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## Validity and Reliability Analysis on Risky Antecedents of Adolescents' at Risk of Crime Risk Behaviour in Malaysia Context: A Preliminary Study

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### Abstract

Negative environmental are one of the factor that exposed adolescents who grow up under this circumstances to the greater risk of developing psychological and social problems. The aim of this paper is to determine the validity and reliability of Risky Antecedents variable of *Instrumen Remaja Berisiko Jenayah* (IRBJ) that was developed by Mohammad Nasir et al. (2018) and consists of 99 items in total. This variable consists of two construct which are support (consists of three sub-construct: support from family, peers and school) and family socioeconomic status. Pilot study involved 66 students from a secondary school in Perak (male:27, female:39) and carried out in March 2018. Result from validity analysis by using content validity method shows an acceptable validity value which is .92. The internal consistency reliability for this variable was  $\alpha = .83$ . The present study showed that these variable has acceptable validity and reliability value to measure adolescents' support (family, peer and school) and family socioeconomic status in Malaysia. Further studies are needed to validate this variable across different population, culture, and with higher number of samples by using confirmatory factor analysis (CFA).

**Keywords:** Risky Antecedent, Support, Family, Peer, School, Socioeconomic Status, Crime Risk Behavior, Adolescent

### Introduction

Adolescence is a milestone in human growth and development as a turbulent period of transition from childhood to adulthood characterized by coexistent changes where it is a critical period of life in which a great deal of biological, psychological, and social changes occurs (Kurt & Ergene, 2017). Increased rates of student disciplinary cases including crimes involving adolescents in this country are worrying as the increase cases of juvenile crime from year to year. Development programs, treatment and rehabilitation has been carried out by various parties but still difficult to overcome this problem

and at the same time, many new cases emerged. A total number of 4,474 criminal cases in 2011 were committed by children and adolescent as reported by Royal Malaysia Police and those who have been arrested was mostly between age 16-18 years old (69%) with 3,085 cases, followed by 13-15 years old 1,271 cases, 11-12 years old with 90 cases and 7-10 years old with 28 cases (Berita Harian, 2012).

According to Bronfenbrenner (1979), social factors such as families, communities and wider social institution influences the development of children and adolescent which includes process in families, peers, social support, community resources, neighbourhood security and quality of life. Children who exposed to risky behaviour came from risky or negative environment such as not able to receive enough support from family or family dysfunction (Schulte & Petermann, 2011; Faisal & Mohammad, 2012; and Henggeler & Sheidow, 2012); live in poverty (McNeil et al., 2013; Yoo, Jeong Ah & Huang, Chien-Chung, 2012; and Calderón-Almendros, 2011); negative neighbourhood environment (Tam & Reisthler, 2015; Tompsett et al., 2016), insufficient support from peer (Weermen et al. 2015; Reynolds et al., 2015; and Rulison et al., 2014) and school (Synder & Smith, 2015; et al., 2015; Lo et.al, 2011).

Adolescent development problems involve negative external and internal environments or risk factors that are closely related to behavioral problems among adolescents. Processes in families, peer groups, poverty and social support are among the factors involved as well school as an institution fail to helps identify factors related to the problematic behavior (Baharudin, Krauss, Yacoob, & Pei, 2017; Haggerty, Skinner, McGlynn-Wright, Catalano, & Crutchfield, 2013; Kurt & Ergene, 2017; Mendelson, Turner, & Tandon, 2010; Palomar-Lever & Victorio-Estrada, 2016; Reynolds & Crea, 2015; Rovis, Bezinovic, & Basic, 2015; Yahaya et al., 2005).

Based on the literature above, children at risk of being involved in crime in this study have the following characteristics: -

- i. Early and mid-level adolescents (12 to 15 years old).
- ii. Experiencing Risk Antecedent: Failure of family function; poor support system (family, friends and school); and other factors to be identified.
- iii. Risky Psychological Factors: Low resilience; low action strategy; low level of empathy and aggressive.
- iv. Markers system - Truancy, low academic achievement, inactive in school activities, always fighting, damaging property and low social efficiency.

Therefore, children or adolescents who have these above characteristics are vulnerable to situations in which they will fail to adapt when facing a crisis or a stressful situation to them and expose themselves to involve in delinquent behaviour in future (Berger, Batanova, & Cance, 2015; Boxer, Sloan-power, Mercado, & Schappell, 2012; Clapp & Thomas, 2016;; Francisco et al., 2016; S. A. Lee et al., 2015; Newsome & Sullivan, 2014; Piko & Pinczés, 2014; Reynolds & Crea, 2015; Schalkwijk, Stams, Stegge, Dekker, & Peen, 2016).

In Malaysia, there is no well-develop instrument to measure the Risky Antecedent that lead adolescent to getting involve crime risk behavior. This variable may help to find the factor related to adolescents' crime risk behavior consists of support (family, peer and school) and socioeconomic status in Malaysia. Most of the organization in this country use instrument from another country which some of the item is not suitable to be used for adolescents in Malaysia. So, this variable from IRBJ was develop to fill the gap. This study is expected to serve as a guide for early steps and

intervention for internal adjustment to these risky adolescents. It is hoped that with this kind of assistance, the adolescent will be able to face many challenging situations in the future especially when facing a life-threatening situation, and indirectly this effort will help them avoid getting caught up in future crime in line with National Youth Development Policy. This current paper objective is to find the validity and reliability of the Risky Antecedent variable from the *Instrumen Remaja Berisiko Jenayah (IRBJ)*.

## Method

Current study uses a quantitative method to find the validity and reliability of the risky antecedents of adolescents at risk of crime risk behavior in Malaysia. According to the objective of this study, the reliability of the construct obtained through a content validity analysis. Eight panel who are expert in this area was appointed to be rate items in this variable. They give their opinion about whether the question is essential, useful or irrelevant to measuring the variable of interest in this study. Their results are statistically analysed and the item modified to improve the rational validity.

To measure the reliability of the risky antecedent variable, this pilot study involve adolescents from a secondary school in Perak with total number of participants was 66 (male:27, female:39) and all of them 13 years old. This instruments consists of four variables that represented by 13 constructs (see Table 1), but in this paper, we only focus on Risky Antecedents variable. This instrument was developed by Mohammad Nasir et al. (2018) to measure factors that related to adolescents' crime risk behaviour. This instruments were adapted from *Instrumen Remaja Berisiko Mengambil Dadah (IRBMD)* (Mohammad Nasir et al., 2013). This self-reported instrument was developed in Malay language and consists of five point Likert scale comprise of positive and negative items. Except for constructs family's socioeconomic status, it consists of four items and the answer for each questions was different between each other that asking about, i) Parents'/caretaker highest educational achievement; ii) Parents'/caretaker gross income; iii) Parents'/caretaker job; iv) Residential area. Table 2 shows the positive, negative and total number of items in each construct and sub-construct.

**Table 1: Variables and Constructs in IRBJ**

Variables	Risky Antecedents	Psychology at Risk	Marker System	Crime Risk Behavior
<b>Constructs</b>	<ul style="list-style-type: none"> <li>• Support from               <ul style="list-style-type: none"> <li>- Family</li> <li>- Peer</li> <li>- School</li> </ul> </li> <li>• Socioeconomic Status</li> </ul>	<ul style="list-style-type: none"> <li>• Resilience</li> <li>• Coping Skills</li> <li>• Aggressive</li> <li>• Depression</li> <li>• Empathy</li> </ul>	<ul style="list-style-type: none"> <li>• Truancy</li> <li>• Academic Achievement</li> <li>• Involvement in School Activity</li> </ul>	Crime Risk Behavior

**Table 2: Positive, Negative and Total Number of Item in Risky Antecedent Variable**

Constructs	Positive Item	Negative Item	Total Item
Support from			
- Family	1,2,3,4,5,7,8	6	8
- Peer	1,2,3,4,5	6,7,8	8
- School	1,2,3,4,7,8	4,6	8
Socioeconomic Status	1,3	2,4	4
Total	20	8	28

### Finding

#### Validity of Risky Antecedent construct in IRBJ

This category looks at whether the instrument adequately covers all the content that it should with respect to the variable or in other words, does the instrument cover the entire domain related to the variable, or construct it was designed to measure? (Heale & Twycross, 2015). According to Bowling (2009), the simplest level of calculating interrater agreement is using percentage. For the content validity of the instrument were established based on the magnitude of the Content Validity Index (CVI) values as it related to degree of agreement among the panelists (Lynn, 1986). A low CVI of less than 80% or .80 means the items on the instrument does not adequately address the thematic domains being explored because it raises the issue of objectivity and appropriateness (Sangoseni et al., 2013).

Thus, in this study, the validity score was acceptable and score based on each construct and sub-constructs were varying between .90 to .94 with the total validity score for the variable was .92 (91.95%) based on the evaluation from eight experts in this area. By following the suggestion from Wynd and Schaefer (2002), the panel experts were also requested to gives a qualitative comment and additional suggestion to improve the instrument. According to Creswell (2014) and Wiersman and Jus (1990), validity values above than .70 was considered higher and have a good validity value. The validity values of construct and sub-construct in Risky Antecedent variable can be seen in Table 3.

**Table 3: Validity of Risky Antecedent Variable in IRBJ**

Construct	Percent (%)	Validity Value
Support from		
- Family	93.60	.94
- Peer	91.56	.92
- School	92.65	.93
Socioeconomic Status	89.97	.90
Total	91.95	.92

#### Reliability of Risky Antecedent construct in IRBJ

For reliability score, the Cronbach alpha value for each construct and sub-construct varies between .78 to .86 with total Cronbach alpha value for the variable was  $\alpha=.83$ . The general rule of thumb suggested ideal Cronbach alpha value is above .70 (good), .80 (better) and .90 (best) (DeVellis, 2003; Rachel, 2018). Some of the construct and sub-construct have fewer items that is below than 10 items

have a quite low Cronbach alpha value as it is quite sensitive to the number of items in the scale (Pallant, 2007). So, Pallant (2007) suggest that it would be more appropriate to report the mean inter-item correlation value for the items. Briggs and Cheek (1986) recommend optimal range for inter-item correlation is between .20 to .40. The mean inter-item correlation of this variable vary between .21 to .38 with total average value is .29 that shows an acceptable value. The reliability values of construct and sub-construct in Risky Antecedent construct can be seen in Table 4.

**Table 4: Reliability of Risky Antecedent Variable in IRBJ**

Construct	Number of Item		Reliability Value ( $\alpha$ )		Mean Inter-item Correlation	
	Before	After	Before	After	Before	After
Support from						
- Family	10	8	.78	.86	.29	.38
- Peer	10	8	.70	.82	.20	.28
- School	9	8	.58	.84	.14	.21
Socioeconomic Status	4	4	.78	.78	.27	.27
Total	33	28	.71	.83	.23	.29

### Discussion, Conclusion and Suggestion

The aim of this study is to determine the validity and reliability of Risky Antecedents variable of *Instrumen Remaja Berisiko Jenayah* (IRBJ) that was developed by Mohammad Nasir et al. (2018). Validity is defined as the extent to which a concept is accurately measured in a quantitative study while reliability define as the extent to which a research instrument consistently has the same results if it is used in the same situation on repeated occasions. (Heale & Twycross, 2015). In this study, the type of validity that being used is content validity that also known as definition validity and logical validity and can be defined as the ability of the selected items to reflect the variables of the construct in the measure (Newman, Lim & Pineda, 2013). Besides, the type of reliability that being used in this study is internal consistency by using Cronbach'  $\alpha$  test which in this test, the average of all correlations in every combination of split-halves is determined. The Cronbach's  $\alpha$  result is a number between 0 and 1. An acceptable reliability score is one that is 0.7 and higher (Lobiondo-Wood & Haber, 2013; Shuttleworth, 2015).

Finding from this study shows that this Risky Antecedent variable has an acceptable validity (.92) and good reliability ( $\alpha$ = .83) value. As finding shows that this variable has an acceptable value of validity and reliability, this variable can be used as an early step to measure Risky Antecedents that can lead adolescent getting involve in risky behaviour such as substance abuse, bullying, stealing and truancy. This can help government, especially the Malaysian Ministry of Education and the Home Affair Ministry to plan appropriate action plans for monitoring criminal activities among children and adolescents in Malaysia. Further studies are necessary to revalidate the factor structure of the Risky Antecedent variable across different population, culture, and with higher number of samples by using confirmatory factor analysis (CFA).

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