



Development and Standardization of the Anger Expression Type Indicator Test (AETIT)

Ryan Francis O. Cayubit
University of Santo Tomas, Philippines

Abstract As a scale development project, the present study intends to locally develop a standardized measure that focuses on the different modes of anger-expression. A total of 5,369 university students participated in this Four-stage project wherein data gathered were subjected to content validation, item analysis, reliability testing, exploratory factor analysis and confirmatory factor analysis. Based on the results, the EFA yielded three factors namely: anger manifest, anger suppress and anger manage. Based on the reliability testing and confirmatory factor analysis, the Anger Expression Type Indicator Test is a valid and reliable scale

Keywords: anger, anger-expression, anger manifest, anger suppress, anger manage

Emotion is said to be a universal part of man's life. Man is often viewed as bounded by emotions because his emotional reactions to events and things usually determine many of his actions and behaviors. Thus the study of human behavior may involve emotions. Emotion can also be described as something that is pleasant or unpleasant and the most common that we are familiar with would include joy, love, fear, jealousy, sadness and anger. Emotions are also considered as vast and complex and more often than not, some type of emotions are less popular than others. One such emotion is anger. One would rarely hear another say that "you have to learn how to be angry" or "it is okay to be angry" as often as he would say, "you have to learn to love" or "it is okay to be sad." Perhaps this is due to the fact that anger is one of the most misunderstood emotions and most often viewed as something negative (Villar, 1998). One is taught that it is all right to express anxiety, depression, moods or a whole lot of other emotions but not to express anger, at least in its original state.

Anger is a natural and normal emotion. Everyone experiences something that is not to his or her liking and the disappointment can be strong enough to create angry feelings. It also refers to an emotional state that varies in intensity from mild irritation to intense fury and rage (Spielberger, 1999) and may be accompanied by physiological and biological changes that is often caused by both external and internal events.

The instinctive and natural way to express anger is to respond aggressively. But experts believe that one can't just keep on physically lashing out at every person or object that irritates or annoys him as laws, social norms, and common sense place limits on how far one's anger could be expressed. This could probably have been the springboard of people who specializes in anger to seek for ways in which individuals can deal with anger in a constructive and appropriate manner. According to Spielberger (1999), anger-expression is conceptualized as having the following types: expressing, suppressing, and controlling (calming down). Expressing has been coined as one of the healthiest ways of dealing with anger because people are encouraged to express feelings of anger in an assertive manner rather than aggressive. Another type of anger-expression is suppression. This is done by keeping in the feelings of anger or ignoring or denying it. But doing such is not healthy as the anger could be turned and directed towards the self. Therefore, Spielberger (1999) recommends that it have to be converted and redirected. This is done by holding of one's anger, thinking about it and then focusing on something positive. The aim would be to convert it into a more constructive behavior. Last, is control a type of anger-expression wherein one could try to calm down or control feelings of anger both outward and inward by relaxing and allowing the feeling to subside.

Nature of Anger and its Expression

According to Spielberger (1999), anger as a psychobiological emotional state is generally accompanied by muscular tension and arousal of neuroendocrine and the autonomic nervous system. He theorized that in order to understand the phenomenon of anger, one could focus on one of its components: the state, trait, expression, and control of it. He referred to state anger as the psychobiological emotional state or condition marked by subjective feelings that may vary in intensity from mild irritation or annoyance or intense fury and rage. It basically describes the anger of an individual in a particular situation. Trait anger is defined in terms of individual differences in the disposition to perceive a wide range of situations as annoying or frustrating and by their tendency to respond to such situations with elevations. He also conceptualized that anger-expression and control could still be broken down to different components. The first component was labeled as anger expression-out, which involves the expression of anger toward other persons or objects within the immediate environment. The next component is anger expression-in, wherein anger is directed inward or towards the person experiencing the feeling. Another component is the anger control-out; this would be based on the control of angry feelings by preventing the expression of anger toward other persons or objects in the environment. The last component is anger control-in, which is related to the control of suppressed angry feelings by either calming down or cooling off when angered.

His work on anger-expression resembles that of Madow (1985) and McKellar (1985), cited by Burney and Kromrey (2001), according to them, anger can be expressed through the following: (a) modified expression on anger, these indicate anger that is fairly directed towards another person but in modified form; (b) indirect expression on anger, which, described anger as more hidden. It attempts to disguise the anger from the individual

and the perpetrator; and (c) variation on depression, these are expressions characterized by feelings of sadness and the blues. Likewise, it can be expressed through: overt, non-overt, and delayed. Overt anger would refer to an immediate and impulsive reaction to a stimulus event, as demonstrated by verbal and or physical aggression and is also one of the most common forms of expressed anger. Non-overt anger was defined as a passive expression of internalized emotions. While delayed anger was referred to as a planned aggression of an individual. He further stated that individuals engaging in delayed anger are often meticulous in planning an attack for revenge on the individuals or circumstances provoking the anger event. He also proposed that these three forms of anger may reflect behavioral responses that vary in frequency, intensity and rate of response.

Aside from looking at anger as a negative emotion, it can be best understood via the examination of its three main domains: cognitive, physiological and behavioral. Cognitive dispositions of anger would include knowledge structures, such as expectations and beliefs, and interpretation processes, which are organized in set patterns or schemas. Anger schemas would refer to cognitive structures that pertain to environment-behavior relationships entailing rules that govern responses to threatening situations. Physiological dispositions of anger would include high hormone level and low stimulus thresholds for the activation of arousal. Anger is marked by physiological activation in the cardiovascular, endocrine, and limbic systems, and by tension in the skeletal muscular. Behavior dispositions include variously learned repertoires of anger-expressive behavior, including aggression but also avoidance behavior (Burney & Kromrey, 2001; Deffenbacher, 1999; Robins & Novaco, 1999).

The social aspects of anger were also highlighted by Deffenbacher (1999). Research shows that anger can be viewed as something arising from the interactions among one or more eliciting events, an individual's pre-anger state, and the person's appraisal of the eliciting events and his coping resources. Anger has also been designed preserve personal worth, essential needs, and basic convictions. It operates on the premise that when an individual perceives rejection or invalidation, he or she feels that his or her dignity has been demeaned and therefore his or her personal worth is not recognized. They further stated that anger is kindled when one's essential needs, such as desire for appreciation of accomplishments, expression of interests, validation of feelings, are not responded to. Furthermore, they hypothesized that the absence of empathy or sentiment, or sensitivity to a person's most fundamental or basic convictions triggers anger.

Assessment of Anger

In 2001, Burney and Kromrey developed and validated an instrument designed to measure two distinctive types of anger: instrumental and reactive. The instrument is known as the Adolescent Anger Rating Scale. It was developed primarily, aside from measuring anger, to assist researchers and practitioners in identifying specific types of anger in adolescents. The scale is composed of forty-one items that measures Instrumental Anger, Reactive Anger, and Anger Control whose psychometric properties were established via internal consistency, item level statistics, test-retest reliability, content validity, criterion-related validity, and construct

validity. To serve as its framework, the researchers used two basic theories to explain the cause and construct of anger, which is cognitive and behavioral. The cognitive theory focuses on how an anger experience is appraised, what expectations are inherent in that appraisal, and the perceived attributions associated with that appraisal. By contrast, the behavioral theory suggests that when anger is experienced some external or internal behavioral responses may occur. The instrument makes use of T-score values in its interpretation making use of the following descriptive interpretation: very high level of anger, moderately high level of anger, average level of anger, moderately low level of anger, and low level of anger.

In 1999, Spielberger developed the State-Trait Anger Expression Inventory 2; this is the revised version of the original that was initially developed in 1988. The new version of the test was based on his extensive research that lasted for the past 10 years. The new version provides concise measures of the experience, expression, and control of anger. It was developed for two primary reasons: to assess components of anger for detailed evaluations of normal and abnormal personality, and to provide a means of measuring the contributions of various components of anger to the development of medical conditions, particularly hypertension, coronary heart disease, and cancer. Its development is rooted on the concept that anger has two major components: the state and the trait. He described in detail that state anger is a psychobiological state or condition marked by subjective feelings that vary in intensity from mild irritation or annoyance to intense fury and rage. Concerning the trait component, according to Spielberger (1999), it is the individual differences in one's dispositions to perceive a wide range of situations as annoying or frustrating and by the tendency to respond to such situations with elevations of state anger. The instrument is psychometric in nature. It consists of six scales with five subscales, and a total anger-expression index, which provides an overall measure of the expression and control of anger. The instrument is suitable for use for both adolescents and adults wherein an individual is to rate him or herself based on a four point scale that assesses either the intensity of their angry feelings at a particular time or how frequently anger is experienced, expressed, suppressed, or controlled. It is composed of 57 items that makes use of T-scores and/or percentile ranks and is interpreted as either high or low.

In 1998, Smith, Furlong, Bates, and Laughlin embarked on an extensive research that resulted in the development of the Multidimensional School Anger Inventory. It is a scale designed to measure affective, cognitive, and behavioral components of anger among the youth. The subscales include: Anger Experience, Cynical Attitudes and Destructive Expression. It is for the use of students attending middle and high school. The MSAI is largely patterned after two previously developed anger instrument, the School Anger Inventory (Smith, Adelman, Nelson, & Taylor, 1988) and the Children's Inventory of Anger (Nelson, Hart, & Finch, 1993).

Sharkin and Gelso (1991) also created the Anger Discomfort Scale, a 15 item self-report inventory designed to assess anger discomfort. The authors of the test conceptualized anger discomfort as an internal experience based on one's perception and attributions.

Siegel (1986) developed the Multidimensional Anger Inventory for the purpose of measuring the duration, frequency and magnitude of anger. It has ten factors, namely: frequency, duration, magnitude, anger-in, anger-out, guilt, brood, anger-discuss, hostile look and range of anger-eliciting situations. The scale was originally designed for adults but can be used with students in grades seven and up.

Another scale is the Novaco Anger Inventory. The inventory was originally developed in 1975 with a short form released in 1993. Both forms describe situations that are related to anger arousal. The long form is composed of 90 items while the short form has 25 items. The psychometric properties of both scales were established via convergent validity, test-retest reliability, factor analysis, and inter-item correlation, Cronbach's coefficient alpha and the split-half reliability.

Anger and Health

According to Spielberger (1999), there are research findings that indicate that anger and hostility contribute to the pathogenesis of many common medical disorders, including hypertension, coronary heart disease and cancer. In 2001, McDermott, Ramsay and Bray found out that expressed anger is a correlate of coronary artery disease after examining 153 patients. Similar results were obtained by Martin et al., (1999) and Siegman, Anderson, Herbst, Boyle and Wilkinson (1992).

Davidson, MacGregor, Stuhr, Dixon, and McLean (2000) found out that in 1,862 participants, constructive anger behavior-verbal is a significant predictor of lower resting blood pressure when controlling for the effects of standard hypertension factors. Anger was also seen as a correlate of high blood pressure and stress.

Anger and the Filipino Nature

Filipinos view and handle anger in a very unique way. More often than not, Filipinos are confused whether it is a good or bad thing. Religious and adult teachings and admonitions have led them to think that anger is not only bad but also sinful. Anger is also misunderstood in the area of its expression. Filipinos often do not know whether it is better to put anger under restraint or express it. According to Villar (1998) Filipinos are hesitant in expressing angry feelings that is based on maintaining and preserving smooth interpersonal relationships, which remains high in the value system of the Filipinos. She further stated that the common theme among Filipinos in relation to anger-expression is avoidance of feelings or controlling it and that they could be characterized as stuffers or passive aggressors in terms of anger-expression. This tendency could be attributed to the image consciousness spawned by their parents or the admonitions they got as children. Another source of non-assertion or difficulty in directly expressing anger is the feeling of fear or offending the other person.

This tendency is often exuberated in their behavior wherein they are often concern with what people will say or think about him or her when he or she is angry. She also said that aside from being stuffers and passive aggressors, Filipinos as a people often employs the technique of dropping anger and setting limits on things or situations that is viewed as something less personal. This could be the reason why "political sins" or "sins of

society” grip many Filipinos only when they are directly and personally affected by them or contaminated by a person who is highly influential to them. Likewise, not expressing ones anger is often viewed as a threat to ones reputation. Though there are those who choose to express what they really feel, majority of Filipinos remain avoidant in terms of expressing anger.

Daly (<http://www.newfilipina.com>, n.d.) appears to share the views of Villar (1998). According to her, it seems that majority of Filipinos are not comfortable with getting mad. Most Filipinos are especially uneasy with the act of confronting others with ones anger even if it is only about a small issue. This could be because the average Filipino family does not really teach their siblings that it was okay to even speak your mind to other people. Most Filipinos avoid, at all costs, arguments and confrontations even when they are in the right. Angry behaviors are shunned, looked down on and discouraged it in ones children. Most Filipinos have been taught that it is more polite to hold your tongue and contain your anger than to make a commotion.

The Present Study

Despite the existence of many instruments that measure anger and its mode of expression, majority of them was developed making use of Western samples thereby resulting to a question as to whether they would be appropriate for use for Non-western samples particularly Filipinos, who are known to be one of the happiest race on earth and whose notion and concept of anger and its expression appears to be different from that of others and because of this, I believe that developing a local scale that would measure anger-expression is imperative. I intend to use the concepts of emic and etic of cultural anthropology as a theoretical basis for creating the local scale because according to Pike (1954), behaviors and constructs that is inherent in man and is universally or widely accepted are known as etic while those that are culture-specific are known as emic and I believe anger-expression is an emic as it is largely influenced by culture.

Method

Participants

During the four-stage research project, a total of 5,369 university students participated in the study.

Table 1

Breakdown of Participants across the Stages of the Project

| Stages of the Project | Total Number of Participants |
|------------------------------|-------------------------------------|
| Stage I | 500 |
| Stage II | 1,278 |
| Stage III | 2,290 |
| Stage IV | 1,301 |

Procedure

Content Domains and Item Writing (Stage I)

The item writing for the Anger Expression Type Indicator Test (AETIT) involved two phases. For the first phase, I created three general questions, based on the theory of Spielberger (1999), which focused on how individuals would express anger. The three general questions made up the Opinion Questionnaire that was administered to the 500 participants. From their responses, I was able to create 138 items that made up the initial version of the AETIT. The 138 items focused on what an individual would do if he or she wants to express anger, hide it or control it and was subjected to content validation by five experts.

Pretesting or Initial Trial Run (Stage II)

The pretesting was done using different colleges and universities within the National Capital Region of the Philippines. The initial version of the AETIT was administered to 1,500 participants. However, not all data was used, as 222 of which was considered invalid. All data that was gathered were subjected to data analysis to establish the initial psychometric properties of the new scale. This resulted to a reduction of test items from 138 to 94.

Second Trial Run (Stage III)

The second version of the AETIT was again administered to 2,290 university students. The purpose of the second trial run was to further refine the new scale and to determine its initial reliability and validity via the examination of its factor structure. A total of 2,500 questionnaires were administered but only 2,290 were considered valid. Data gathered was subjected to factor analysis for data exploration.

Final Trial Run (Stage IV)

The items in the third version of the AETIT were reduced from 94 to 69. This was administered to 1,500 university students but only 1,301 were considered valid. The data gathered were further subjected to data analysis to examine its factor structure.

Measures

The Opinion Questionnaire. This is a researcher made instrument that contains three general questions designed to illicit responses related to how an individual would express, hide and control angry feelings. This was used in Stage I of the project.

Anger-Expression Type Indicator Test. This scale has three versions and was used from Stage II to IV of the research project. The first version of the scale has 132 items while the second version contained 94 items. The third version of the AETIT has 69 items. The purpose of the scale was to assess how Filipinos would express their angry feelings.

Data Analysis

Item Analysis. Item Discrimination (U-L Index Method) was computed to examine the ability of the new scale to discriminate between the high scorers and the low scorers. This was used during the second stage of the project.

Reliability. Item consistency was established via Cronbach's Alpha for all the three versions of the AETIT. The Inter-rater agreement or consistency was also computed based on the results of the expert validation.

Validity. Exploratory Factor Analysis was used in the Stage III of the project and Confirmatory Factor Analysis was used in Stage IV. A three-factor measurement model (based on the results of EFA) was constructed for the CFA with anger manifest, anger suppress and anger manage as latent variables. Items under each latent variable were parceled during data analysis.

Results

Reliability

Inter-rater agreement or concordance for the results of the expert content validation was computed in Stage I of the project, $r = .93$ and indication of high agreement among the five experts concerning the content domains of AETIT.

Cronbach's Alpha was used to determine AETIT's internal soundness or consistency. Alpha coefficient for Stage II is .91 indicating high reliability. For Stage III, Cronbach's Alpha was computed twice, one for the entire scale and the other for the different factors as revealed by the EFA. Just like in Stage II of the project, AETIT generated high alpha values an indication that it is a reliable instrument.

Table 2

Cronbach's Alpha obtained in Stage III

| Scale | Cronbach's Alpha |
|----------------|------------------|
| Overall | .89 |
| Anger Manifest | .93 |
| Anger Suppress | .90 |
| Anger Manage | .83 |

Index of Item Discrimination

The U-L Index Method was used to determine the ability of the test items in the initial version to discriminate between those who make use of a particular mode of anger-expression from those who do not. Data analysis shows that a total of 94 items (68%) out of 138 were judged as good items and was retained and made part of the second version of AETIT while 44 or 32% were discarded. In summary, majority of the items that made up the second version are considered good (64 items). See Table 3.

Table 3
Index of Item Discrimination

| Item Number | Index of Item Discrimination | Description | Decision |
|---|------------------------------|-------------|----------|
| 30 Items: 49, 52, 58, 82, 85, 88, 91, 100, 115, 133, 136, 32, 44, 68, 77, 80, 83, 89, 92, 95, 101, 119, 131, 137, 48, 69, 84, 102, 108, 123 | .40 and up | Very Good | Retain |
| 64 Items: 10, 13, 19, 22, 31, 34, 37, 40, 46, 55, 61, 64, 67, 70, 76, 79, 97, 103, 106, 109, 118, 5, 11, 17, 20, 23, 26, 29, 35, 38, 41, 47, 50, 53, 59, 65, 71, 86, 98, 104, 107, 110, 116, 122, 125, 128, 134, 6, 12, 39, 60, 66, 72, 75, 78, 93, 96, 99, 105, 111, 114, 126, 135, 138 | .30 to .39 | Good | Retain |
| 30 Items: 1, 4, 7, 25, 28, 73, 94, 130, 2, 8, 14, 62, 74, 113, 9, 15, 18, 21, 27, 33, 36, 45, 51, 54, 57, 87, 90, 120, 129, 132 | .20 to .29 | Marginal | Discard |
| 14 Items: 16, 43, 112, 121, 124, 127, 56, 3, 24, 30, 42, 63, 81, 117, | .19 and below | Poor | Discard |

Exploratory Factor Analysis

Based on the EFA with Varimax Rotation, three factors were extracted and were labelled as anger manifest, anger suppress and anger manage respectively.

Factor 1: Anger Manifest: Composed of 36 items whose factor loading ranged from .30 to .72. This factor describes the behavior of an individual when he expresses angry feelings through verbally or physically aggressive actions.

Factor 2: Anger Suppress: Made up of 15 items with factor loadings from .31 to .71. This factor describes the behavior of an individual as he attempts to hide or suppress his angry feelings.

Factor 3: Anger Manage: Consist of 18 items with factor loadings from .31 to .60. This factor describes the behavior of an individual when he

attempts to manage feelings of anger by controlling its outward expression by calming down, cooling off, or relaxation.

Confirmatory Factor Analysis

A three-factor model of anger expression was tested via CFA. The latent variables were anger manifest, anger suppress and anger manage respectively with items that has been parcelled as manifest variables. 12 parcels were created for anger manifest, five for anger suppress and six for anger manage.

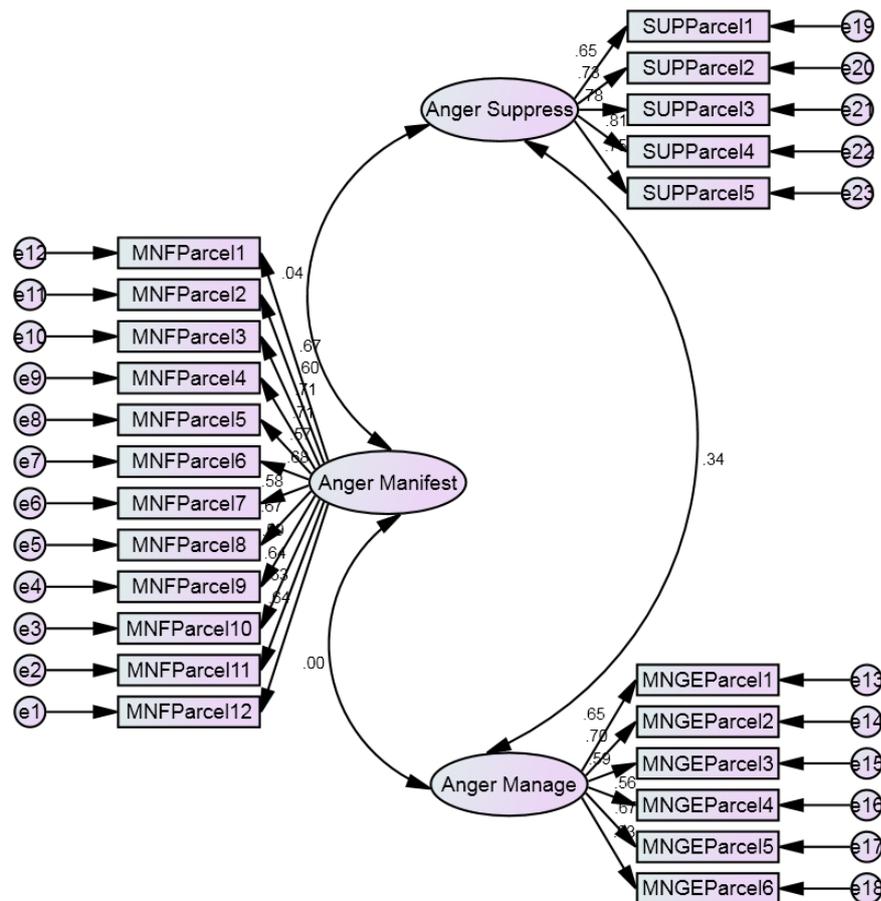


Figure 1. 3-Factor Model of Anger Expression

The following are the different fit indices obtained via CFA RMSEA = .054, RMR = .028, χ^2 (1,299) = 1095.33, NFI = .903, CFI = .922, GFI = .929, and AGFI = .913. The above results appear to support the 3-factor model. RMSEA and RMR values indicate a close and good fit. While the other indices did not meet the required cut-off of .95 and above but may still be judged as a fair fit considering its distance from .95 (Hu & Bentler, 1998). The χ^2

value however indicates a poor fit because of its significance but this could be attributed to larger number of respondents.

Discussion

This is a scale development project that spanned through four stages. The output is the Anger Expression Type Indicator Test (AETIT). A scale designed to assess and identify the modes of expression of anger among Filipinos. It has three factors namely: anger manifest, anger suppress and anger manage.

Results of the data analysis show that AETIT is both a reliable and valid instrument. Its reliability indicates that the scale can produce consistent results over time, which is particularly an important characteristic of a good psychological test. In terms of application, psychologists would now have an alternative assessment measure to look into the modes of anger expression especially since it has been established that anger is a direct correlate and predictor of heart disease, stress and hypertension. The scale can also be used as a preventive tool in schools and organizations where those who are prone to outwardly manifest their anger can be given the appropriate intervention.

Construct wise, AETIT appears to conform to the established theories of expressing anger despite its emic nature as evident by the three factors that was extracted. This shows that Filipinos also choose to outwardly express or suppress or control their anger similar to their western counterparts. The emic nature of the construct could be on the actual or specific ways of outwardly expressing, suppressing or controlling anger. However, the correlation of the three factors appears to be a concern as it ranged from negligible to low nonetheless when the overall fit of the model was examined, it can be concluded that construct validity was achieved as evident by the adequate to good fit of the various fit indices.

References

- Burney, D., & Kromrey, J. (2001). Initial development and score validation of the Adolescent Anger Rating Scale. *Journal of Educational and Psychological Measurement, 61*(3), 446-460.
- Daly, P. (n.d.). The anger ability and Filipino nature. Online [Available] <http://www.newfilipina.com/members/halo/malakas/articles/99.09/BP.M.M.Anger1.html>
- Davidson, K., MacGregor, M. Wm., Stuhr, J., Dixon, K., & MacLean, D. (2000). Constructive anger verbal behavior predicts blood pressure in a population-based sample. *Journal of Health Psychology, 19*(1), 55-64.
- Deffenbacher, J. (1999). Cognitive-behavioral conceptualization and treatment of anger. *Journal of Clinical Psychology: Psychotherapy in Practice, 55*(3), 295-309.
- Hu, L.T., & Bentler, P.M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods, 3*, 424-453.

- Martin, R. et al. (1999). Style of anger expression: Relation to expressivity, personality and health. *Personality and Social Psychology Bulletin*, 25, 1196-1207.
- McDermott, M.R., Ramsay, J.M., & Bray, C. (2001). Components of the anger-hostility complex as risk factors for coronary artery disease severity: A multi-measure study. *Journal of Health Psychology*, 6(3), 309-319.
- Nelson, W.M., Hart, K.J., & Finch, A.J. (1993). Anger in children: A cognitive behavioral view of the assessment therapy connection. *Journal of Rational-Emotive & Cognitive Behavior Therapy*, 11, 135-150.
- Novaco, R.W. (1975). *Anger control: The development and evaluation of an experimental treatment*. Lexington, MA: DC Health
- Pike, K. L. (1954). *Language in relation to a unified theory of the structure of human behavior* (2nd. ed.). The Hague: Mouton.
- Robins, S., & Novaco, R. (1999). Systems conceptualization and treatment of anger. *Journal of Clinical Psychology*, 55(3), 325-337.
- Sharkin, B.S. & Gelso, C.J. (1991). The Anger Discomfort Scale: Beginning reliability and validity data. *Measurement and Evaluation in Counseling and Development*, 24(2), 61-68.
- Siegel, J.M. (1986). The Multidimensional Anger Inventory. *Journal of Personality and Social Psychology*, 51(1), 191-200.
- Siegmán, A.W., Anderson, R., Herbst, J., Boyle, S., & Wilkinson, J. (1992). Dimensions of anger-hostility and cardiovascular reactivity in provoked and angered men. *Journal of Behavioral Medicine*, 15, 257-272.
- Smith, D.C., Adelman, H.S., Nelson, P., & Taylor, L. (1988). Anger, perceived control and social behavior among students with learning problems. *Journal of Child Psychology and Psychiatry*, 29, 517-522.
- Smith, D.C., Furlong, M.E., Bates, M., & Laughlin, J. (1998). Development of the Multidimensional School Anger Inventory. *Psychology in Schools*, 35, 1-15.
- Spielberger, C. (1999). *State-trait anger expression inventory-2: Professional manual*. Florida: Psychological Assessment Resources
- Villar, I. (1998). *Self-empowerment through anger and burnout management*. Manila: St. Scholastica's College

Correspondence may be sent to:

rocayubit@mnl.ust.edu.ph or ryanfranciscayubit@gmail.com