

Original Research Article

Development and Validation of the Criminal Thinking Scale (CTS)

Opeyemi Olubusuyi Fasanu^{1*}, Helen O. Osinowo¹¹Department of Psychology, University of Ibadan, Ibadan, Nigeria

Article History

Received: 03.06.2023

Accepted: 01.08.2023

Published: 06.08.2023

Journal homepage:

<https://www.easpublisher.com>

Quick Response Code



Abstract: This study aimed the development and validation of the Criminal Thinking Scale (CTS), an assessment tool for measuring criminal thinking patterns. Two hundred and seventy institutionalised inmates participated in the study by responding to a survey comprising items of the Criminal Thinking Scale developed in this study. Additionally, the Texas Christian University Criminal Thinking Scale (Cronbach's $\alpha = .84$), Early Trauma Inventory Self-Report (Cronbach's $\alpha = .89$), Parenting Style Inventory-II (Cronbach's $\alpha = .75$) were administered as well for construct validity purposes. The result of the Principal Component Analysis (PCA) confirmed the presence of three components of criminal thinking among items of the Criminal Thinking Scale which were labelled as morality averseness, rationalisation, and retaliatory reasoning with reliability Cronbach's alpha of .87, .78, .76 respectively. The overall reliability yielded Cronbach's alpha of .92. In addition, the Criminal Thinking Scale demonstrated concurrent validity with similar measures, that is, Texas Christian University Criminal Thinking Scale [$r = .31, p < .01$] and showed discriminant validity with Parenting Style Inventory-II [$r = -.06, p > .05$] and the Early Trauma Inventory Self-Report [$r = .07, p > .05$]. The study concluded that CTS is a valid and reliable measure of criminal thinking.

Keywords: Criminal thinking, psychopathic behaviour, morality averseness, rationalisation, retaliatory reasoning.

Copyright © 2023 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

INTRODUCTION

All over the world, crime is one of the major social problems many governments are fighting against every day. In Nigeria, available crime statistics by the National Bureau of Statistics (NBS) reported crime rate increased from 125, 790 in 2016 to 134, 663 in 2017 (National Bureau of Statistics, 2017) with prisons getting filled beyond their ideal capacity. Crime actions stem from a criminally inclined pattern of thoughts (Escrig-Espuig, Marti-Vilar, & Gonzalez-Sala, 2023) and the assessment of criminogenic way of thinking is as much important as the assessment of crime actions.

In literature, a few researchers have attempted to explain and measure criminal thinking patterns and this has produced different conceptualisations. For example, criminal thinking has been described as attitudes and beliefs associated with crime actions and lifestyle (Walters, 2019). It has also been described as distorted thinking pattern or style characterized by self-justification, super optimism (overestimating one's ability to escape the consequences of criminal behaviour), cognitive indolence (wanting to cut-corners,

take short-cuts to solve problems), misinterpretation of social cues, blame shifting mentality, entitlement and dominance or power orientation, and poor moral reasoning (Lipsey, Landenberger, & Wilson, 2007; McCoy, Fremouw, Tyner, Clegg, Johansson-Love, & Strunk, 2006; Morgan, Fisher, Duan, Mandracchia, & Murray, 2010).

Additionally, some studies stated that criminal thinking styles comprise entitlement, failure to accept responsibility, short-term orientation, insensitivity to impact of crime, and negative attitudes toward authority among jailed inmates (Tangney, Stuewig, Furukawa, Kopelovich, Meyer, & Cosby, 2012). Additional studies have reported higher levels of criminal cognitions among younger offenders, less educated offenders, Black and Hispanic offenders, single offenders (not in any marital relationship), offenders with a psychological disorder, and offenders not participating in mental health services (Mandracchia & Morgan, 2012).

In the light of the foregoing, some measures of criminal thinking were developed. For example, the

Texas Christian University (TCU) Criminal Thinking Scale was developed in the United States by the Institute of Behavioural Research to measure criminal thinking (Institute of Behavioural Research, 2007). Other similar measures of criminal thinking include the Criminogenic Cognition Scale (CCS) (Tangney, Stuewig, Furukawa, Kopelovich, Meyer, & Cosby, 2012), the Psychological Inventory of Criminal Thinking Style (PICTS) which is a self-report developed for measuring 8 criminal thinking styles which include mollification, cut-off, entitlement, power orientation, sentimentality, super optimism, cognitive indolence, discontinuity (Taxman, Rhodes, & Dumenci, 2011).

This present study aimed at adding to the literature on the assessment of criminal thinking because of the potential cultural sensitivity of previously developed scales in the western countries. Consequently, the perception and understanding of criminal thinking in the present cultural context became an important objective to the present study. Additionally, such objective measurement of criminal mind-set or reasoning could help professionals in the objective assessment of offenders going through rehabilitation intervention programs in correctional facilities.

METHODS

This study involved a sample size of 270 institutionalised participants in the Nigeria Prisons Service correctional facility in Agodi, Ibadan, Oyo State, Nigeria, who were selected purposively. They responded to a questionnaire comprising the following self-report instruments:

Texas Christian University Criminal Thinking Scale (TCU CTS)

The TCU Criminal Thinking Scale (CTS) was used which measures criminal thinking. Items on the scale were rated on a 5-point likert coded from 1 = Strong disagree to 5 = Strongly agree. Previous researches reported internal consistency for its subscales as follows: (Entitlement = .80, Justification = .72, Power Orientation = .75, Cold Heartedness = .66, Criminal Rationalization = .64, and Personal Irresponsibility = .63) (Institute of Behavioural Research, 2007). However, the present study showed internal consistency for the overall as .84, while subscales are as follows: Entitlement = .58, Justification = .55 (excluding item 5 weak internal consistency), Power Orientation = .60 (excluding items 11, and 29 due to weak internal consistency), Cold Heartedness = .45, Criminal Rationalization = .51 (excluding items 20 and 35 due to weak internal consistency), and Personal Irresponsibility = .54. Sample items include: *“Anything*

can be fixed in court if you have the right connections” and *“You think you have to pay back people who mess with you.”*

EARLY TRAUMA INVENTORY SELF-REPORT SHORT FORM (ETISR)

The 29-item Early Trauma Inventory Self-Report Short Form (ETISR) (Darling & Toyokawa, 1997) was used which measures traumatic experience in earlier developmental life such as general trauma, physical punishment, emotional abuse, sexual traumatic events, and other traumas such as horror, helplessness, and fear, and out-of-the-body feeling. The scale is rated on “Yes” or “No” response format with a Cronbach’s alpha .869. The present study has reported Cronbach’s $\alpha = .76$ for general trauma, $\alpha = .66$ for physical abuse, $\alpha = .55$ for emotional abuse, and $\alpha = .67$ for sexual abuse, and $\alpha = .896$ for the overall scale. Sample items include *“Did you ever see someone murdered”,* and *“Were you involved in a serious accident?”*

PARENTING STYLE INVENTORY - II (PSI-II)

The 15-item Parenting Style Inventory - II (PSI-II) [14] was used which measures parenting style as perceived by the respondent. PSI-II has three subscales: demandingness, responsiveness, and psychological autonomy-granting, rated on a 5-point scale coded from 1 = Strongly disagree to 5 = Strongly agree. Psychometric analyses of PSI-II reveal adequate internal consistency of .72, .74, .75 for the three subscales respectively as mentioned earlier, as well as adequate variability, and predictive validity (Darling & Toyokawa, 1997). The present study has found Cronbach’s alpha of .691, .689, and .517 for responsiveness, autonomy-granting, and demandingness subscales respectively. Overall internal consistency yielded .750 Cronbach’s alpha. Sample items include *“My Parents don’t really like me to tell her my troubles.”* and *“My parents hardly ever praise me for doing well.”*

The questionnaires were administered to the inmates in the correctional facility in Agodi, Ibadan, Oyo State, Nigeria. Only the male inmates could participate as access to the female section of the facility was unsuccessful due to security reasons given by the prison authorities. All questionnaires were completed anonymously to guarantee confidentiality and returned to the researcher within the prison facility. All data collected were coded into Statistical Package for the Social Sciences (SPSS) version 22.

In this study, the author used descriptive analysis for the demographic distributions and inferential statistics to test the hypotheses. The results are presented as follows:

Table 1: Showing Descriptive Analysis of Socio-demographic of the Participants

Demographics	Groups	Frequency	Percent
--------------	--------	-----------	---------

Demographics	Groups	Frequency	Percent
Marital Status	Single	145	53.7
	Married	121	44.8
	Not indicated	4	1.5
	Total	270	100.0
Education	Primary	54	20.0
	Secondary/*NCE	153	56.7
	University/Polytechnic	60	22.2
	Not indicated	3	1.1
	Total	270	100.0
Parent’s Family size	1-5 members	136	50.4
	6-10 members	117	43.3
	11 members and above	15	5.6
	Not indicated	2	.7
	Total	270	100.0
Demise of parent(s)	Mother only	88	32.6
	Father only	60	22.2
	Both parents	56	20.7
	None	66	24.4
	Total	270	100.0
Age at Parent’s Demise	Infancy (Birth - 1 year)	17	6.3
	Childhood (2 - 11 years)	25	9.3
	Adolescents (12 - 19)	66	24.4
	Early Adulthood (20 - 39 years)	75	27.8
	Not Applicable (living parents)	64	23.7
	Don't know my age	23	8.5
	Total	270	100.0
Prison Status	Awaiting Trial	227	84.1
	Convicted	42	15.6
	Not indicated	1	.4
	Total	270	100.0

*NCE means National Certificate Examination

The data collected showed average age was 31.02±8.74 years and 145 (53.7%) of them were singles while 121 (44.8%) were married with four (1.5%) who did not indicate their marital status. More than half, that is 153 (56.7%), have had secondary education with a few others having either tertiary education in addition, or only primary school education. Over 50% reported their parents were separated or divorce. Cumulatively, 204 (79.2%) have lost one or both parents whether before or after separation/divorce. Moreover, about 107 (40.0%) of them have lost one or both parents before age 19 years and 23 (8.5%) reported they did not know their age when they lost one or both parents.

CRIMINAL THINKING SCALE (CTS)

The author developed the Criminal Thinking Scale (CTS) and used a 4-point likert ranging from 1 = Strongly disagree to 4 = Strongly agree. To generate composite scores, responses for all items were added together. The composite scores were divided by the total number of items (that is, 20) and multiplied the result by 10 in order to rescale the scores to range between 10 and 40. If the subscales are used independently, the same scoring method applies. Content and construct validity measures were employed

for establishing the validity of CTS. The procedures followed are presented as follows:

TEST OF CONTENT VALIDITY

An in-depth interview was conducted among members of the university community in the University of Ibadan, Nigeria. Individuals who volunteered to participate were asked in open-ended questions what criminal thinking meant to them with examples. From the pool of statements collected, a total of 48 statements were generated from the responses. However, 11 statements were dropped based on content invalidity. The remaining 35 statements formed the items for the Criminal Thinking Scale included in the questionnaire administered to institutionalized inmates. Statements excluded were either repetitive or not related to intended general and specific construct of criminal thinking as judged by the experts. Samples of some of the items dropped are “Raping someone feels great, powerful and pleasurable.” “If I am tired of my life, I may end it.” “Get rich now or you die trying.”

TEST OF CONSTRUCT VALIDITY

After the administration of the 35 items retained, the quantitative data collected were subjected to construct validity tests. Specifically, the researchers used Factor Analysis (FA). By applying the KMO and Bartlett’s tests, the result showed strong sampling adequacy and significant sphericity [KMO = .917, $\chi^2(741) = 4352.62, p < .001$] for the test which implies the fitness of the data to factor analysis is good. The principal component analysis (PCA) extracted 8 factors based on eigenvalues greater than 1 and explained 57.9% of the total scale’s variation. Additionally, we

did variance rotation of items using Varimax method in order to establish item membership of each component extracted. Item membership was determined by using the following rules: (1) that the item’s loading is greater than or equal to 0.4, and (2) that the item is contextually consistent or related with other items in the component where it has highest loading. Based on this principles, only 3 factors with 20 items were successfully retained. The retained items were then re-numbered as presented in Table 2 below.

Table 2: Showing Varimax Rotation and Factor Loadings of Items using Principal Component Analysis

Nos.	Items	Factor Loadings		
		I	II	III
1	I am greater than any law and I do not like to be given laws and orders.	.751		
2	I do not mind what the law calls it, I must get what I want.	.723		
3	I like to “scope” or scam those cheap elements out there	.591		
4	Any way is a way, whether good or bad.	.589		
5	Any law or rule that is not favourable to get what I want must be bent or broken.	.542		
6	To hell with the laws and regulations. I do not like submitting to rules.	.491		
7	I know that I tell lies, but all our leaders also are liars.	.476		
8	If you really need something in life, you would not mind getting it by any means. The goal matters more than the means.	.462		
9	I think of making up another new plan or strategy when an old one fails me until I succeed. I do not often care or think much about whether it is good or bad.	.423		
10	Manipulating other people is just a part of life.		.693	
11	Those who are jailed for stealing are unjustly treated. After all, there is no one who is not stealing one way or another.		.611	
12	Those who pick pockets are not to blame. After all, people are too careless.		.540	
13	In the real sense, there is nothing bad in stealing, if I am left without any other option.		.524	
14	There is nothing unlawful so far as it helps achieve one’s aim adequately		.494	
15	Many times, I want to “cone” or “deceive” somebody to prove my smartness.		.468	
16	When I am cheated, I must retaliate: “An eye for an eye, a tooth for a tooth.”			.622
17	It is better to lie and escape punishment than speak the truth and get shamed.			.613
18	I will cheat other people, because people have cheated me too.			.557
19	If anybody stands in my way, I think of eliminating them. Simple as ABC!			.478
20	Only cowards cannot retaliate when cheated.			.407

The three factors extracted were labelled as follows: factor 1 (morality averseness), factor 2 (rationalisation), and factor 3 (retaliation) with 9, 6, and

5 item sizes respectively. In order to determine the reliability of items under each factor, item total analysis was used and the result is present in Table 3 below:

Table 3: Showing Internal Consistency of Extracted Factors using Item-total Analysis

Factors	Constructs	Items sizes	Between item comparison test		
			F	p	Cronbach's Alpha
I	Morality averseness	9 items	13.93	< .01	.877
II	Rationalisation	6 items	3.25	< .01	.786
III	Retaliatory reasoning	5 items	4.05	< .01	.763

The result shows that each factor has good internal consistency as well as significant item-to-item comparison. This implies items in each factor account for unique variances in the total variance of their respective factors. Added to that, the overall internal consistency of the 20 items showed Cronbach’s alpha = .920.

In order to establish concurrent validity, the authors used the Texas Christian University Criminal Thinking Scale (TCU CTS) as the criterion for concurrent validity test while Early Trauma Inventory Self-Report Short Form (ETISR) and Parenting Style Inventory (PSI) were used for the discriminant validity test. Pearson Product Moment Correlations was used for testing establishing both concurrent and discriminant

Test of Concurrent and Discriminant Validity

validity tests. The result is presented in Table 4 as follows:

Table 4: Showing Concurrent and Discriminant Validity for the Criminal Thinking Scale using Pearson Product Moment Correlations (PPMC)

Variables	Mean ± SD	Criminal Thinking Scale
TCU CTS	32.84±3.50	.310**
ETISR	15.00±7.46	.068
PSI-II	36.69±7.78	-.059

Note: ** Coefficients significant at $p < .01$ level of significance

The result in Table 4 shows that scores from the Criminal Thinking Scale (CTS) showed significant concurrent relationship with scores from TCU CTS [$r = .31$, $p < .01$], which implies the Criminal Thinking Scale measured a similar construct with TCU CTS. Furthermore, the CTS showed discriminant relationship with measurement ETISR [$r = .07$, $p > .05$] and PSI [$r = -.06$, $p > .05$], which implies the CTS is noted related to experiences such as trauma or parenting perception.

CONCLUSION

This study concludes that the criminal thinking scale (CTS) developed demonstrated the capacity to reliably measure criminal thinking that could manifest in the form of moral averseness, rationalisation, and retaliatory reasoning.

REFERENCES

- National Bureau of Statistics. (2017). Crime Statistics. National Bureau of Statistics. <https://nigeriastat.gov.ng/elibrary/read/786> Accessed 28 March 2023
- Escrig-Espuig, J. M., Marti-Vilar, M., & Gonzalez-Sala, F. (2023). Criminal thinking: Exploring its relationship with prosocial behaviour, emotional intelligence and cultural dimension. *Anuario de Psicología Jurídica*, 33(1), 9–15, <https://doi.org/10.5093/api202a2>
- Walters, G. D. (2019). Criminal thinking: Therapy and practice. In Polaschek, D. L. L., Day, A., & Hollin, C. R. (Eds.), *The Wiley International Handbook of Correctional Psychology*, pp. 637–653. Wiley Blackwell. <https://doi.org/10.1002/9781119139980.ch40>
- Lipsey, M. W., Landenberger, N. A., & Wilson, S. J. (2007). Effects of cognitive-behavioural programs for criminal offenders. USA: Campbell Systematic Reviews, 2007, 6. DOI: 10.4073/csr.2007.6
- McCoy, K., Fremouw, W., Tyner, E., Clegg, C., Johansson-Love, J., & Strunk, J. (2006). Criminal thinking styles and illegal behaviour among college students: validation of the PICTS. *J Forensic Sci*, 51(5), 1174-1177. DOI: 11.1111/j.1556-4029.2006.00216.x. PMID: 17018105
- Morgan, R. D., Fisher, W. H., Duan, H., Mandracchia, J. T., & Murray, D. (2010). Prevalence of criminal thinking among state prison inmates with serious mental illness. *Law, Human Behaviour*, 34(4), 324-336.
- Tangney, J.P., Stuewig, J., Furukawa, E., Kopelovich, F., Meyer, P., & Cosby, B. (2012). Reliability, validity of the 25-item criminal cognitions scale. *Criminal Justice Behaviour*, 39(10), 1-25.
- Mandracchia, J. T., & Morgan, R. D. (2012). Predicting offenders' criminogenic cognitions with status variables. *Criminal Justice and Behaviour*, 39(1), 5-25.
- Institute of Behavioural Research. (2007). TCU CTSFORM Criminal Thinking Scale: Scales and Items Scoring Guide. USA: Texas Christian University: www.ibr.tcu.edu
- Taxman, F. S., Rhodes, A. G., & Dumenci, L. (2011). Construct and Predictive Validity of Criminal Thinking Scales. *Criminal Justice and Behaviour*, 38(2), 174-187.
- Bremmer, J. D., Bolus, R., & Mayer, E. A. (2011). Psychometric Properties of the Early Trauma Inventory – Self Report (ETISR). *J Nerv ment Dis*, 195(3), 211-218. doi: 10.1097/01.nmd.0000243824.84651.6c
- Darling, N., & Toyokawa, T. (1997). Construction and validation of the parenting style inventory. USA: Department of Human Development and Family Studies, Pennsylvania State University. <https://www.oberlin.edu/faculty/ndarling/lab/psiii.pdf> Access 28 March 2023.

Cite This Article: Opeyemi Olubusuyi Fasanu & Helen O. Osinowo (2023). Development and Validation of the Criminal Thinking Scale (CTS). *EAS J PsycholBehavSci*, 5(4), 100-104.