

Measuring the Effectiveness of Deradicalisation: The Development of MIKRA Risk Assessment

Zora A. Sukabdi

University of Indonesia.

ABSTRACT

Instruments for identifying risk of terrorist offenders could help counterterrorism practitioners define parameters of effective rehabilitation and detect a change in risk level of offenders before and after treatment. This study aims to develop Motivation-Ideology-Capability Risk Assessment, known as MIKRA, to examine the level of risk of terrorist offenders. The study involved Indonesian counterterrorism experts and practitioners for examining the construct validity of MIKRA and terrorist offenders at a maximum-security prison for analysing the external and criterion-related validity. External validity was implemented by comparing offenders' MIKRA scores with their risk categories reported by Counterterrorism Special Task Force. Internal consistency reliability (Cronbach's Alpha) was also applied to examine MIKRA's psychometric properties. The results indicate alpha reliability $\alpha = 0.933$. Furthermore, offenders' MIKRA scores are correlated significantly with categories of risk released by the official, but not correlated with the non-offenders' scores. This means MIKRA is valid to investigate risks of terrorist offenders.

Keywords: Measuring the Effectiveness; Deradicalisation; MIKRA Risk Assessment

*Correspondence to Author:

Zora A. Sukabdi

School of Strategic and Global Studies, Gedung IASTH Lantai IV, Jalan Salemba Raya No. 4 Daerah Khusus Ibukota Jakarta, Indonesia, 10430, phone: +628118188877

How to cite this article:

Zora A. Sukabdi. Measuring the Effectiveness of Deradicalisation: The Development of MIKRA Risk Assessment. American Journal of Psychiatric Research and Reviews, 2021; 4:30



eSciPub LLC, Houston, TX USA.

Website: <https://escipub.com/>

1. Introduction

There has been limited information regarding valid instruments for terrorism risk assessment [1] as well as the indicators of effectiveness of terrorism rehabilitation [2]. The lack of empirical research on terrorism is possibly due to challenges in engaging terrorists [3], confidentiality [4], and safety issues [5]. Instruments of risk assessment could help counterterrorism practitioners design effective rehabilitation, plan strategies to avoid recidivism, and compare levels of risk before and after treatment.

As described in the Risk-Need-Responsivity (RNR) Model by Andrews, Bonta and Hoge [6] in Forensic Psychology, responsivity or the management of criminal offenders' treatment should be based on the analysis of their risk and need factors. In other words, the RNR Model proposes that prior to conduct rehabilitation, it is critical to analyse risks and needs of offenders. Thus, according to this model, the effectiveness of 'deradicalisation' (a term used in terrorism rehabilitation) [7] could be seen at the decrease of criminogenic risk level of offenders who are involved as participants of the programs. The RNR Model is referred in this study as it is dominant and well-validated (most evidence-based) approach to general criminal offender rehabilitation.

Sustained behavioural transformation in deradicalisation programs is a challenging objective [8, 9]. Prison radicalisation is seen as a growing concern [10], where prisons are sometimes regarded as 'incubators for terrorism' [11, 12], or "universities of terrorism" [13]. In Indonesia, there are numerous issues with in-custody rehabilitation efforts, including the absence of effective rehabilitation programs, overstays, and overcrowding [14, 15, 16, 17]. Furthermore, there is a significant recidivism rate among terrorist offenders, with twenty-three (7.9%) out of the 291 offenders released in the preceding six years returning to terrorism activity [18]. These disturbing findings may be due to the absence of a grand strategy for managing terrorist offenders [19] and the unclear parameters of effective rehabilitation [20, 21].

Against this background, the current study aim-

ed to systematically develop an instrument to evaluate and measure the level of risk of terrorist offenders. The instrument, named as *MIKRA*, is taken from '*Motivation-Ideology-Capability Risk Assessment*'. Taking constructs for psychological terrorism risk assessment from a previous study by Sukabdi [22], this study consisted of three steps. First, it defined risk spectrums and risk indicators for formulating behaviour rating scale used in the assessment. Second, it formulated administration and scoring system in the behaviour rating scale. Third, it identified psychometric properties of *MIKRA*. The development of *MIKRA* instrument may help practitioners responsible in deradicalisation formulate parameters of rehabilitation, distinguishing risk level of offenders before and after treatment, and preventing terrorism recidivism.

2. The Concept of Risk in Psychology of Criminal Conduct (PCC)

The PCC is the theory underpinning the RNR Model. PCC [23] suggests that not all human beings have the potential to perform criminal activity. Humans differ in the number, type, and variety of antisocial acts in which they are prepared to engage and differ in when and under what circumstances they will act in harmful ways. According to Andrews and Bonta [24], PCC seeks to account for variation in the criminal behaviour of individuals through applications of understandings of human behaviour in general. As Andrews and Bonta [25] describe,

as much as our approach to PCC values a general understanding of wide applicability, special interests are going to press for an appreciation of their concerns in particular circumstances. Such pressure is totally understandable, greatly appreciated, and likely to ultimately enhance the overall levels of understanding achieved, including general understandings. Human beings want their circumstances and aspirations to be appreciated... When accompanied by systematic empirical research, explorations of unique contexts can only strengthen understandings, be they general or specific. (p. 4)

Accordingly, although it is an approach that was designed for general criminal offenders, PCC may be applicable to the rehabilitation of terrorist offenders.

PCC has certain values at its base, including respect for human diversity and respect for the complexity of human behaviour. Respect for human diversity involves respect for individual differences that ranges beyond the socially or biologically defined categories of ethnicity, race, gender, social class of origin, social class of achievement, or any other broad or narrow definitions of social arrangements, including religion. Respect for the complexity of human behaviour means that PCC takes account of any human behaviour that may be attributed to any single type of variable, be it biological, psychological, social, or political-economic. Furthermore, PCC values individual differences in biology, personality, cognition, behavioural history, and immediate associates in the domains of home, school, work, leisure, and community and admits that variation is evident within and among the socially and politically defined categories of ethnicity, gender, socioeconomic status (e.g. religion), social structure, culture (e.g. spirituality, belief orientation, belief system), and political economy (e.g. political movement, economic movement). As such, PCC can support the framework of rehabilitation of terror offenders in conjunction with a number of listed motives and contexts.

The focus of PCC is variation in criminal conduct. Criminal behaviour itself, according to Andrews and Bonta [26], refers to:

acts that are injurious and prohibited under the law, and render the actor subject to intervention by justice professionals. (p. 8)

and they are subject to temporal and cultural variation. With a general perspective, it allows exploration of the idea that variation in criminal behaviour may be predicted, influenced, and explained by the same general psychology of human conduct [27]. PCC recognises various definitions of criminal behaviour, including: 1. legal, that is criminal behaviour refers to actions being forbidden by the state and punishable under the

law; 2. moral, that is criminal behaviour refers to actions violating the norms of religion and morality which are believed to be punishable by ultimate spiritual beings; 3. social, criminal behaviour refers to actions violating the norms of custom and tradition which are punishable by the community; and 4. psychological, that criminal behaviour refers to actions rewarding to the actor, yet can inflict pain or loss on others. That is, criminal behaviour is antisocial behaviour. Andrews and Bonta's [28]. working definition of criminal behaviour when explaining PCC is:

Criminal behaviour refers to antisocial acts that place the actor at risk of becoming a focus of the attention of criminal justice professionals within the juvenile and/or adult justice systems. (p. 12) Criminal acts, according to PCC, are part of a more general sort of behaviour that social psychologists have been calling 'problem behaviour' or 'deviant behaviour' since the 1970s [29, 30]. Thus, the principle of deviant acts is that their occurrence puts the offender at risk of being targeted for interventions by figures of authority, control, regulation, and assistance [31]. In other words, problematic acts may ask for the intervention of parents, teachers, religious leaders, neighbors, and significant others. Moreover, they place the actor at risk of being visited by mental health professionals, or by an army of regulators of business, labor, professional practice, government, and civil and human rights practitioners [32].

3. The RNR Model

The Risk-Need-Responsivity (RNR) is a practical model of correctional assessment and rehabilitative programming [33]. According to Andrews and Bonta [34], a useful model of active intervention must be built within a normative and organisational context. The RNR Model also strongly involves general personality and cognitive social learning perspectives on human behaviour [35]. A broad personality and social psychological model of human behaviour helps in shaping the identification of risk/need factors, the characteristics of effective behavioural influence methods, and the characteristics of effective approaches to recruitment, management, and capacity build-

ing of practitioners.

The implications of the RNR Model cover all efforts at crime prevention through the delivery of clinical, social, and human services to individuals and groups. In terms of the core RNR principles and key clinical issues, Andrews, Bonta, and Hoge ^[36] present three general principles of classification for the purpose of effective correctional treatment: the (1) risk, (2) need, and (3) responsivity principles of effective correctional treatment. The model is very specific in defining some key issues including ^[37]: (a) who should be offered more intensive rehabilitative services (called as 'the risk principle of RNR'), (b) what are the most appropriate intermediate targets of service for the purpose of reaching a crucial reduction in criminal behaviour (called as 'the criminogenic need principle of RNR'), and (c) what styles, modes and strategies of service are best applied (called as 'the responsivity principles of RNR').

Although RNR was developed for use within correctional services for general offenders, it is plausible that the principles are relevant to the rehabilitation of terrorist offenders. It is for instance logical that terrorist offenders will have certain risk factors (e.g., attitudes that support terrorist activities, associates who encourage terrorist activities); elucidation and targeting of these risk factors is logically likely to be related to reductions in recidivism. For organisational planning purposes it appears sensible that services would seek to identify common risk and need factors so that programmers can address these issues. According to RNR the mechanism for change in offenders is a reduction in dynamic risk factors ^[38]; as such, identifying and addressing dynamic risk factors in terrorist offenders becomes a precondition for effective rehabilitation.

4. The Use of Psychological Tests in Correctional Settings

Numerous clinicians, counselors, and correctional consultants administer psychological tests. Tests are common amongst psychotherapists and others responsible for providing treatment, psychologists, physicians (and other medical providers), attorneys, school personnel,

hospital treatment teams, mental health professionals such as social workers, psychiatrists, and psychiatric nurses. The tests are taken to help in diagnosis and treatment management/planning ^[39].

Psychological tests are extremely vital in clinical and counseling settings before, during, and after treatment ^[40]. Finn ^[41] explains that early in treatment, tests are used to assess issues faced by a client or an offender, and to evaluate the severity of a problem. During treatment, tests are managed to monitor progress. Finally, at the end of treatment tests are used to evaluate the effectiveness of treatment, including rehabilitation programs to offenders. Finn ^[42] also describes that tests are often used to clarify diagnoses, detect obstacles, and assess the gap between the goals and the outcomes of treatment. Therefore, he highlights the importance of psychological tests in treatment to provide insight regarding clients' progress.

When appropriately used in clinical, counseling, and correctional settings, psychological test results are frequently combined with other information gathered from interviews, reviews of documents such as medical or legal records, and observations of the client/offender during an assessment session. The tests consultants use must be 'psychometrically sound', which means have evidence of reliability and validity for their planned/intended use ^[43]. If a test is not psychometrically sound, its results may not be accurate. They may also be potentially harmful, for example, if results from an assessment of a terrorist offender were inaccurate to assess his risks, the offender may be put into "low risk" category and placed in certain correctional situation which allows him to commit dangerous activity at prison. Invalid test results could lead to misdiagnosis and ineffective or even dangerous treatment ^[44]. Forensic psychologists are concerned with the combination of mental health problems and the law. Sukabdi ^[45] describes that forensic psychologists are involved in evaluating whether an individual is capable to stand trial, recommending custody of children coming from Syria or other conflict zones, or classifying treatment

would be beneficial for an offender. They also assess individuals who are requesting financial compensations in lawsuits following terrorism attacks such as bombings. Often, their client is the court; hence, they are assigned to provide specific information to the court in order to respond to questions asked by the court. Nonetheless, forensic psychologists could be hired by either side in a dispute. Therefore, they apply specialised psychological tests to help in addressing referral questions. For instance, the Test of Memory Malingering by Tom Tombaugh^[46] is aimed to differentiate between legitimate memory loss and memory loss faked or 'planned' by the test taker.

5. Terrorism Criminogenic Risk Factors

There are ongoing discussion among scholars in criminology and forensic psychology as to whether general criminal risk assessment methods are applicable to the assessment of terrorism risk. LaFree and Dugan^[47] emphasise five conceptual similarities and six conceptual differences between terrorism and general criminal behaviour. The similarities are (1) both studies are intensively interdisciplinary, (2) both terrorism and general crime are social constructions, (3) for both, there are wide discrepancies between formal definitions and the practical applications of these formal definitions, (4) both terrorism and general crime are committed by young males, and (5) sustained levels of terrorism and general criminal behaviour could destabilise social trust. The differences include (1) terrorism activities usually constitute multiple crimes, (2) the response to general criminal behaviour seldom goes beyond local authorities, unlike terrorism, (3) the offenders of general crimes are typically trying to avoid detection, in contrast to terrorist offenders who are looking for maximum attention and exposure, (4) terrorism is typically used as a tool directed at wide-ranging political goals, unlike most others crimes, (5) terrorist offenders have higher goals, thus many see themselves as altruists, and (6) in terrorism, offenders change their criminal activities over time and are more likely than general criminals to revolutionise. Moreover, Rosenfeld^[48]

suggests that terrorism is qualitatively dissimilar to any form of violence criminologists' study.

In the field of forensic psychology, the application of contemporary approaches to general violence risk assessment to the field of terrorism has been challenged^[49]. These authors argue that findings from studies on mentally disordered offenders and general violence perpetrators may not be relevant to the prediction of recidivism in those who engage in politically motivated behaviour^[50]. Further, Monahan^[51] argues that individual risk factors for terrorism have to be identified before determining whether contemporary violence risk assessment approaches can be applied to terrorism risk assessment.

A study by Sukabdi^[51] proves eighteen criminogenic risk factors of terrorist offenders. The risk factors are grouped into three domains: *Motivation*, *Ideology*, and *Capability*. Six risk factors are located into *Motivation* domain, six into *Ideology*, and six into *Capability*. First, the domain of *Motivation* covers all motives driving the act of terrorism. *Motivation* is symbolised as 'Heart'; it refers to interests, will, drives, feelings, or emotions. The six *Motivation* factors are *Economic*, *Justice*, *Situational*, *Social*, *Superiority*, and *Actualisation Motives*.

Second, the domain of *Ideology* includes belief systems, thought process, ideas, mindsets, and commitment which creates legitimization of acts of terrorism. *Ideology* is symbolised as 'Head'; it explains justifications, knowledge, rationalisations, sense of values or definitions of 'right or wrong'. The six *Ideology* risk factors include *Values*, *Beliefs about Purpose*, *Attitudes*, *Militancy*, *Understandings on Philosophy*, and *Layers in Ideological Groups*. Third, the aspect of *Capability* covers skills used in terrorism. *Capability* is symbolised as 'Hand' reflecting the fact that these skills are things that can be performed by hand or equipment, power, or physical sources. The six *Capability* risk factors include skills in *Intelligence*, *Information and Communication Technology (ICT)*, *Mechanical and Electrical (M and E)*, *Military*, *Language*, and *Social Domination Skills* (Table 1). The study present eighteen risk and need factors and the three higher order

domains in a circular model, describing eighteen risk/need factors of terrorist offenders. The study suggests that fulfilment of the needs of offenders in eighteen factors will lead to risk reduction.

Table 1. Eighteen risk and need factors of terrorist offenders

No.	Risk and Need Factors	Domain
1	Economic Motives	Motivation
2	Justice Motives	
3	Situational Motives	
4	Social Motives	
5	Superiority Motives	
6	Actualisation Motives	
7	Values	Ideology
8	Violent Ideology-Driven Attitudes	
9	Beliefs about Objectives (Targets of Missions)	
10	Layers in Ideological Groups	
11	Militancy	
12	Understandings on Philosophy	Capability
13	Intelligence Skills	
14	Language Skills	
15	ICT (Information and Communication Technology) Skills	
16	Military Skills	
17	Social Domination Skills	
18	M and E (Mechanical and Electrical) Skills	

Source: Sukabdi (2018)

6. Methods

6.1 Design

The development of *MIKRA* risk assessment was performed in two stages: 1) formulating risk spectrums and risk indicators for each spectrum (for building behaviour rating scale), and 2) identifying psychometric properties. This process was undertaken to systematically create the instrument. Qualitative method was applied in the first stage, and quantitative method were applied in the second stage.

In terms of the formulation of constructs, psychological terrorism risk assessment in this study adopted eighteen criminogenic terrorism risk factors found by Sukabdi [52]. Sukabdi [53] describes that individual terrorism risk as a construct consists the following risk factors along with their conceptual definitions:

Economic Motives: motives of terrorism associated with economic and biological needs.

Justice Motives: motives of terrorism associated with the need to search for fairness.

Situational Motives: motives of terrorism associated with the need for safety and security.

Social Motives: motives of terrorism associated

with the needs for social support, sense of belonging, and social identity.

Superiority Motives: motives of terrorism associated with a need for political power, including reaching a higher position in the hierarchy within a terrorist organisation.

Actualisation Motives: motives of terrorism associated with the need to give impact to others.

Values (Doctrines): thoughts, concepts, dogmas, doctrines, and ideas which are favorable to violence and other destructive behaviours.

Violent Ideology-Driven Attitudes: attitudes toward outside social group driven by thoughts, concepts, dogmas, doctrines and ideas which are favorable to violence and destructive behaviour.

Beliefs about Objectives (Targets of Missions): goals, objectives, purposes and targets of life driven by thoughts, concepts, dogmas, doctrines and ideas which are favorable to violence and destructive behaviour.

Layers in Ideological Groups: roles, status, involvement, grades, layers, levels, positions,

tasks, and ranks in ideological groups, driven by thoughts, concepts, dogmas, doctrines, and ideas which are favorable to violence and destructive behaviour.

Terrorism Militancy: presentations of a belief system which include loyalty, persistence, and commitment to a more dominant figure, or to a set of doctrines which are favorable to violence and destructive behaviours.

Understandings on Philosophy: presentations of a belief system which incorporates knowledge and understanding of religious teachings and philosophy and its implementation in many contexts.

Intelligence Skills: skills to acquire, collect, manage, store, retrieve, combine, compare, distribute, build, and use information including complex data, to manage or conduct terrorism activity.

Language Skills: skills of listening, reading, speaking, and writing in multiple languages, used to manage or conduct terrorism activity.

ICT (Information and Communication Technology) Skills: skills in using and creating Information and Communication Technology, such as computers, programs, cyberspace, Information Technology (IT) and Dark Web, used to manage or conduct terrorism activity.

Military Skills: skills in physical fighting, battlefield, warfare, and conflicts, used to manage or conduct terrorism activity.

Social Domination Skills: skills in influencing others, such as persuading, negotiating, recruiting, mobilising, directing, manipulating, controlling, financing, and leading people, used to manage or conduct terrorism activity.

Mechanical and Electrical (M and E) Skills: skills in using and creating technical, mechanical and electrical device(s) for managing or conducting terrorism activity.

6. 2 Participants

Thirty-four counterterrorism experts and practitioners (five females, twenty-nine males) participated in this study in identifying terrorism risk spectrums and risk indicators to formulate behaviour rating scale of *MIKRA*. These participants' professional backgrounds and employ-

ment situation varied, ranging from security (military, law enforcement, cyberspace, intelligence) to religious and social fields (law, psychology, theology, anthropology, criminology, to sociology). Their roles in counterterrorism were varied, including terrorism security analyst, risk assessor, leader of units, leader of investigations, de-radicalisation programmer, theolog, graph analyst, special task force/field officer, intelligence analyst, head of a ministry, and members of parliament (congressmen). Their experiences in counterterrorism ranged from one to thirty years. The military officers' ranks ranged from Lieutenant Colonel to General with Two Stars.

In finding psychometry properties, 37 terrorist prisoners, from the age of 19 to 58, at a maximum-security prison in Indonesia were involved in this study (eight females, twenty-nine males). The terrorism cases they were charged were varied from helping a terrorism act to designing a bombing attack. Their educational backgrounds were ranged from no formal education to master's degree. Their occupational backgrounds were also varied, from parking freelancer with minimum income to employee of a good business company with fair salary. These participants were affiliated with ISIS or Jamaah Islamiyah (JI). When this study was conducted, one of the female participants has been raising her newborn at prison. She was the most non-cooperative participant in this study. During examination of psychometry properties, four officers were also involved as informants of these 37 participants. The informants had access to documents (e.g., police investigation reports) regarding terrorist prisoners in Indonesia and had been observing these 37 participants in daily basis; hence, they know the prisoners and their specific behaviours and capability (e.g., fixing devices and electricity, weapon crafting).

7. Results

7. 1 The behaviour rating scale of *MIKRA*

Two Focus Group Discussions (FGDs) which invited thirty-four counterterrorism experts, practitioners, and professionals were held for two purposes: 1) to define terrorism risk spectrums and risk indicators to formulate behaviour checklist

/rating scale/a clinician rated measure (the first FGD) and 2) to achieve construct validity of MIKRA (the second FGD). The names of the experienced individuals as participants of FGD were carefully chosen based on the recommendations of the National Anti-Terrorism Agency, the National Police, and the Department of Correction for their expertise and experience in counterterrorism. Not only that these individuals' names were listed in these agencies, their

accomplishment (e.g., books, analysis, researches, reports) were also proven in various Counter Violent Extremism (CVE) events and investigations.

The first FGD was conducted in the Headquarters of the Indonesian National Army, Jakarta, Indonesia, in January 2018. The FGD was delivered in Indonesian. The FGD was facilitated by the researcher. The FGD general guideline is seen in Table 2.

Table 2. FGD guidelines

No.	Questions
1.	What do you think is the band of risks for each risk factor?
2.	There are eighteen risk factors of terrorist offenders found by Sukabdi in 2018, can you identify the eighteen spectrums (continuum) derived from these risk factors, I mean from "no risk" in one side to "very high risk" in the other side? Please describe based on your experience
3.	Can you describe the signs or behaviours that can indicate "no risk" in each of eighteen terrorism risk factors?
4.	Can you describe the signs or behaviours that can indicate "low risk" in each of eighteen terrorism risk factors?
5.	Can you describe the signs or behaviours that can indicate "medium risk" in each of eighteen terrorism risk factors?
6.	Can you describe the signs or behaviours that can indicate "high risk" in each of eighteen terrorism risk factors?
7.	Can you describe the signs or behaviours that can indicate "very high risk" in each of eighteen terrorism risk factors?

Most FGD participants suggested types of risk bands that might be considered useful when classifying terrorist offenders. These risk bands (in Table 3) were currently used in these participants' security, social, and religious units. Nonetheless, the researcher asked for the participants' consensus regarding which type of risk

band would be used in terrorism risk assessment. Subsequently, all participants agreed on the use of four-type band of risks: 'very-high', 'high', 'medium', and 'low', to improve the existing risk assessments used by participants' working units.

Table 3. Existing bands of risks in assessing ideology-based terrorist offenders

Band of risks	Risk categories	Participants reporting
Two-typed	No risk Risky	21
Three-typed	Low risk Medium risk High risk	9
Four-typed	Low risk Medium risk High risk Very-High risk	4

During the FGD, the researcher took notes using 'in-focus equipment', which projected the notes onto a screen for all participants to see, suggest

changes, and provide comments. All responses were displayed during this FGD to the participants to value all participants' experiences and

points of view. This FGD lasted eight hours, from 08.00 a.m. to 04.00 p.m. At the participants' request and the approval of all parties, photographs of participants with each other and the researcher were taken. This is a culturally appropriate tradition and was deemed important since many participants had not previously met. The host of the FGD (the Indonesian National Army) showed their appreciation to the participants by serving lunch and refreshments. This example of hospitality is another culturally important tradition and was relevant for participants as it demonstrated the National Army's gratitude for their participation and collaboration.

The first FGD generated 18 terrorism risk spectrums (1 risk spectrum for each of 18 terrorism risk factor) and 295 raw risk indicators. These risk spectrums and risk indicators will be used to design behaviour rating scale of *MIKRA*. The 18 risk spectrums were displayed to the FGD participants in a wide screen, indicating two extreme levels of risk for terrorism risk factors. For example, exclusive behaviour (not willing to associate with other believers) was put into "low risk" for the risk spectrum of *Doctrines* (the seventh risk factor), while *takfiri* behaviour (labeling other believers as targets of murders) was put into "very high risk" (the opposite side of the same spectrum) (Figure 1). There was some discussion and debate regarding certain risk indicators such as 'radical belief' as participants came from various backgrounds; there were differences in existing knowledge and beliefs. All

answers were treated equally and considered within the eighteen risk spectrums, from 'no risk' to 'very high risk'.

Similar to the 18 risk spectrums, 295 raw risk indicators were shown to the FGD participants in a wide screen. These risk indicators describe every possible contents of each level of risk in a risk spectrum. The risk indicators, collected from participants' answers, described the four risk categories ('very high', 'high', 'medium', and 'low' risks) in each risk spectrum and develop behaviour rating scale for *MIKRA* (Table 4). In this process, every risk indicator identified by the participants was ranked, following consensus by the group, according to the perceived level of risk.

After the first FGD, the researcher compressed the 295 risk indicators into 90 and defined the appropriate names of each risk indicator by thematic analysis (Table 5). The 90 validated risk indicators are observable behaviours of offenders, based on the first-hand experience of counterterrorism practitioners during FGDs. Thematic analysis used *latent* (themes were articulated based concepts and assumptions underpinning participants' answers) and *constructionist approaches* (themes were constructed by looking at how a certain reality was created by the participants' answers). The researcher held an interrater judgment by two psychologists and a psychometrician for validation of each name of risk spectrum.

From ('Low risk')	18 Validated risk spectrums	To ('Very-high risk')	Percentage of agreement during inter-rater judgment	Approaches to thematic analysis
Minimum ----	Unfulfillment of economic needs	---- Maximum	100%	<i>Latent</i>
Minimum ----	Unfulfillment of justice needs	---- Maximum	67%	<i>Latent</i>
Minimum ----	Unfulfillment of security needs	---- Maximum	67%	<i>Latent</i>
Minimum ----	Unfulfillment of social needs	---- Maximum	100%	<i>Latent</i>
Minimum ----	Unfulfillment of political needs	---- Maximum	100%	<i>Latent</i>
Minimum ----	Unfulfillment of actualisation needs	---- Maximum	67%	<i>Latent</i>
Minimum ----	Violent-supporting doctrines	---- Maximum	100%	<i>Latent</i>
Minimum ----	Violent attitudes	---- Maximum	100%	<i>Latent</i>
Minimum ----	Violent objectives of life	---- Maximum	67%	<i>Latent</i>
Minimum ----	Legitimate roles in a violent ideological group	---- Maximum	100%	<i>Latent</i>
Minimum ----	Resistance to positive change	---- Maximum	100%	<i>Latent</i>
Minimum ----	Lack of understandings on the divine universal wisdom and contexts	---- Maximum	67%	<i>Latent</i>
Minimum ----	The use of intelligence skills for terrorism	---- Maximum	100%	<i>Constructionist</i>
Minimum ----	The use of language skills for terrorism	---- Maximum	100%	<i>Constructionist</i>
Minimum ----	The use of ICT skills for terrorism	---- Maximum	100%	<i>Constructionist</i>
Minimum ----	The use of military skills for terrorism	---- Maximum	100%	<i>Constructionist</i>
Minimum ----	The use of social domination skills for terrorism	---- Maximum	100%	<i>Constructionist</i>
Minimum ----	The use of M and E skills for terrorism	---- Maximum	100%	<i>Constructionist</i>

Fig. 1. 18 Validated risk spectrums for behaviour rating scale of *MIKRA*

Table 4. 295 raw risk indicators for 18 validated risk spectrums

No.	Validated risk spectrums	Quantity of raw risk indicators					Sum
		'No Risk' (Protections)	'Low Risk'	'Medium Risk'	'High Risk'	'Very-High Risk'	
1.	Unfulfillment of economic needs	1	3	1	3	4	12
2.	Unfulfillment of justice needs	1	1	4	3	3	12
3.	Unfulfillment of security needs	1	4	6	6	10	27
4.	Unfulfillment of social needs	1	2	3	3	5	14
5.	Unfulfillment of political needs	1	6	8	4	1	20
6.	Unfulfillment of actualisation needs	1	4	2	3	2	12
7.	Violent-supporting doctrines	1	2	6	5	3	17
8.	Violent attitudes	1	6	6	6	4	23
9.	Violent objectives of life	1	2	2	2	1	7
10.	Legitimate roles in a violent ideological group	1	3	4	2	1	10
11.	Resistance to positive change	1	3	4	4	4	15
12.	Lack of understandings on the divine universal wisdom and contexts	1	6	7	4	1	18
13.	The use of intelligence skills for terrorism	1	2	3	1	1	7
14.	The use of language skills for terrorism	1	1	5	5	1	12
15.	The use of ICT skills for terrorism	1	7	4	3	1	15
16.	The use of military skills for terrorism	1	10	9	6	1	26
17.	The use of social domination skills for terrorism	1	2	1	1	1	5
18.	The use of M and E skills for terrorism	1	2	6	5	3	16
Total raw risk indicators of MIKRA							295

Table 5. 90 validated risk indicators for behaviour rating scale of MIKRA

No.	Validated risk spectrums	Quantity of validated risk indicators					Sum
		'No Risk' (Protections)	'Low Risk'	'Medium Risk'	'High Risk'	'Very-High Risk'	
1.	Unfulfillment of economic needs	1	1	1	1	1	5
2.	Unfulfillment of justice needs	1	1	1	1	1	5
3.	Unfulfillment of security needs	1	1	1	1	1	5
4.	Unfulfillment of social needs	1	1	1	1	1	5
5.	Unfulfillment of political needs	1	1	1	1	1	5
6.	Unfulfillment of actualisation needs	1	1	1	1	1	5
7.	Violent-supporting doctrines	1	1	1	1	1	5
8.	Violent attitudes	1	1	1	1	1	5
9.	Violent objectives of life	1	1	1	1	1	5
10.	Legitimate roles in a violent ideological group	1	1	1	1	1	5
11.	Resistance to positive change	1	1	1	1	1	5

No.	Validated risk spectrums	Quantity of validated risk indicators					Sum
		'No Risk' (Protections)	'Low Risk'	'Medium Risk'	'High Risk'	'Very-High Risk'	
12.	Lack of understandings on the divine universal wisdom and contexts	1	1	1	1	1	5
13.	The use of intelligence skills for terrorism	1	1	1	1	1	5
14.	The use of language skills for terrorism	1	1	1	1	1	5
15.	The use of ICT skills for terrorism	1	1	1	1	1	5
16.	The use of military skills for terrorism	1	1	1	1	1	5
17.	The use of social domination skills for terrorism	1	1	1	1	1	5
18.	The use of M and E skills for terrorism	1	1	1	1	1	5
Total validated risk indicators of MIKRA							90

The second FGD was held to conduct another verification of behaviour rating scale of *MIKRA* (18 items of rating scale/rated measure and 90 risk indicators). The FGD was conducted in the Headquarters of National Police in January 2018. All participants from the first FGD (N=34) were invited to participate; thirty participants attended, four new participants who were recommended by original participants who could not attend the follow up FGD attended. In this second FGD, the researcher presented to the participants 18 items of behaviour rating scale and 90 risk indicators of *MIKRA* for construct validation. All participants agreed with the findings and most of them took notes to use the findings for their own unit improvement when assessing terrorist offenders. There were no further contributions or requests for amendment to the results. A meeting inviting six deradicalisation practitioners was also held to introduce *MIKRA* and promote the examination of its psychometry properties in their programs to terrorist offenders.

7. 2 The administration and scoring system of MIKRA

As *MIKRA* is used in forensic setting for extraordinary criminal offenders (terrorists), the instrument is presented in behaviour rating scale/a clinician rated measure. This is due to the possible unfavorable attitudes (e.g., aggression) and broad skills of terrorist offenders (e.g., military tactics, recruitment, deception, and intelligence skills). The instrument is intended to be used at the beginning of treatment to develop a treatment management, or in the middle of treatment

to clarify a diagnosis and modify a treatment plan. Hence in terms of administration, *MIKRA* risk assessment needs to involve informants, such as investigators, lawyers, witnesses, social workers providing advocacy, or significant others who know the examined offenders and their very specific behaviours and skills.

MIKRA risk assessment describes four risk categories: "very high", "high", "medium", and "low", with codes of behaviours as seen in Figure 2. Risk indicators from 1a to 18d become the parameters of measurement when conducting risk assessment and most importantly, commence rehabilitation planning for terrorism offenders, that is, to transform offenders from being at 'very high' (score: 5) to 'high' (score: 4), 'medium' (score: 3), 'low' (score: 2), or even 'no' risk (score: 1), as seen in Table 6. Thus, an offender will initially have 18 scores, derived from assessing his eighteen psychological risk factors (under domain of *Motivation, Ideology, and Capability*). Consequently, the average of these 18 scores will be the offender's final score of *MIKRA* with categories seen in Table 7.

MIKRA 3D Model (Figure 3) with a contour is illustrated as a concave shape which describes an offender's risk configuration for individual profiling. The concept of terrorism rehabilitation consists of moving the risks of an offender from the underground/deepest part of the valley ("very high risk") to upper part ("no risk"). The upper part is "zero risk" or protected state from terrorism risk factors.

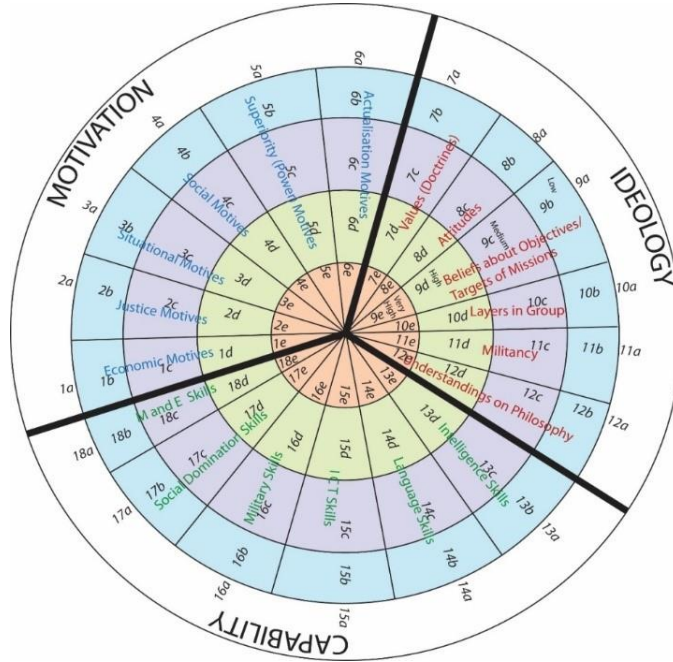


Fig. 2. Codes of Behaviours in MIKRA Terrorism Risk Assessment

Table 6 Scoring system of MIKRA

Risk Categories	Scores
Very high	5
High	4
Medium	3
Low	2
Zero	1

Table 7 Categories of total score of MIKRA

Scores	Categories
0.00 - 1.00	“No risk” (Protected)
1.01 - 2.00	“Low risk”
2.01 - 3.00	“Medium risk”
3.01 - 4.00	“High risk”
4.01 - 5.00	“Very high risk”

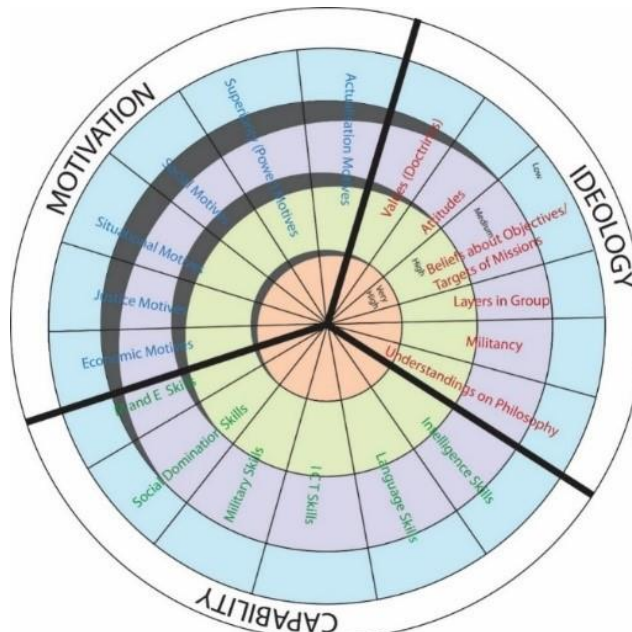


Fig. 3. MIKRA Terrorism Risk Assessment 3D Model

7. 3 Identification of psychometric properties of MIKRA

7. 3. 1 Reliability

MIKRA was tested to thirty-seven terrorist prisoners in a maximum-security prison in Indonesia. During examination, two psychologists (including the researcher) observed the prisoners and discussed each prisoner with four officers/informants who have access into prisoners' investigation documents and know the prisoners' day-to-day behaviours and skills, prior to

rate them based on the behaviour rating scale of MIKRA.

The internal consistency of behaviour rating scale (18 items) with *Cronbach's Alpha* was applied to examine MIKRA's reliability. The results indicate that the examination of MIKRA's reliability (N=37) is $\alpha= 0.933$ (Table 8). The reliability coefficient shows that MIKRA is reliable in assessing psychological risks of terrorist offenders. As explained by De Vaus ^[54], a reliability coefficient is satisfactory when it reaches 0.70.

Table 8. Reliability of MIKRA terrorism risk assessment

Internal Consistency	Reliability Statistics				
		N	%	Cronbach's Alpha	N of Items
Cases	Valid	37	100.0	.933	18
	Excluded ^a	0	.0		
	Total	37	100.0		

a. Listwise deletion based on all variables in the procedure

The examination of six behaviour rating scale of each domain of terrorism risk factors (*Motivation, Ideology, and Capability*) was also conducted to identify MIKRA's psychometric properties. The results show reliability coefficient $\alpha= 0.860$ for *Motivation* (Table 9), $\alpha= 0.950$ for

Ideology (Table 10), and $\alpha= 0.776$ for *Capability* (Table 11). This reliability coefficient for each domain demonstrates that six items of behaviour rating scale in each domain were consistent in assessing the domain of *Motivation, Ideology, and Capability*.

Table 9. Reliability of behaviour rating scale for domain of Motivation

Internal Consistency	Reliability Statistics				
		N	%	Cronbach's Alpha	N of Items
Cases	Valid	37	100.0	.860	6
	Excluded ^a	0	.0		
	Total	37	100.0		

a. Listwise deletion based on all variables in the procedure

Table 10. Reliability of behaviour rating scale for domain of Ideology

Internal Consistency	Reliability Statistics				
		N	%	Cronbach's Alpha	N of Items
Cases	Valid	37	100.0	.950	6
	Excluded ^a	0	.0		
	Total	37	100.0		

a. Listwise deletion based on all variables in the procedure

Table 11. Reliability of behaviour rating scale for domain of Capability

Internal Consistency	Reliability Statistics				
		N	%	Cronbach's Alpha	N of Items
Cases	Valid	37	100.0	.776	6
	Excluded ^a	0	.0		
	Total	37	100.0		

a. Listwise deletion based on all variables in the procedure

7. 3. 2. Validity

The study has shown *MIKRA*'s construct validity in assessing terrorism risk of offenders by inter-rater judgement and validation of behaviour scale of *MIKRA* at the second FGD with counterterrorism experienced practitioners and experts. Further, the study examines external validity by correlating participants' *MIKRA* scores with their official categories of risk released by the Anti-Terrorism Special Task Force Unit of the National Police ("green"/"non-radical and cooperative" = 1, "yellow"/"radical and cooperative"

= 2, and "red"/"radical and non-cooperative" = 3). The results show that offenders' *MIKRA* scores (N=37) are correlated significantly (at the 0.01 level) with their categories of risk released by the official (*Pearson's correlation*) (Table 12). Beside external validity, the study also examines criterion-related validity of *MIKRA*. This is by correlating offenders'/participants' *MIKRA* scores with other community sample (non-terrorist offenders). The results show that offenders' *MIKRA* scores (N=37) are not correlated with the non-terrorists' (Table 13).

Table 12. External validity of *MIKRA* terrorism risk assessment

Correlations			
	MIKRA Scores	Categories by the Anti-Terrorism Special Task Force	
MIKRA Scores	Pearson Correlation	Corre-1	.704**
	Sig. (1-tailed)		.000
	N	37	37
Categories by the Anti-Terrorism Special Task Force	Pearson Correlation	Corre-.704**	1
	Sig. (1-tailed)	.000	
	N	37	37

** . Correlation is significant at the 0.01 level (1-tailed).

Table 13. Criterion-related validity of *MIKRA* terrorism risk assessment

Correlations			
	Offenders' MIKRA Scores	Non-Offenders' MIKRA Scores	
Offenders' Scores	Pearson Correlation	Correlate-1	.224*
	Sig. (1-tailed)		.092
	N	37	37
Non-Offenders' Scores	Pearson Correlation	Correlate-.224*	1
	Sig. (1-tailed)	.092	
	N	37	37

*. Correlation is not significant.

8. Discussion

Tools for identifying risk of terrorist offenders remains uncertain. There has been limited knowledge on valid instruments for assessing risks of terrorist offenders [55] and the indicators of effectiveness of terrorism rehabilitation [56]. The stagnancy of study of terrorism is also reported by Sageman [57]. The shortage of empirical research on terrorism is possibly caused by

difficulties in engaging terrorists [58], confidentiality/sensitivity of the issue [59], and safety [60]. The invention of tools/instruments of terrorism risk assessment could help counterterrorism practitioners identify parameters of effective rehabilitation, recognise a change in risk level of offenders before and after treatment (e.g., disengagement, deradicalisation, resocialisation, reeducation, reintegration, empowerment,

counseling, aftercare programs), and consequently avoid recidivism. As described in the Risk-Need-Responsivity (RNR) Model by Andrews, Bonta and Hoge^[61] in Forensic Psychology, responsivity or rehabilitation of criminal offenders should be based on the analysis of their risk and need factors. The implications of the RNR Model cover all efforts at crime prevention through the delivery of clinical, social, and human services to individuals and groups. Andrews, Bonta, and Hoge^[62] present three general principles of classification in RNR for the purpose of effective correctional treatment: the (1) risk, (2) need, and (3) responsivity.

According to RNR, the positive change process of offenders is portrayed in a reduction in dynamic risk factors^[63]. Although RNR was developed for use within correctional services for general offenders, it is plausible that the principles are relevant to the rehabilitation of terrorist offenders; hence, the model is referred in this study. As such, addressing dynamic individual risk factors of each terrorist offender becomes a precondition for effective rehabilitation. In other words, prior to conduct treatment, it is important to initially review risks and needs of each of terrorist offenders. The effectiveness of deradicalisation, accordingly, is a result of the decrease of risk level of the offenders. It is for instance reasonable that terrorist offenders have certain criminogenic risk factors^[64], so that targeting these risk factors will likely be related to reductions in recidivism. Moreover, the assessment of risk factors can provide practitioners with direction when designing treatment and evaluating the outcomes of rehabilitation such as counseling, deradicalisation, and disengagement programs.

Horgan^[65] proposes the urgent need for more psychological research on terrorism. This study is aimed to develop *Motivation-Ideology-Capability Risk Assessment* or 'MIKRA' to investigate the level of risk of terrorist offenders, inspired by PCC (the Psychology of Criminal Conduct). PCC, the theory underpinning the RNR Model by Bonta and Andrews^[66], suggests that humans differ in the number, type, and variety of

antisocial acts in which they are prepared to engage and differ in when and under what circumstances they will act in harmful ways. PCC values individual differences and can support the framework of treatment for terrorist offenders by taking into account a number of listed motives and contexts. Furthermore, criminal acts including terrorism acts, according to PCC, are part of a more general sort of behaviour that psychologists call as 'problem behaviour' or 'deviant behaviour'^[67, 68]. Therefore, the principle of deviant acts is that their occurrence puts the offender 'at risk' of being targeted for interventions by figures of authority, control, regulation, and assistance^[69]. The problematic acts may ask for the intervention of parents, teachers, religious leaders, neighbors, and significant others. They place the actor at risk of being visited by professionals, practitioners, and an army of regulators (in business, labor, professional practice, government, and civil and human rights)^[70].

Applying the conceptual construct of individual terrorism risk from a previous study by Sukabdi^[71], the *MIKRA* development consisted of the three following steps: 1. defining risk spectrums and risk indicators for formulating behaviour rating scale of *MIKRA*, 2. formulating administration and scoring system, and 3. identifying psychometric properties. FGDs and interrater judgement for formulating behaviour rating scale of *MIKRA* were held in this study for construct validity. Used in forensic setting for extraordinary criminal offenders, *MIKRA* is presented in behaviour rating scale. It is due to the potential difficulties to engage terrorist offenders^[72], sensitivity of the issue^[73], and the security/safety of the assessors/administrators^[74] as previously mentioned. Consequently, in terms of administration of *MIKRA*, assessors will involve various kind of informants in helping them fill the behaviour rating scale/a clinician rated measure when assessing an offender. The informants are subjected to investigators, prosecutors, lawyers, witnesses, social workers providing advocacy, or significant others who know the offender being assessed and their specific behaviours and skills.

In terms of participants of this study, the study involved 34 counterterrorism experts and practitioners in formulating behaviour rating scale. These figures were experienced in counterterrorism whose roles were varied, ranged from leader of investigations to members of parliament (policy makers). Further in finding psychometry properties, the study involved 37 terrorist prisoners at a maximum-security prison. The prisoners were affiliated with ISIS or JI. The study also involved four informants of the 37 prisoners, who had access to investigation reports and had been observing the 37 prisoners in their daily basis.

MIKRA achieves its construct validity by administering three procedures. First, behaviour rating scale (18 risk spectrums and 295 raw risk indicators which can be observed) were gathered from 34 counterterrorism high profiles (experienced practitioners, professionals, and experts) in an FGD. Second, thematic analysis of these 18 risk spectrums and 295 raw risk indicators as well as interrater judgement were held, in which 295 raw risk indicators were condensed into 90. Hence, the validation process generated 18 items of behaviour rating scale and 90 validated risk indicators. Third, the final behaviour rating scale were verified once again to the 34 experienced practitioners, professionals, and experts in a second FGD who mostly attended the first FGD.

MIKRA's psychometric properties were examined from the internal consistency of behaviour rating scale (in defining reliability) and the correlation of participants' scores with their risk categories released by the officials (in identifying external validity). The results show that *MIKRA*'s reliability (N=37) is $\alpha = 0.933$, obtained from the internal consistency of behaviour rating scale (18 items) with *Cronbach's Alpha*. This satisfactory reliability coefficient show that *MIKRA* is reliable in assessing psychological risks of terrorist offenders, since the reliability coefficient reaches 0.70 [75]. Moreover, the examination of six items of behaviour rating scale of each domain in *MIKRA* (*Motivation, Ideology, and Capability, or M, I, C*) show satisfactory results: reliability

coefficient $\alpha = 0.860$ for *M*, $\alpha = 0.950$ for *I*, and $\alpha = 0.776$ for *C*. This proves that six items of behaviour rating scale in each domain were consistent in assessing the domain of *Motivation, Ideology, and Capability*. Further, the external validity by correlating participants' *MIKRA* scores with their official categories of risk released by the Anti-Terrorism Special Task Force Unit of the National Police show a satisfactory result. The offenders' *MIKRA* scores (N=37) are correlated significantly (at the 0.01 level) with their categories of risk released by the official (*Pearson's correlation*). This demonstrates that *MIKRA* can solely be applied to investigate risks of ideology-based terrorist offenders. Moreover, although this study only involved 37 terrorist offenders, the number is adequate as the total amount of terrorist prisoners in Indonesia is 560 [76]. Therefore, the participant number (N=37) has reached 15% of the total population of terrorist offenders available in the country.

MIKRA shows to be user-friendly for psychologists, counselors, and consultants, as it only consists of 18 items of behaviour rating scale with 90 risk indicators. The 90 risk indicators are overt behaviours of offenders. Performing *MIKRA* risk assessment to offenders before treatment (e.g., placement, counseling, deradicalisation, disengagement, and reintegration programs) seems to be rationally beneficial compared to no systematic assessment at all. Nevertheless, the challenges lies at finding specific informants who can supply the data about the terrorist offenders. For example, if an offender has just returned from Syria or Iraq, it would be difficult to find informants who know the offender's behaviour and skills, such as in weapon crafting, intelligence/propaganda, military, and CBRN, and define the level of capability he is mastering. Thus, assessors of *MIKRA* need to have all-inclusive approach and communications with accurate significant others and officers from different agencies (e.g., foreign affairs, religious affairs, Interpol, immigration, military) to examine the offenders' risks.

In terms of clinical and practical consequences, *MIKRA* development delivers some crucial

implications. The results suggest that individual terrorism risk assessment of an offender needs to be performed carefully and most probably, given the breadth of issues requiring evaluation, by joint involvement of multiple examiners from multidisciplinary backgrounds (e.g., security officers, clerics, psychologists, sociologists, and anthropologists). Accordingly, particular disciplines would help in conducting assessment in particular domains of *MIKRA* (*Motivation, Ideology, or Capability*). *MIKRA* assists clinicians, counterterrorism practitioners, and policy makers to identify risks of individual offenders to be addressed prior to planning and providing intervention. The instrument can also be useful for several other purposes such as in trials, designing prison layouts, and placement (e.g., offenders, officers) at the correction centers.

This study gives a significant contribution to the field of terrorism; especially considering that instruments prior to rehabilitating terrorist offenders are unclear [77]. The study supports in the correct clustering of the terrorist offenders based on their risk profiling. This implies that a careful placement of each offender supported by favorable prison designs and other infrastructures needs to be achieved (e.g., classrooms for religious discussions, a separated cell for offenders with proficient bomb-making skill, phone booth for offenders' visitors at high-security prisons). As Monahan [78] explains, the role of conducive infrastructure in correctional system is critical and includes access, programs, and researches on terrorism. The study provides insights that an offender with proficient *Military Skills* may not be combined in a similar prison cell with another who is a beginner to prevent prisons' providing environments to learn new skills ('universities of terrorism') [79].

Future research could focus on how *MIKRA* can be applied to different age groups, such as young terrorist offenders (under 17 years old) and children (under 10 years old) of terror groups or military training camps (e.g., in Mindanao, Syria, Iraq, or any other conflict zones). The lack of information regarding participants of these age bands would probably become a

challenge faced by researchers and assessors of *MIKRA*. Another future research could also focus on the administration of *MIKRA* to militants who have not yet committed (but are planning to do) terror attacks. This will be an important discovery to correlate certain profile configurations with terror actions. In this case, *MIKRA* could be used to prevent terrorism acts before they happen (not only for rehabilitation).

References

- [1] Monahan J (2012) The Individual Risk Assessment of Terrorism. *Psychology, Public Policy, and Law* 18(2):167-205.
<https://doi.org/10.1037/a0025792>
- [2] Borum R (2011) Radicalisation Into Violent Extremism II: A Review of Conceptual Models and Empirical Research. *Journal of Strategic Security* 4(4):37-62.
<https://doi.org/10.5038/1944-0472.4.4.2>
- [3] O'Duffy B (2008) Radical Atmosphere: Explaining Jihadist Radicalisation in the UK. *Political Science & Politics* 41(01):37-42.
<https://doi.org/10.1017/s1049096508080050>
- [4] Bhui KS, Hicks MH, Lashley M, Jones E (2012) A Public Health Approach to Understanding and Preventing Violent Radicalisation. *BMC Medicine* 10(1). <https://doi.org/10.1186/1741-7015-10-16>
- [5] Shepherd J (2007 July 3). The Rise and Rise of Terrorism Studies. *The Guardian*.
<https://www.theguardian.com/education/2007/jul/03/highereducation.research>
- [6] Andrews DA, Bonta J, Hoge RD (1990) Classification for Effective Rehabilitation. *Criminal Justice and Behaviour* 17(1):19-52.
<https://doi.org/10.1177/0093854890017001004>
- [7] Rabasa A, Pattyjohn SL, Ghez JJ, Boucek C (2010) *Deradicalising Islamist Extremists*. Rand Corporation.
https://www.rand.org/content/dam/rand/pubs/monographs/2010/RAND_MG1053.pdf
- [8] Istiqomah M (2011) *Deradicalisation program in Indonesian prisons: reformation on the correctional institution*. Proceedings of the 1st Australian Counterterrorism Conference.
- [9] Rabasa A, Pattyjohn SL, Ghez JJ, Boucek C (2010) *Deradicalising Islamist Extremists*. Rand Corporation.
https://www.rand.org/content/dam/rand/pubs/monographs/2010/RAND_MG1053.pdf
- [10] The George Washington University and The University of Virginia (2006) *Out of the shadows:*

- Getting ahead of prisoner radicalisation.* The George Washington University.
https://med.virginia.edu/ciag/wp-content/uploads/sites/313/2015/12/out_of_the_shadows1.pdf
- [11] Ciluffo FJ, Cardash SL (2007) Radicalisation: behind bars and beyond borders. *Brown Journal of World Affairs* 13(2):112-121
- [12] Hannah G, Clutterback L, Rubin J (2008) *Radicalisation or rehabilitation: Understanding the challenge of extremist and radicalised prisoners.* The RAND Corporation.
- [13] Useem B, Clayton O (2009) Radicalisation of U.S. prisoners. *Criminology & Public Policy* 8(3):561-592, p. 562.
<https://doi.org/10.1111/j.1745-9133.2009.00574.x>
- [14] Bonnet P (2010) Indonesian deployment of corrective services NSW officers. *Australasian Journal of Correctional Staff Development* 5(3)
- [15] International Center for Prison Studies (n.d.) *World prison brief.* Retrieved May 17, 2012, from http://www.prisonstudies.org/info/world-brief/wpb_stats.php?area¼all&category¼wb_poptotal
- [16] Jones CR (2014) Are prisons really schools for terrorism? challenging the rhetoric on prison radicalisation. *Punishment & Society* 16(1):74-103.
<https://doi.org/10.1177/1462474513506482>
- [17] Noor S, Hayat S (2009) Deradicalisation: Approaches and models. *A PIPS Research Journal* 2(2):47
- [18] Jones CR (2014) Are prisons really schools for terrorism? challenging the rhetoric on prison radicalisation. *Punishment & Society* 16(1): 74-103. <https://doi.org/10.1177/1462474513506482>
- [19] International Crisis Group (2007) *Deradicalisation and Indonesian Prisons. Asia Report 142.*
<https://www.crisisgroup.org/asia/south-east-asia/indonesia/deradicalisation-and-indonesian-prisons>
- [20] Bonnet P (2010) Indonesian deployment of corrective services NSW officers. *Australasian Journal of Correctional Staff Development* 5(3)
- [21] Sukabdi, Z. A. (2018, October). *Terrorism Criminogenic Risk Factors* [Conference session]. The 2nd International Conference on Social and Political Issues, Bali, Indonesia.
- [22] Sukabdi, Z. A. (2018, October). *Terrorism Criminogenic Risk Factors* [Conference session]. The 2nd International Conference on Social and Political Issues, Bali, Indonesia.
- [23] Bonta J, Andrews D (2016) *The Psychology of Criminal Conduct.* Routledge
- [24] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [25] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [26] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [27] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [28] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [29] Jessor R, Jessor SL (1977) *Problem behaviour and psychosocial development: A longitudinal study of youth.* Academic Press
- [30] Ullmann LP, Krasner L (1975) *A psychological approach to abnormal behaviour* (2nd ed.). Prentice Hall
- [31] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [32] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [33] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [34] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [35] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [36] Andrews DA, Bonta J, Hoge RD (1990) Classification for Effective Rehabilitation. *Criminal Justice and Behaviour* 17(1):19-52.
<https://doi.org/10.1177/0093854890017001004>
- [37] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [38] Andrews DA, Bonta J, Hoge RD (1990) Classification for Effective Rehabilitation. *Criminal Justice and Behaviour* 17(1):19-52.
<https://doi.org/10.1177/0093854890017001004>
- [39] Miller LA, Lovler RL (2016) *Foundations of psychological testing: A practical approach* (5th ed.). Sage Publications
- [40] Finn SE (2007). *In our client's shoes: Theory and techniques of therapeutic assessment.* Erlbaum
- [41] Finn SE (2007). *In our client's shoes: Theory and techniques of therapeutic assessment.* Erlbaum
- [42] Finn SE (2007). *In our client's shoes: Theory and techniques of therapeutic assessment.* Erlbaum
- [43] Miller LA, Lovler RL (2016) *Foundations of psychological testing: A practical approach* (5th ed.). Sage Publications

- [44] Miller LA, Lovler RL (2016) *Foundations of psychological testing: A practical approach* (5th ed.). Sage Publications
- [45] Sukabdi Z (2020 April 1). *PSIFOR-TALKS WITH ZORA A. SUKABDI* (Presentation). Himpunan Psikologi Indonesia [Indonesian Psychology Association], Indonesia
- [46] Miller LA, Lovler RL (2016) *Foundations of psychological testing: A practical approach* (5th ed.). Sage Publications
- [47] LaFree G, Dugan L (2004) How Does Studying Terrorism Compare to Studying Crime? *Sociology of Crime, Law and Deviance*:53-74. [https://doi.org/10.1108/s1521-6136\(2004\)0000005006](https://doi.org/10.1108/s1521-6136(2004)0000005006)
- [48] Rosenfeld R (2003) Why criminologists should study terrorism. *Crime & Justice International* 19:34-35
- [49] Dernevik M, Beck A, Grann M, Hogue T, McGuire J (2009) The Use of Psychiatric and Psychological Evidence in the Assessment of Terrorist Offenders. *Journal of Forensic Psychiatry & Psychology* 20(4):508-515. <https://doi.org/10.1080/13501760902771217>
- [50] Monahan J (2012) The Individual Risk Assessment of Terrorism. *Psychology, Public Policy, and Law* 18(2):167-205. <https://doi.org/10.1037/a0025792>
- [51] Sukabdi ZA (2018 October) *Terrorism Criminogenic Risk Factors* [Conference session]. The 2nd International Conference on Social and Political Issues: Bali, Indonesia
- [52] Sukabdi ZA (2018 October) *Terrorism Criminogenic Risk Factors* [Conference session]. The 2nd International Conference on Social and Political Issues: Bali, Indonesia
- [53] Sukabdi ZA (2018 October) *Terrorism Criminogenic Risk Factors* [Conference session]. The 2nd International Conference on Social and Political Issues: Bali, Indonesia
- [54] De Vaus D (2002) *Analyzing Social Science Data*. London, Sage Publications
- [55] Monahan J (2012) The Individual Risk Assessment of Terrorism. *Psychology, Public Policy, and Law* 18(2):167-205. <https://doi.org/10.1037/a0025792>
- [56] Borum R (2011) Radicalisation Into Violent Extremism II: A Review of Conceptual Models and Empirical Research. *Journal of Strategic Security* 4(4):37-62. <https://doi.org/10.5038/1944-0472.4.4.2>
- [57] Sageman M (2004) *Understanding Terror Networks*. University of Pennsylvania Press
- [58] O'Duffy B (2008) Radical Atmosphere: Explaining Jihadist Radicalisation in the UK. *Political Science & Politics* 41(01):37-42. <https://doi.org/10.1017/s1049096508080050>
- [59] O'Duffy B (2008) Radical Atmosphere: Explaining Jihadist Radicalisation in the UK. *Political Science & Politics* 41(01):37-42. <https://doi.org/10.1017/s1049096508080050>
- [60] Bhui KS, Hicks MH, Lashley M, Jones E (2012) A Public Health Approach to Understanding and Preventing Violent Radicalisation. *BMC Medicine* 10(1). <https://doi.org/10.1186/1741-7015-10-16>
- [61] Shepherd J (2007 July 3). The Rise and Rise of Terrorism Studies. *The Guardian*. <https://www.theguardian.com/education/2007/jul/03/highereducation.research>
- [62] Andrews DA, Bonta J, Hoge RD (1990) Classification for Effective Rehabilitation. *Criminal Justice and Behaviour* 17(1):19-52. <https://doi.org/10.1177/0093854890017001004>
- [63] Andrews DA, Bonta J, Hoge RD (1990) Classification for Effective Rehabilitation. *Criminal Justice and Behaviour* 17(1):19-52. <https://doi.org/10.1177/0093854890017001004>
- [64] Andrews DA, Bonta J, Hoge RD (1990) Classification for Effective Rehabilitation. *Criminal Justice and Behaviour* 17(1):19-52. <https://doi.org/10.1177/0093854890017001004>
- [65] Sukabdi ZA (2018 October) *Terrorism Criminogenic Risk Factors* [Conference session]. The 2nd International Conference on Social and Political Issues: Bali, Indonesia
- [66] Horgan J (2016) A call to arms: The need for more psychological research on terrorism. *Social Psychological Review* 18(1):25-28
- [67] Sukabdi ZA (2018 October) *Terrorism Criminogenic Risk Factors* [Conference session]. The 2nd International Conference on Social and Political Issues: Bali, Indonesia
- [68] Jessor R, Jessor SL (1977) *Problem behaviour and psychosocial development: A longitudinal study of youth*. Academic Press
- [69] Ullmann LP, Krasner L (1975) *A psychological approach to abnormal behaviour* (2nd ed.). Prentice Hall
- [70] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [71] Andrews DA, Bonta J (2010) *The Psychology of Criminal Conduct* (5th ed.). Matthew Bender & Company Inc, New Providence, NJ
- [72] Sukabdi ZA (2018, October) *Terrorism Criminogenic Risk Factors* [Conference session]. The 2nd International Conference on Social and Political Issues, Bali, Indonesia.
- [73] O'Duffy B (2008) Radical Atmosphere: Explaining Jihadist Radicalisation in the UK. *Political Science & Politics* 41(01):37-42. <https://doi.org/10.1017/s1049096508080050>
- [74] Bhui KS, Hicks MH, Lashley M, Jones E (2012) A Public Health Approach to Understanding and

- Preventing Violent Radicalisation. *BMC Medicine* 10 (1). <https://doi.org/10.1186/1741-7015-10-16>
- [75] Shepherd J (2007 July 3). The Rise and Rise of Terrorism Studies. *The Guardian*. <https://www.theguardian.com/education/2007/jul/03/highereducation.research>
- [76] De Vaus D (2002) *Analyzing Social Science Data*. London, Sage Publications Sistem Database Pemasarakatan. (2020). Data Terakhir Jumlah Khusus Penghuni Perkanwil [Updated Data of Prisoners in Indonesia]. Ditjen PAS - SMS Gateway System. <https://smslap.ditjenpas.go.id/public/krl/current/monthly/year/2020/month/6>
- [77] Borum R (2011) Radicalisation Into Violent Extremism II: A Review of Conceptual Models and Empirical Research. *Journal of Strategic Security* 4(4):37-62. <https://doi.org/10.5038/1944-0472.4.4.2>
- [78] Monahan J (2012) The Individual Risk Assessment of Terrorism. *Psychology, Public Policy, and Law* 18(2):167-205. <https://doi.org/10.1037/a0025792>
- [79] Useem B, Clayton O (2009) Radicalisation of U.S. prisoners. *Criminology & Public Policy* 8(3):561-592. <https://doi.org/10.1111/j.1745-9133.2009.00574.x>

