

## Adolescent Anger Instrument (AAI): Measuring anger Expressions among Adolescents

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### Abstract

Identifying specific symptoms or signs of anger is a challenge because there are various styles of anger expression. The identification of these symptoms or signs is essential in determining proper psychological and physical intervention. This article introduces the Adolescent Anger Instrument (AAI) developed to fulfill the need for early identification of symptoms or signs of anger in school settings. Specifically, AAI was designed to identify the tendency of specific anger expressions. The first phase of the research involved 5402 school students, aged between 13 to 19, followed by another 3357 in the second phase. Three types of anger expressions identified were (i) anger-out (physical and verbal aggression), (ii) anger-in (passive) and (iii) anger-control (extrinsic and intrinsic). The reliability is 0.79 during the first phase and 0.84 in the second phase of research. Depending on the type of anger expressed, an action plan and early intervention management can be performed towards individual students or groups of students. This could include school-wide preemptive and preventive measures to counter the impact of uncontrolled anger among students.

**Keywords:** Anger Instruments, Anger Expression, Adolescent, Instrument

### Introduction

Anger is defined as a strong emotion that can be triggered in many ways and can affect different mental and physical dimensions (Khodayarifard et al., 2013). Uncontrolled anger could lead to unthinkable outcomes. Negative effects trigger anger-related thoughts, memories, and expressive-motor responses associated with anger and aggression as well as rudimentary angry feelings. Subsequent thought involving attributions, appraisals, and schematic conceptions could then intensify, suppress, enrich, or differentiate the initial reactions. Bodily reactions as well as emotion-relevant thoughts can activate the other components of the specific emotional network to which they are connected (Walter, 2001).

Expression of anger could bring a sense of emotional relief as well as simultaneously destructive. Finding shows that it could damage relationship, lead to various social disorders

(such as bullying, truancy, vandalism, substance abuse) and even increase the risk of health problems (such as heart attack, high blood pressure and stroke). Therefore, teaching how to express and manage feelings in appropriate and productive ways is important.

Individuals express their anger in a variety of ways. According to Norisham (2010), adolescents have expressed their anger either internally by keeping them alone or externally by imposing something or somebody else on them. Unattended anger has the potential to arouse aggressive behavior O'Neill (2006) and to cause other destructive problems due to irrational thinking (Norisham, 2010). Anger has been identified as related to physical health (Russell et al., 2016) such as illnesses Guenther et al (2015), cardiovascular risk and gastrointestinal symptoms (Park et al., 2015).

Angry emotion is also associated with suicidal and violent behavior Ammerman et al (2015), aggression Frazier & Vela (2014) and antisocial behavior (Bjørnebekk & Howard, 2012). If not effectively managed, anger could also lead to interpersonal (Han et al., 2015) and social problems (Adam & Brett, 2015). Although anger has long been considered a normal emotion (Nick et al., 2005), it is potentially problematic (Ahmed et al., 2012). Anger expressed inappropriately or experienced in excessive, intensive or prolonged forms may also result in impaired personal functioning. This article aims to introduce an instrument called Adolescent Anger Instrument (AAI) that could measure the types of expressions of anger among adolescents.

### **Problems Statement**

Anger is not only challenging for the adults but also for adolescents. According to Novaco (2010), persons who are clinically depressed report anger expressiveness as well as anger suppression, they report anger directed at others as well as anger directed at themselves. Robinson and Segal (2013) stated in their article that female adolescents usually expressed their anger verbally rather than physically and male adolescents are more likely to throw objects, kick doors, or punch the walls when they are angry. Although anger is a common and natural emotion or internal event, problems associated with the appropriate expressions of anger remain among the most serious concerns of parents, educators, and mental health community (Feindler & Engel, 2011). Excessive anger which is out of control could also have negative impacts on the individual as well as on other individuals. Therefore, anger should be identified at an early stage so that control actions can be implemented in an effective manner.

Emotional behavior (expression or non-expression) plays a key role in individual adjustment, social interaction, and therapeutic process. Expression and non-expression may take different forms and may have either positive or negative consequences. What and how people express (or do not express) affects their own emotional experience as well as the nature of their relationships with others (Kennedy-Moore & Watson, 2001).

Without a doubt, these few effects of anger suggest that it should always be kept under control. Earlier findings by Shafrin et al (2009) stated that adolescents in Malaysia express their emotions either by demonstrating components of aggressive, and passive behavior. Passive emotional expression is shown by disappointment and depressed emotions. On the other hand, aggressive behavior and emotional components are demonstrated through adolescents' act such as hard-headedness, rage, bullying and rioting. These findings support the Kamarulzaman (2009) study, which claims that Malaysian adolescents are often in anger because of conflicts they face throughout their development phase. Although some parts of anger proved useful and positive, dysfunction in anger control could be negative for the

individual. It could lead to poor physical and mental health and when associated with violence behavior (Ahmed et al., 2012).

Rather as the sole reason for one to act physically aggressive, Fives et al. (2011) argue that anger is also caused by disappointment of something irrational. Anger could also have rooted from dissatisfaction or fear of threat towards oneself, others, or objects with significant values, or having to separate from it (Ariyabuddhiphongs, 2014). Deffenbacher et al. (1996) divided anger into two types: temporary and trait. Temporary anger appears based on circumstances and its severity varies depending on the degree of assault, unfairness, or frustration the individual feels. On the other hand, the latter is defined as perceiving numerous situations or environment as boring or frustrating. This leads the individual to experience more common temporary anger.

Anger could end up as huge problems unless it was transformed as a source of motivation for useful purpose. In Malaysia, issues related to anger expression and control among adolescents including school students has triggered interest among researcher such as Norisham (2010); Ahmad (2011); Chin (2016); Shafrin & Azura (2016) etc. This is caused by the increase of anger-related incidents occurs in schools and other educational institutions. The development of the Adolescent Anger Instrument (AAI) was to identify anger intensity and types of anger expression among adolescents in Malaysia. The result would be useful in planning early intervention strategies and actions to help adolescents with anger expression difficulties at the earliest stage and hopefully AAI also can be implemented beyond Malaysian context.

## **Method**

This study started with the first phase in the year 2011 while the second phase was in 2017. It involved two phases of the research study. The first phase involved 5402 respondents, followed by 3357 respondents for the second phase. All respondents were adolescents studying in secondary school ranging from the age of 13 to 19 years old. They were chosen from five different areas or zone in Malaysia that comprise all states. They are from the northern zone, southern zone, middle and east zone of the Malaysian Peninsular, and the East Malaysia zone, which includes the states of Sarawak and Sabah.

At the early stage of the research, semi-structured interviews and open-ended questions were used to collect details. During the interviews, seven students (5 males and 2 females) and three counselors were involved. About 103 students, made up of 49 males and 54 females answered open-ended questions. In the open-ended questions and interviews, students are asked about their ways of anger expressions while angry. Findings on how anger was expressed, then being extracted, were used to develop the instrument items. An emotional description was then sorted and analyzed through written answers and interviews. Constructs were then developed using content analysis. Anger expression constructs were also refined through literature research and reviews of other established anger instruments such as the Adolescent Anger Rating Scale by Burney (2001), State-Trait Anger Expression Inventory-2nd Edition (STAXI-2) Spielberger (2000), and State-Trait Anger Expression Inventory-2 Child and Adolescents (Brunner & Spielberger, 2009).

Early-stage study findings were then used to develop 53 items of AAI. Three counseling psychologists and a language expert are responsible for the validation process of AAI. Next, the pilot version of AAI with 53 items then was administered to 270 school students. Based on the findings of the pilot study, the reliability of AAI was 0.78. All 53 items were also categorized by factor analysis based on the suitability of the construct. Factor analysis is used

as a method to reduce data from huge data and to ensure each item is in the same construct (Sheriden et al., 2001). The instrument was later revised based on the result. Six items have been omitted after the factor analysis procedures while 47 items remain. 47 items that remain then were categorized into five constructs that are physical, verbal, intrinsic, extrinsic, and passive.

#### *First Phase*

The first phase of the field research was then carried out. The revised instrument with 47 items was administered to 5402 students all over Malaysia. Another 182 students which consist of 97 males and 85 females, were interviewed using the focus groups technique. Interview questions are on how or ways students express their anger on these categories: physical, verbal, intrinsic, extrinsic, and passive. The respondents were chosen randomly based on two categories of school location: urban and suburban. Findings were then analyzed and used as the basis to refine and improve the instrument. After the second factor analysis, only 35 items remain as the final version of the instrument. AAI reliability with 35 items is now at 0.79.

#### *Second Phase*

Phase two of the study continues in 2017 with 3357 secondary school students. The AAI was retested for reliability and factor analysis to ensure that each item is placed under the correct construct. In the second phase study, 35 items developed from the first phase remain with some refinement in language. The final version's reliability is 0.84. This finding proved that AAI fulfills the requirement as a psychometric tool for identifying anger expression among students in Malaysia.

### **Results**

From these two phases of the study, the final version of the 35-items AAI was established. Five AAI constructs have been categorized into three major domains which are anger-out (physically and verbally aggressive), anger-in (passive) and anger-control (intrinsic and extrinsic). The instrument can be assessed in hardcopy and online ([imr.usm.my/](http://imr.usm.my/)).

#### *Purposes of AAI Development*

AAI was developed with these characteristics based on the two phases of the study done:

1. Able to identify adolescents' anger expression.
2. Can be utilized as reference data by the school counselors and educators.
3. Results could be used to enhance the intervention process in managing anger among adolescents.

AAI is unique as it is

1. Prepared in simple Malay & English language.
2. Explain adolescents' anger expressions in three domains: anger out, anger in, and anger control.
3. Suitable for both individual as well as group use.
4. A simple and easy instrument with only 35 items.
5. 5 to 10 minutes answering time.
6. Suitable for adolescents between 13 and 19 years of age.
7. Easily completed by pen-and-paper or by online.

8. High-reliability score, 0.84.

#### Domains and Constructs of AAI

AAI is categorized into three main domains and five constructs which are:

1. Anger-Out

Two constructs in anger-out are

- i. Physical

There are eight items under aggressive physical expression which are described by one's act of physical contact with other individuals, groups or objects. Examples are hurting someone, vandalizing things, punching, and fighting.

- ii. Verbal

Seven items are grouped as a verbal construct. This construct describes one's act of strong verbal expression to other individuals, groups or objects by spoken word and speech. Examples are such as screaming, shouting, and other expressions using verbal words.

2. Anger-In

Anger-in belongs to passive constructs which describe the act of an individual who keeps his anger under self-pressure and passively does not express it.

- i. Passive

Four items are classified as passive. Passive anger is described by one's actions to keep feelings, thoughts, and behavior to oneself. Examples are such as keeping repressing feelings, withdrawing, blaming self and remaining silent/quiet.

3. Anger-Control

Anger is controlled by preventing expression toward anyone or objects in the environment or act of controlling suppressed angry feelings by calming down or cooling off. It involves two constructs which are:

- i. Intrinsic

Seven items are grouped as an intrinsic construct. Intrinsic constructs consist of seven items. Intrinsic anger-control involves one's thinking, feeling, and behavior. Intrinsic anger control does not involve other individuals, groups or objects. Examples are self-reflection, trying to calm down, positive self-talk, pray, and worship

- ii. Extrinsic

Nine items are grouped as extrinsic. Extrinsic anger-control involves one's expression to other individuals, groups or objects. This does not involve individuals but only focused on the external object. Among extrinsic anger control are such as eating and sleeping, watching films, listening to music, and seeing a counselor.

#### *Reliability*

The reliability of AAI for the first and second phase of the research is as follows:

Table 1

*Reliability of AAI*

Construct & Phase	One (n=5402)	Two (n=3357)
Physical	.79	.78
Verbal	.74	.74
Intrinsic	.78	.77
Extrinsic	.77	.80
Passive	.74	.76
Total Reliability	.79	.84

*Administration of AAI*

Several issues were identified and needed some attention while administering AAI, such as: *Respondent's Population Suitability*. AAI is suitable for those who can read Malay and English. Items were written in simple sentences to ensure even those with low or intermediate reading skills can use the instrument.

*Professional Needs*. There is no specific training in clinical psychology, counseling psychology, or any other is needed prior to using the AAI. Procedures for administering, scoring, and other technical are stated in the manual for those who needed details in using the instrument such as school counselors and psychologists. However, inconsistent with Section E, Counselor Code of Ethics (Malaysian Counseling Association, 2008), Malaysian counselors who planned to use the AAI are required to follow the given instructions and guidelines. The use of AAI without a specific purpose should be constrained to avoid unnecessary issues. It is suggested that any interpretation should be done by those with proper qualifications, training, or experience in counseling, psychology, social work, psychiatry, or other related practices.

*Preparation*. To administer the AAI manually, a pen or pencil and the professional manual is needed. Alternatively, AAI also can be completed online using desktop, laptop, or handphone (imr.usm.my) individually or in groups. By using online methods, AAI can be used across borders, which more target groups or respondents can be reached out to. It is highly recommended that AAI be answered in a calm, private environment and with proper lighting and ventilation. Respondents are encouraged to choose to answer according to their own interpretation and understanding of the item. AAI administrators are not encouraged to provide detailed explanations to respondents on any item since this might influence the choice made by the respondents.

*Guidelines*

It is suggested that several guidelines are followed while administering AAI in hardcopy version, which are:

- i. Stationeries such as pen, pencil, and eraser are available to be used by respondents. If AAI is administered online, a computer with a good Internet connection should be available.
- ii. Good working relations between the AAI administrator and respondents could lessen nervousness on both sides.
- iii. Explain to the respondents that the answers given represents how they would usually react when they feel angry, however not necessary for all time.

- iv. Tell respondents to read instructions before starting to answer all items and highlight confidentiality and scoring procedures.
- v. Encourage respondents to answer all items. Ask them to recheck the number of items answered before submitting.
- vi. Inform the respondents the result will only be used as intended and not for other purposes.

While if AAI online version is used, the issue of scoring and result can be tackled easily as it automatically appears after the respondent finishes answering all the items. However, the issue of good access in the internet should be taken very seriously matter.

#### *Answering Procedure*

Explain to the respondent the purpose of AAI is to measure anger expressions among adolescents. There is no right or wrong answer for all the statements marked. Respondents should choose answers that most likely describe their everyday selves. Remind the respondent to answer all 35 items. Reassure the respondent that answers given will be kept confidential and limited for specified use only.

#### *Manual Scoring Procedure*

In scoring the AAI, specific procedures need to be followed to ensure that the results obtained precisely depict the respondents' anger expression. Score calculations and AAI interpretation guidelines are as in Table 2 and 3:

Table 2

#### *AAI Scores Calculation*

Domain	Construct	Formula
Anger-Out	Physical (PA)	$\frac{(\text{Score PA} \times 140)}{32}$
	Verbal (V)	$\frac{(\text{Score V} \times 140)}{28}$
Anger-In	Passive (P)	$\frac{(\text{Score P} \times 140)}{16}$
Anger-Control	Intrinsic (I)	$\frac{(\text{Score I} \times 140)}{28}$
	Extrinsic (E)	$\frac{(\text{Score E} \times 140)}{36}$

Table 3

*AAI Interpretation Guideline*

Score	Interpretation Guideline
114 to 140	Expression is very often in all domains.
88 to 113	Expression is often in all domains.
62 to 87	Expression is sometimes in all domains.
35 to 61	Expression is rarely in all domains.

In cases of unanswered item(s), do not give zero score to the item. Instead, use the provided formula to calculate the missing value (Score X) for the unanswered item(s). With Score X, administrator can now calculate the score of constructs of the unanswered item(s). As rule of thumb, responses with more than 20% missing value should be considered as invalid for analysis and should be dismissed. The formula is as Table 4 below:

Table 4

## Formula for Items with No Response

$$\text{Score } X = \frac{(\text{Value of Score Obtain}) \times (\text{Number of Items in The Construct})}{\text{Number of Items Answered}}$$

## Implication and limitation

Compared with some other instrument, AAI was design for various stakeholders in school. Although a detailed interpretation requires a person to have adequate knowledge in areas such as psychology and counseling, educators and administrators can also take advantage of the AAI as a means of collecting data and student profile. Not focusing only on identifying certain type of anger expression, AAI is able to identify the way individuals most likely to express anger in everyday situations. This will help the school to create a preventive and remedial strategy, whether for individuals or as a school-wide program. Like other relevant instruments, the design of AAI has considered the suitability of adolescents' psychological development in determining their characteristics such as number of items, time of administration, age range and language level. It is noteworthy, especially in Malaysia, which is vastly multiethnic and multicultural society.

**Conclusion**

AAI can help professionals identify the intensity and types of anger expressions among adolescents, especially in schools. It is the first anger instrument online in Malaysia and Asia. It is developed in simple design with only 35 items yet have high validity and reliability. Administered manually or by the Internet, AAI measures five constructs of anger expressions. The five constructs are categorized into three major domains which are anger-out (physically and verbally aggressive), anger-in (passive) and anger-control (extrinsic and intrinsic).

Additionally, the findings from AAI also contribute to the planning and management of early intervention programs for certain groups of students based on their particular type of



anger expression. This would later help educators to set up whole-school preventive measures as an effort against the impact of uncontrolled anger among students.

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