement for assessing multiple dimensions of childhood traumatic experiences. However, the Malay version of the CTQ-SF (henceforth, M-CTQ-SF) has not been validated among Malaysians with drug abuse problem. In this study, the M-CTQ-SF was administered to 360 drug addicts entering inpatient drug abuse treatment in Malaysia. The construct validity of M-CTQ-SF was examined using a principle component analysis while the reliability was assessed using internal consistency approach (Cronbach alpha method). The result of PCA found a five factor structure with two items cross loaded with two factors. The internal consistency of M-CTQ-SF was adequate except for Physical Neglect and Sexual Abuse reported an unsatisfactory Cronbach alpha (< .70). The study results have suggested that the translated version of M-CTQ-SF can be considered as a valid screening instrument for childhood traumatic experience among population with drug addiction problem.*

Keywords-- *Childhood Trauma Questionnaire, child abuse, drug addicts, factor structure, reliability, psychosocial intervention*

¹ Faculty of Social Sciences and Humanities, The National University of Malaysia, Bangi, Malaysia.

^{2*} Criminologist and Senior Lecturer, Faculty of Social Sciences and Humanities, The National University of Malaysia, Bangi, Malaysia, rahimk@ukm.edu.my

³ Faculty of Social Sciences and Humanities, The National University of Malaysia, Bangi, Malaysia.

⁴ Genius@Pintar National Gifted Centre, The National University of Malaysia, Bangi, Malaysia.

⁵ Faculty of Social Sciences and Humanities, The National University of Malaysia, Bangi, Malaysia.

⁶ Faculty of Social Sciences and Humanities, The National University of Malaysia, Bangi, Malaysia.

I. INTRODUCTION

A large body of studies have shown that childhood maltreatment experiences poses tremendous threat to one's physical and psychological wellbeing across human lifespan (Abdul Kadir & Desa, 2013; Comijs et al., 2013; Huang, Schwandt, Ramchandani, George, & Heilig, 2012; MS, IZA, & Daud, 2019; Norman et al., 2012). Globally, there are four types of maltreatment recognized by World Health Organization (WHO) including physical, emotional, sexual abuses and neglect. A developing literature regarding child abuse have shown that child maltreatment is a co-occurring phenomenon in which the abused children often experience various type of maltreatment in the same family (Fink, Bernstein, Handelsman, Foote, & Lovejoy, 1995; Moylan et al., 2010; Mwakanyamale & Yizhen, 2019; van Duin et al., 2018). Therefore, an assessment which cover a broad spectrum of childhood maltreatment experiences is important to understand the insidious impacts poses by different type of abuses and neglect. In recent decades, accumulating evidence supported that childhood maltreatment is a significant risk factor for the development of drug addiction across human lifespan (Douglas, Chan, Gelernter, & Arias, 2010; Herrenkohl, Hong, Klika, Herrenkohl, & Russo, 2013; Kilpatrick et al., 2000; LeTendre & Reed, 2017; Quinn et al., 2016; Stein et al., 2017; Nazira Sadiron et al., 2019). For the individuals with drug abuse problems, childhood maltreatment history are common among this population but the problem was frequently underreported. In short, exploring the prevalence of maltreatment history with the use of a comprehensive assessment covering all types of maltreatment among the drug addicts population is essential and imperative to understand the potential etiology which lead to the development of drug addiction.

For the purpose of studying childhood maltreatment experience, several psychometric instruments have been developed. However, there is no consensus on a single best instrument that provide the best measurement qualities (Saini, Hoffmann, Pantelis, Everall, & Bousman, 2019). Childhood Trauma Questionnaire (CTQ) which developed by Berstein et al. in 1998 is one of the most popular and widely used assessment which has been applied in different languages and settings to measure childhood trauma history since it covers a comprehensive of five types maltreatment experiences including emotional, physical, sexual abuses and emotional and physical neglect (Bernstein & Fink, 1998; Bernstein et al., 1994). The instructions and items consisted in CTQ-SF are generally presented in an objective manner to describe one's behaviours, past events and individual's perceptions. Sensitive terms such as "abuse" and "neglect" which may elicit respondents' defensiveness were avoided in the scale as well (Cheng et al., 2018). Originally, CTQ was developed as a 70-item tool but was later revised in a shortened version consisting of 28 item with six sub-dimensions (CTQ-SF) (25 clinical items and three validity items) via exploratory and confirmatory factor analyses. The five types of maltreatment in CTQ-SF are: emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect. Each subscale consists of five items and a sub-dimension with three items namely Minimization/Denial Scale for detecting denial of abuse (Bernstein et al., 1994; Fink et al., 1995).

In this instrument, participants were asked to report how often they experienced maltreatment during their first 16 years of life on a five-point Likert-scale ranging from 1 "never true" to 5 "very often true". The sum of each

subscale ranges from 5 to 25 with higher scores indicate a higher extent of maltreatment experience (Bernstein & Fink, 1998; Bernstein et al., 1994). CTQ-SF has shown good psychometric properties across different settings with adequate internal consistency (Bernstein, Ahluvalia, Pogge, & Handelsman, 1997; Gerdner & Allgulander, 2009). To date, the CTQ-SF has been translated into many languages such as Turkish (Rezan & Eroglu, 2012), German (Karos, Niederstrasser, Abidi, Bernstein, & Bader, 2014), Italian (Sacchi, Vieno, & Simonelli, 2018), Chinese (He, Zhong, Gao, Xiong, & Yao, 2019), Korean (Kim, Park, Yang, & Oh, 2011), Dutch (Thombs, Bernstein, Lobbetael, & Arntz, 2009), Spanish (Hernandez et al., 2013), Swedish (Gerdner & Allgulander, 2009), and have, on average, shown good performance in the reliability and validity across all language versions. However, to the best of our knowledge, there have been no data regarding the psychometric properties of the Malay version of the CTQ-SF in assessing the childhood maltreatment history among drug addicts in Malaysia. With that in mind, the aim of this study is to examine the reliability and factor structure of the Malay version of the CTQ-SF (henceforth, M-CTQ-SF) in a sample of Malaysia's inpatient drug addicts to explore the suitability of the said instrument to be applied in different culture.

II. METHODS

Respondents

The study protocol was approved by the National Anti-drugs Agency (AADK) of Malaysia. 360 respondents were recruited from three drug rehabilitation centres under the governance of AADK. All respondents were drug addicts with reading and comprehension ability in answering the assessment.

Data analysis

Overall, the psychometric properties investigation of the M-CTQ-SF in this article include preliminary analyses, factor structure, internal consistency and inter-correlations of subscales. The preliminary analyses employed in this study were: Kaiser-Meyer-Olkin (KMO) and Bartlett's test of sphericity (Field, 2009, Mohammad Rahim Kamaluddin, 2013a, Mohammad Rahim Kamaluddin, 2013b). The sample is considered sufficient if KMO values exceed 0.60 and Bartlett's test of sphericity is significant ($p < 0.05$) (Field 2009, Mohammad Rahim Kamaluddin, 2017, Lee Enn Hooi, 2019). The 25 items of the M-CTQ-SF (three items assessing denial of abuse were excluded) were subjected to principal component analysis (PCA) using IBM SPSS version 22. The ideal number of factors retained was identified using eigenvalues exceeding 1. PCA was performed using promax rotation since the subscales for CTQ-SF are inter-correlated according to previous studies (Bernstein & Fink, 1998; Gerdner & Allgulander, 2009). Next, internal consistency was computed using Cronbach coefficient alpha and Pearson R was used to estimate the inter-correlations between the five subscales.

III. RESULTS

Demographic information

Demographic characteristics of the 360 male respondents of this study are presented in Table 1. The mean age of respondents was 33.34 years (SD=7.25) with majority of them were Malay (96.4%) and single (53.1%). Around 28.6% of the participants reported an early onset of drug use in the age range of 20 to 24. When asked about whether they are the victim of child abuse, only 9 respondents acknowledged on the checkbox “yes”. The average total score of the Malay version of CTQ-SF was 51.9 (SD=11.46) while the mean scores for five subscales were 6.9 (SD= 5.5) for emotional abuse (EA), 8.6 (SD= 3.9) for physical abuse (PA), 5.9 (SD=1.6) for sexual abuse (SA), 11.6 (SD= 4.9) for emotional neglect (EN), and 6.9 (SD= 2.4) for physical neglect (PN).

According to the original manual of CTQ-SF, the cut-off scores for each subscales were classified into four level from none/minimal to severe childhood trauma histories (Bernstein & Fink, 1998). Among all five types of abuses and neglects based on the cut-off scores for minimal to low level of childhood trauma, sexual abuse (SA ≤ 7) reported for the highest percentage (n=323, 89.7%), followed by physical neglect (PN ≤ 9; n=309, 85.8%), physical abuse (PA ≤ 9; n=246, 68.3%), emotional abuse (EA ≤ 12; n=245; 68.1%), and emotional neglect (EN ≤ 14; n=239, 66.4%). Meanwhile, according to the cut-off scores for moderate to severe level of trauma histories, emotional neglect (EN ≥ 15) was the most common type of trauma (n=121, 33.6%), followed by emotional abuse (EA ≥ 13; n=115, 32%), physical abuse (PA ≥ 10; n=114, 31.7%), physical neglect (PN ≥ 10; n=51, 14.2%) and sexual abuse (SA ≥ 8; n=37, 15.7%).

Table 1: Participant Demographic Information (n=360)

Demographic Variables		n =360	Percentage
Age Group	20-24	31	8.6
	25-29	108	30.0
	30-34	83	23.1
	35-39	59	16.4
	40-44	49	13.6
	45-49	25	6.9
	≥ 50	5	4.1
Ethnicity	Malay	347	96.4
	Chinese	7	1.9
	Indian	6	1.7
Marital status	Single	191	53.1

	Married	120	33.3
	Divorced	43	11.9
	Widowed	6	1.7
Educational level	Primary	56	15.6
	PMR/PT3 (Lower secondary school)	99	27.5
	SPM (Upper secondary school)	189	52.5
	STPM/Diploma	8	2.2
	Bachelor degree	3	0.8
	No formal education	5	1.4
Age of first drug use	< 13	22	6.1
	14-15	46	12.8
	16-17	60	16.7
	18-19	59	16.4
	20-24	103	28.6
	25-29	40	11.1
	≥ 30	30	8.3
Reason start taking drugs	Peer influence	104	28.9
	Curiosity	108	30
	Problem with parents	14	3.9
	Pleasure	113	31.4
	Stress	21	5.8
Victim of child abuse	Yes	9	2.5
	No	351	97.5
Motivation for treatment	Very high	81	22.5
	High	148	41.1
	Moderate	111	30.8
	Low	20	5.6

Factor structure, internal consistency and inter-correlations between scales

The Kaiser-Meyer-Olkin value was .875, suggesting good sampling adequacy for exploratory factor analysis. In addition, Bartlett's Test of Sphericity was also highly significant ($p < 0.001$). Principal components analysis (PCA)

identified five components with eigenvalues exceeding 1, explaining 28.4%, 9.8%, 8.3%, 5.1% and 4.8% respectively, and accounting together for 56.4% of variance between items. This result is consistent with original version of CTQ-SF to divide the instrument into five dimensions or five types of abuses and neglects. As shown in Table 2, all 25 items have factor loadings above 0.4 which supported the total CTQ scale of global childhood maltreatment. The examination of pattern matrix indicates that two items (6, 23) had cross loadings on more than one factor. By examining the items under each factor in reference to the previous study, it was suggested that Factor 1 most strongly reflects emotional abuse (EA), Factor 2 reflects emotional neglect (EN), Factor 3 reflects sexual abuse (SA), factor 4 reflects physical neglect (PN), while factor 5 is related to physical abuse (PA).

Overall, the Malay version of CTQ-SF was found to have adequate internal consistency. The Cronbach alpha coefficient of total CTQ (25 items) was 0.79, while the alpha coefficient for the five subscales were ranged from .610 (SA) to .810 (EA) as shown in Table 2. The two items that loaded on more than one factor was assigned to the highest loading factor for the Cronbach alpha analysis. Lastly, the inter-correlations between total scale and their respective subscales of the M-CTQ-SF are shown in Table 4. All correlations are significant except for one pair (sexual abuse and emotional neglect). Among the five subscales, the highest correlations were found between emotional abuse and physical abuse ($r = 0.669, p \leq .01$). Besides, emotional abuse has the highest correlation with the total scale ($r = 0.874, p \leq .01$) while sexual abuse ($r = 0.309, p \leq .01$) reporting the least correlation.

Table 2: Principle component analysis (PCA) with promax rotation

	EA	EN	SA	PN	PA
CTQ3	.660				
CTQ8	.621				
CTQ14	.771				
CTQ18	.323				
CTQ25	.654				
CTQ9					.500
CTQ11					.751
CTQ12					.774
CTQ15					.596
CTQ17					.407
CTQ20			.752		
CTQ21			.482		
CTQ23	.414		.491		
CTQ24					.794
CTQ27			.801		
CTQ5		.582			
CTQ7		.747			

CTQ13	.710		
CTQ19	.818		
CTQ28	.767		
CTQ1		.935	
CTQ2	.652		
CTQ4		.822	
CTQ6		.621	.391
CTQ26	.410		

Table 3:Internal consistency of the Malay version of CTQ-SF

	Items	Cronbach alpha coefficient (α)
Emotional abuse	3, 8, 14, 18, 25	.734
Physical abuse	9, 11, 12, 15, 17	.749
Sexual abuse	20, 21, 23, 24, 27	.660
Emotional neglect	5, 7, 13, 19, 28	.810
Physical neglect	1, 2, 4, 6, 26	.629
Composite internal consistency	25 items	.790

Table 4:Correlations among total and five subscales of M-CTQ-SF (N=360)

	M-CTQ-SF Total	Physical abuse	Sexual abuse	Emotional neglect	Physical neglect
Emotional abuse	.874**	.699**	.223**	.615**	.447**
Physical abuse	.809**		.173**	.517**	.336**
Sexual abuse	.309**			.101	.176**
Emotional neglect	.844**				.569**
Physical neglect	.635**				

** $p \leq .01$ (2-tailed)

IV. DISCUSSION

Previously in Malaysia, child abuse or child maltreatment including physical, emotional, and sexual abuses and neglect often perceived as isolated cases rather than a part of pervasive phenomenon which can lead to various psychiatric disorders across the human lifespan. When more and more abuse cases of children being reported by the media, this issue only brought to the attention of the public. In 1991, Malaysia government first introduced the *Child Protection Act* 1991 following the *Child Act* 2001 in an attempt to provide effective guidance when dealing with issues relating to the interests of children. According to the statistics, the cases of child abuse in Malaysia increase every year (Akhir et al., 2012; Norsaleha et al., 2018; Shahidan Shaari, Hidayah Harun, & Ermawati Hussain, 2019).

A review paper by Cheah and Choo (2016) which summarized the published literature on child maltreatment in Malaysia supported the observations that child abuse and neglect is a phenomenon which was far more prevalent than actually reported to the authorities in Malaysia. In addition, studies also highlighted that family environment especially adverse experiences during childhood was a strong risk factor which contributed to the drug and substance abuse problem later in life (Cheah & Choo, 2016, Ismail, Ahmad, Ibrahim, & Nen, 2017).

Therefore, a brief instrument which can be used as a screening tool for childhood trauma histories among the drug addiction population is needed and important in the research setting. In order to bridge this gap, the cross-cultural and cross-population validation of the Childhood Trauma questionnaire in a local population of people suffering from drug addiction problem was carried out in this research. Overall, this study has investigated the factor structure and reliability of the Malay version of the CTQ-SF (M-CTQ-SF) which provides support for the CTQ global scale. The exploratory factor analysis which gives support for the construct validity suggested a five factor model. This finding was consistent with the original version of the CTQ-SF as well as studies in different countries and populations (Bernstein et al., 2003; Charak, de Jong, Berckmoes, Ndayisaba, & Reis, 2017). Item 24 (Someone molested me) loaded on the factor of physical abuse instead of sexual abuse which is consistent with few previous studies and this finding suggested that the said item may have certain extent of association with physical abuse (Essien et al., 2018; Thombs et al., 2009).

Besides, item 2 (I knew that there was someone to take care of me and protect me) and 26 (There was someone to take me to the doctor if I needed it) loaded on the factor of emotional neglect (EN) instead of physical neglect (PN). The cross loading between PN and EN has been reported by some previous studies (Cheng et al., 2018; Essien et al., 2018; Gerdner & Allgulander, 2009). This may be due to the possibility of both PN and EN to co-exist in the same family which failed to provide adequate care for their children in terms of both physical and psychosocial needs. Moreover, in few studies which investigated the factor structure of CTQ-SF across different languages and countries reported a non-homogeneous attribute of the PN scale, implying the problem is due to the instrument construction and conceptual overlapped rather than cultural differences (Gerdner & Allgulander, 2009; Lundgren, Gerdner, & Lundqvist, 2002; Villano et al., 2004). Furthermore, the correlation between PN and EN was highly significant and this finding is also consistent with previous studies that reported a very strong correlation between both subscales (Bernstein et al., 1994; Bremner, Vermetten, & Mazure, 2000; Brewin, Andrews, & Gotlib, 1993; Forde, Baron, Scher, & Stein, 2012); this may indicate an overlapping nature shared between the two dimensions.

In reliability analysis, the M-CTQ-SF for all subscales was found to have adequate internal consistency, except for one pair: physical neglect (PN) and sexual abuse (SA) subscales; which reported a low Cronbach alpha coefficient below .70. This result is consistent with the original version of CTQ-SF and also studies that investigated the psychometric properties of the instrument (Cheng et al., 2018; Gerdner & Allgulander, 2009; Karos et al., 2014). The unsatisfactory internal consistency for PN subscale might be due to its heterogeneous attribute while for SA subscale, the underlying cause is unclear since most of the studies reported an adequate Cronbach

alphain the range of .70 to .95 (Cheng et al., 2018; Gerdner & Allgulander, 2009; Jiang et al., 2018; Rezan & Eroglu, 2012). However, this might be attributable by cultural norms and sensitivity in Malaysia society that impact the hesitancy to disclose of sexual abuse experience(Nen et al. 2011). Furthermore, all males sample in this study may make disclosure of sexual abuse more difficult since men are more reluctant to recognize their traumatic experience as sexual abuse due to shameful feelings and masculine norms(Gagnier & Collin-Vézina, 2016).

The respondents in this study reported emotional neglect (EN) as being the most prevalent type of experience among the five types of childhood trauma, while sexual abuse (SA) has the lowest reported rate. This result is somehow consistent with other studies using CTQ-SF with similar cut-off scores in different population which reported that neglect (emotional and physical) was the most prevalent type of childhood trauma experience(Charak & Koot, 2014; Cheng et al., 2018; Häuser, Schmutzer, Brähler & Glaesmer, 2011). Hitherto there are very limited studies which have investigated the prevalence of the childhood abuse and neglect experiences among the drug addiction population. Besides that, to the best of our knowledge, this is the first study to address the rates of adverse childhood experiences among individuals with drug use problem in Malaysia by using CTQ-SF. Therefore, it would be difficult to make comparison with other studies which employed different population and measurement.

Overall, this study has several limitations. First, all recruited respondents with drug addiction problem were men who receiving a mandatory inpatient drug treatment under the Malaysia Drug Dependant Act 1983 for treatment and rehabilitation. Thus, the generalizability of the study results may be limited due to the specific nature of the respondents. Besides that, the use of retrospective self-reporting of childhood maltreatment may bias the results due to respondents' memory distortion and social desirability. Lastly, other measurements assessing the similar construct was not used in this study to make comparison between the results as well as to examine the criterion validity. As a result, the findings in this study should not be over-interpreted due to the limitations mentioned. Nevertheless, this study provides some important information about the extent of childhood maltreatment in Malaysia context. The high prevalence of emotional abuse among individuals with drug addiction problems implies a need to validate CTQ-SF as well as other assessment tools that can be used to evaluate one's childhood traumatic experience which includes various types of maltreatment and its relation to drug abuse especially in Malaysia where the related studies are very limited.

V. IMPLICATIONS

Overall, the adequate reliability and factor structure of the M-CTQ-SF support the use of this instrument for both research and clinical purposes. Research about child abuse and neglect would be hampered without the use of a validated instrument; thus, the M-CTQ-SF which act as a screening tool to examine one's history of adverse experience in childhood could help to detect the risk for developing a broad range of psychiatric disorders across the human lifespan. Lastly, the existence of a valid and reliable M-CTQ-SF would be very beneficial for psychosocial intervention and rehabilitation efforts especially in developing specific intervention formula for those who have experienced childhood maltreatment.

VI. ACKNOWLEDGMENT

This present study was funded by Fundamental Research Grant Scheme by The Ministry of Education (Malaysia) [code: FRGS/1/2018/SS06/UKM/02/2]

REFERENCES

1. Abdul Kadir, N. B., & Desa, A. (2013). Preliminary data on abuse during childhood among female university students. *Asia Pacific Journal of Social Work and Development*, 23(4), 299–314.
2. Akhir, N. M., Alavi, K., Nen, S., Ibrahim, F., Mohamad, M. S., & Hassan, N. (2012). Relation of internal factors that contribute to physical child abuse among parents. *E-Bangi: Journal of Social Sciences & Humanities*, 7(1), 001-014.
3. Bernstein, D. P., Fink, L., Handelsman, L., Foote, J., Lovejoy, M., Wenzel, K., ... Ruggiero, J. (1994). Initial reliability and validity of a new retrospective measure of child abuse and neglect. *American Journal of Psychiatry*, 151(8), 1132–1136.
4. Bernstein, D. P., & Fink, L. (1998). *Childhood trauma questionnaire : a retrospective self-report manual*. Texas: Harcourt Brace & Co.
5. Bernstein, D. P., Stein, J. A., Newcomb, M. D., Walker, E., Pogge, D., Ahluvalia, T., ... Zule, W. (2003). Development and validation of a brief screening version of the Childhood Trauma Questionnaire. *Child Abuse and Neglect*, 27(2), 169–190.
6. Brewin, C. R., Andrews, B., & Gotlib, I. H. (1993). Psychopathology and Early Experience: A Reappraisal of Retrospective Reports. *Psychological Bulletin*, 113(1), 82–98.
7. Bremner, J. D., Vermetten, E., & Mazure, C. M. (2000). Development and preliminary psychometric properties of an instrument for the measurement of childhood trauma: The early trauma inventory. *Depression and Anxiety*, 12(1), 1–12.
8. Charak, R., de Jong, J. T. V. M., Berckmoes, L. H., Ndayisaba, H., & Reis, R. (2017). Assessing the factor structure of the Childhood Trauma Questionnaire, and cumulative effect of abuse and neglect on mental health among adolescents in conflict-affected Burundi. *Child Abuse and Neglect*, 72, 383–392.
9. Charak, R., & Koot, H. M. (2014). Abuse and neglect in adolescents of Jammu, india: The role of gender, family structure, and parental education. *Journal of Anxiety Disorders*, 28(6), 590–598.
10. Cheah, I. G. S., & Choo, W.Y. (2016). A review of research on child abuse in Malaysia. *Medical Journal of Malaysia*, 71(1), 87-99.
11. Cheng, Y.C., Chen, C.H., Chou, K.R., Kuo, P.H., & Huang, M.C. (2018). Reliability and factor structure of the chinese version of childhood trauma questionnaire-short form in in patients with substance use disorder. *Taiwanese Journal of Psychiatry*, 32(1), 52-61.
12. Comijs, H. C., Van Exel, E., Van Der Mast, R. C., Paauw, A., Oude Voshaar, R., & Stek, M. L. (2013). Childhood abuse in late-life depression. *Journal of Affective Disorders*, 147(1–3), 241–246.

13. Douglas, K., Chan, G., Gelernter, J., & Arias, A. (2010). Adverse childhood events as risk factors for substance dependence: partial mediation by mood and anxiety disorders. *Addictive Behaviors*, 35(1), 7–13.
14. Essien, E.A., Attoe, O.R., Anake, G.A., Uwah, E.E, Aigbomian, E.J., Eleazu, F.I., & Udofia, O. (2018). The Childhood Trauma Questionnaire: Validity, Reliability and Factor Structure among Adolescents in Calabar, Nigeria. *Nigerian Journal of Medicine*. 27(3), 253-259.
15. Fink, L. A., Bernstein, D., Handelsman, L., Foote, J., & Lovejoy, M. (1995). Initial reliability and validity of the childhood trauma interview: A new multidimensional measure of childhood interpersonal trauma. *American Journal of Psychiatry*, 152(9), 1329–1335.
16. Forde, D. R., Baron, S. W., Scher, C. D., & Stein, M. B. (2012). Factor Structure and Reliability of the Childhood Trauma Questionnaire and Prevalence Estimates of Trauma for Male and Female Street Youth. *Journal of Interpersonal Violence*, 27(2), 364–379.
17. Gagnier, C., & Collin-Vézina, D. (2016). The Disclosure Experiences of Male Child Sexual Abuse Survivors. *Journal of Child Sexual Abuse*, 25(2), 221–241.
18. Gerdner, A., & Allgulander, C. (2009). Psychometric properties of the Swedish version of the Childhood Trauma Questionnaire - Short Form (CTQ-SF). *Nordic Journal of Psychiatry*, 63(2), 160–170.
19. Häuser, W., Schmutzer, G., Brähler, E., & Glaesmer, H. (2011). Maltreatment in childhood and adolescence: results from a survey of a representative sample of the German population. *DeutschesArzteblatt International*, 108(17), 287–294.
20. He, J., Zhong, X., Gao, Y., Xiong, G., & Yao, S. (2019). Psychometric properties of the Chinese version of the Childhood Trauma Questionnaire-Short Form (CTQ-SF) among undergraduates and depressive patients. *Child Abuse and Neglect*, 91, 102–108.
21. Hernandez, A., Gallardo-Pujol, D., Pereda, N., Arntz, A., Bernstein, D. P., Gaviria, A. M., ... Gutiérrez-Zotes, J. A. (2013). Initial validation of the Spanish childhood trauma questionnaire-short form: factor structure, reliability and association with parenting. *Journal of Interpersonal Violence*, 28(7), 1498–1518.
22. Herrenkohl, T. I., Hong, S., Klika, J. B., Herrenkohl, R. C., & Russo, M. J. (2013). Developmental Impacts of Child Abuse and Neglect Related to Adult Mental Health, Substance Use, and Physical Health. *Journal of Family Violence*, 28(2), 191–199.
23. Huang, M. C., Schwandt, M. L., Ramchandani, V. A., George, D. T., & Heilig, M. (2012). Impact of Multiple Types of Childhood Trauma Exposure on Risk of Psychiatric Comorbidity among Alcoholic Inpatients. *Alcoholism: Clinical and Experimental Research*, 36(6), 598–606.
24. Ismail, R., Ahmad, N.A., Ibrahim, F., & Nen, S. (2017). The Influence of Individual, Familial and Social Environmental Factors towards Substance Abuse Behavior among Adolescents. *Akademika*, 87(1), 7–16.
25. Jiang, W. J., Zhong, B. L., Liu, L. Z., Zhou, Y. J., Hu, X. H., & Li, Y. (2018). Reliability and validity of the Chinese version of the Childhood Trauma Questionnaire-Short Form for inpatients with schizophrenia. *PLoS ONE*, 13(12), 916-922.

26. Karos, K., Niederstrasser, N., Abidi, L., Bernstein, D. P., & Bader, K. (2014). Factor structure, reliability, and known groups validity of the German version of the Childhood Trauma Questionnaire (short-form) in Swiss patients and nonpatients. *Journal of Child Sexual Abuse, 23*(4), 418–430.
27. Kilpatrick, D. G., Acierno, R., Saunders, B., Resnick, H. S., Best, C. L., & Schnurr, P. P. (2000). Risk factors for adolescent substance abuse and dependence: Data from a national sample. *Journal of Consulting and Clinical Psychology, 68*(1), 19–30.
28. Kim, D., Park, S. C., Yang, H., & Oh, D. H. (2011). Reliability and validity of the Korean version of the childhood trauma questionnaire-short form for psychiatric outpatients. *Psychiatry Investigation, 8*(4), 305–311.
29. Lee Enn Hooi., Mohammad Rahim Kamaluddin., Norruzeyati Che Mohd Nasir., Hilwa Abdullah@ Mohd Nor., & Noremy Md Akhir. (2019). Exploring the Psychometric Properties of Mandarin-Translated Zuckerman Kuhlman Personality Questionnaire among Chinese High School Students in Malaysia. *International Journal of Recent Technology and Engineering (IJRTE) 8* (2S10), September 2019, 790-794.
30. LeTendre, M. L., & Reed, M. B. (2017). The Effect of Adverse Childhood Experience on Clinical Diagnosis of a Substance Use Disorder: Results of a Nationally Representative Study. *Substance Use & Misuse, 52*(6), 689–697.
31. Lundgren, K., Gerdner, A., & Lundqvist, L. O. (2002). Childhood abuse and neglect in severely dependent female addicts: Homogeneity and reliability of a Swedish version of the Childhood Trauma Questionnaire. *International Journal of Social Welfare, 11*(3), 219–227.
32. Mohammad Rahim Kamaluddin., Nadiah Syariani Md. Sharif., & Geshina Ayu Mat Saat. (2013a). A unidimensional scale for self-control within Malaysian settings. *Educ Med J 5*(4). 60-66.
33. Mohammad Rahim Kamaluddin., Nadiah Syariani Md. Shariff., & Geshina Ayu Mat Saat. (2013b). A validity study of Malay translated Zuckerman-Kuhlman personality questionnaire crosscultural 50 items (ZKPQ-50-CC). *Health and the Environment Journal 4*(2), 37-52.
34. Mohammad Rahim Kamaluddin., Rohany Nasir., Wan Shahrazad Wan Sulaiman., Rozainee Khairudin., & Zainah Ahmad Zamani. (2017). Validity and psychometric properties of Malay translated religious orientation scale-revised among Malaysian adult samples. *Akademika 87* (2), 133-144.
35. Moylan, C. A., Herrenkohl, T. I., Sousa, C., Tajima, E. A., Herrenkohl, R. C., & Russo, M. J. (2010). The effects of child abuse and exposure to domestic violence on adolescent internalizing and externalizing behavior problems. *Journal of Family Violence, 25*(1), 53–63.
36. MS, H. N., IZA, N. D., & Daud, F. (2019). Systematic review of child abuse perpetrators worldwide: Characteristics and risk factors. *Journal of Health and Translational Medicine, 22*(1), 41–49.
37. Mwakanyamale, A. A., & Yizhen, Y. (2019). Psychological maltreatment and its relationship with self-esteem and psychological stress among adolescents in Tanzania: A community based, cross-sectional study. *BMC Psychiatry, 19*(1).
38. Nazira Sadiron., Mohammad Rahim Kamaluddin., Wan Shahrazad Wan Sulaiman., & Rozainee Khairudin. (2019). Psikologi Penagihan Dadah: Satu Tinjauan Literatur. *Jurnal Psikologi Malaysia 33* (1), 12-33

39. Nen, S., Subhi, N., Mohamad, S.M., Kamaruzaman, J., Chong, S.J., Sarnon, N., Hoesni, S.M., & Wan Azreena, W.J. (2011). Malaysian professionals' beliefs in child sexual abuse disclosure. *World Applied Sciences Journal*. 12 (Special Issue of Social and Psychological Sciences for Human Development), 40-45.
40. Norsaleha, M.S., Nabilah, H.Z., Zetty, N.R., Noorhafizah, M.H., Kamal, A.R., & Norbahiah, M. (2018). Statistics on child abuse in Malaysia: An analysis. *International Journal for Studies on Children, Women, Elderly and Disabled*, 5, 128-309.
41. Norman, R. E., Byambaa, M., De, R., Butchart, A., Scott, J., & Vos, T. (2012). The Long-Term Health Consequences of Child Physical Abuse, Emotional Abuse, and Neglect: A Systematic Review and Meta-Analysis. *PLoS Medicine*, 9(11), e1001349.
42. Rambhade SK, Singh S, Goswami RB, Rambhade A. "Occurrence, Complications, and Interventions of Diabetes: A New Understanding of an Old Problem." *Systematic Reviews in Pharmacy* 2.1 (2011), 8-18. Print. doi:10.4103/0975-8453.83433
43. Rezan, A., & Erogul, Ç. (2012). Psychometric Properties of Turkish Version of Childhood Trauma Questionnaire among Adolescents with Gender Differences. *Psychology*, 03(10), 916–922.
44. Sacchi, C., Vieno, A., & Simonelli, A. (2018). Italian validation of the childhood Trauma Questionnaire-Short form on a college group. *Psychological Trauma: Theory, Research, Practice, and Policy*. 10(5), 563–571.
45. Saini, S. M., Hoffmann, C. R., Pantelis, C., Everall, I. P., & Bousman, C. A. (2019). Systematic review and critical appraisal of child abuse measurement instruments. *Psychiatry Research*. 272 (2), 106-113.
46. Shahidan Shaari, M., Hidayah Harun, N., & Ermawati Hussain, N. (2019). Female Labour Force and Child Abuse in Malaysia Using ARDL Approach. *Jurnal Ekonomi Malaysia*, 53(1), 2019–2046.
47. Stein, M. D., Conti, M. T., Kenney, S., Anderson, B. J., Flori, J. N., Risi, M. M., & Bailey, G. L. (2017). Adverse childhood experience effects on opioid use initiation, injection drug use, and overdose among persons with opioid use disorder. *Drug and Alcohol Dependence*, 179(July), 325–329.
48. Yashasvi suvarna, m. C. Shivamurthy (2016) therapeutic uses of dependence causing agents: the past and the present. *Journal of Critical Reviews*, 3 (2), 44-47.
49. Quinn, K., Boone, L., Scheidell, J. D., Mateu-Gelabert, P., McGorray, S. P., Beharie, N., ... Khan, M. R. (2016). The relationships of childhood trauma and adulthood prescription pain reliever misuse and injection drug use. *Drug and Alcohol Dependence*, 169, 190–198.
50. Thombs, B. D., Bernstein, D. P., Lobbestael, J., & Arntz, A. (2009). A validation study of the Dutch Childhood Trauma Questionnaire-Short Form: Factor structure, reliability, and known-groups validity. *Child Abuse and Neglect*, 33(8), 518–523.
51. van Duin, E. M., Verlinden, E., Vrolijk-Bosschaart, T. F., Diehle, J., Verhoeff, A. P., Brilleslijper-Kater, S. N., & Lindauer, R. J. L. (2018). Sexual abuse in very young children: a psychological assessment in the Amsterdam Sexual Abuse Case study. *European Journal of Psychotraumatology*, 9(1).
52. Morozova, N.V., Slabkovskaya, A.B., Abramova, M.Y., Alimova, A.V. Assessment of chewing function in children with premature loss of primary teeth (2018) *International Journal of Pharmaceutical Research*, 10 (4),

pp.702705.<https://www.scopus.com/inward/record.uri?eid=2s2.085059883003&partnerID=40&md5=06a5a6d56a828d210b36df1aa40f83f0>

53. Villano, C. L., Cleland, C., Rosenblum, A., Fong, C., Nuttbrock, L., Marthol, M., & Wallace, J. (2004). Psychometric utility of the childhood trauma questionnaire with female street-based sex workers. *Journal of Trauma & Dissociation*, 5(3), 33–41.
54. Jacob, L., & Quinn, S. (2018). Finding of Frequent Itemset with Two Mask Searches. *Journal of Computational Information Systems*, 14(2), 36-43.
55. Manjula, S., & Dr. Banu, R., (2014). An Efficient Compound Scoring Gene Selection Technique (CSGS) for Cancer Classification using Microarrays. *International Journal of Advances in Engineering and Emerging Technology*, 5(5), 234-247.
56. Van Wijk, R., Bosman, S., Ackerman, J., Van Wijk, E.P.A. Correlation between fluctuations in human ultra-weak photon emission and EEG alpha rhythm (2008) *NeuroQuantology*, 6 (4), pp. 452-463.
57. Tamulis, A. Quantum mechanical control of artificial minimal living cells (2008) *NeuroQuantology*, 6 (3), pp. 311-322