



Refining the Anger Consequences Questionnaire

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INTRODUCTION

The cost of maladaptive anger is well-known. Unfortunately, the task of classifying an individual's experience and/or expression of anger as maladaptive is often difficult. Deffenbacher, Oetting, Lynch, and Morris (1996) developed the Anger Consequences Questionnaire (ACQ) to assess adverse outcomes of anger expression. Items were developed through interviews with highly angry college students and scaled to reflect response frequencies during the past month. Using TRYSYS key cluster variable analysis, the following clusters were identified: Physical Fights, Verbal Fights, Damaged Friendships, Property Damage, Hurt Self Physically, Alcohol Use, Negative Emotions, Tense/Uptight, and Reckless Driving (Lynch, Morris, Deffenbacher, & Oetting, 1998).

This study was conducted to determine whether the ACQ could be improved through factor analytic methods. Cluster analysis suffers from several limitations (Gorsuch, 1997), and factor analysis is preferable for grouping items or variables (Hair, Anderson, Tatham, & Black, 1998). Following the factor analytic revisions, the revised ACQ was compared with measures of trait anger, anger expression/control, aggression, stress, anxiety, and depression in order to assess its construct validity.

METHODS

Participants were 619 (490 female, 129 male) volunteers recruited from undergraduate psychology courses at the University of Southern Mississippi (*Mdn* age = 19). Fifty-four point eight percent were Caucasian, 40.1% African-American, 2.3% Asian/Pacific Islander, 1.6% Hispanic, and 1.1% other. The following questionnaires were administered: (1) Anger Consequences Questionnaire (ACQ; Deffenbacher et al., 1996); (2) the State-Trait Anger Expression Inventory – 2 (STAXI-2; Spielberger, 1999) which yields measures of trait anger (T-Ang), anger suppression (AX-I), outward anger expression (AX-O), control of angry feelings by not expressing them (AC-O), and control of angry feelings by relaxing and cooling off (AC-I); (3) the Aggression Questionnaire (AQ; Buss & Perry, 1992); (4) the Depression Anxiety and Stress Scales (DASS; Lovibond & Lovibond, 1995).

RESULTS

Factor Analysis

The 42-item ACQ was subjected to common factor analysis using principal axis factoring with an oblique rotation (Oblimin). Factor extraction based on parallel analysis (Glorfeld, 1995; Horn, 1965) led to a five-factor solution including 30 items which explained 50.05% (see Table 1).

Table 1. Internal Consistencies and Item-Total Correlations for the Revised ACQ

Factor	Subscale	No. of items	Internal consistency (α)	Mean item-total correlation (r_{it})
1	Negative emotions	13	.91	.70
2	Aggression	8	.81	.67
3	Alcohol/drug use	3	.83	.86
4	Self-harm	3	.80	.83
5	Damaged relationships	3	.73	.81

Table 2. Internal Consistencies and Item-Total Correlations for the Revised ACQ

	T-Ang ^a	AX-O ^a	AX-I ^a	AC-I ^a	AC-O ^a	PA ^b	VA ^b	A ^b	H ^b	Str ^c	Dep ^c	Anx ^c
Negative emotions	.33*	.22*	.38*	-.10	-.12*	.01	.05	.22*	.32*	.60*	.65*	.47*
Aggression	.58*	.57*	.18*	-.34*	-.42*	.57*	.35*	.51*	.36*	.36*	.34*	.29*
Alcohol/drug use	.30*	.25*	.11*	-.14*	-.17*	.10	.15	.15	.19*	.22*	.20*	.17*
Self-harm	.25*	.20*	.19*	-.18*	-.17*	.21*	.10	.20*	.30*	.30*	.45*	.34*
Damaged relationships	.31*	.32*	.16*	-.10	-.17*	.24*	.17*	.28*	.33*	.38*	.29*	.23*

Note. STAXI-2 = State-Trait Anger Expression Inventory – 2; AQ = Aggression Questionnaire; DASS = Depression Anxiety Stress Scales; T-Ang = Trait Anger; AX-O = Anger Expression-Out; AX-I = Anger Expression-In; AC-I = Anger Control-In; AC-O = Anger Control-Out; PA = Physical Aggression; VA = Verbal Aggression; A = Anger; H = Hostility; STR = Stress; Dep = Depression; Anx = Anxiety.
^a N = 619 ^b N = 257 ^c N = 362
^{*} $p < .01$.

Table 3. Hierarchical Regressions of Gender, Trait Anger, and Anger Expression/Control on Anger Consequences

Consequence	Regressions on Consequences	R ²	R ²
Negative emotions	Gender (.16, 3%), AX-I (.31, 8%), and T-Ang (.26, 6%)	.47	.22
Aggression	Gender (-.12, 1%), T-Ang (.30, 4%), AX-O (.27, 3%), and AC-O (-.12, 1%)	.64	.41
Alcohol/drug use	T-Ang (.23, 2%)	.32	.10
Self-harm	T-Ang (.15, 1%), AX-I (.14, 2%)	.30	.09
Damaged relationships	AX-O (.19, 2%), T-Ang (.15, 1%)	.35	.12

Note. The first number in parenthesis is the beta weight and the second is the percentage of variance accounted for by the variable.
^{*} $p < .001$.

Correlations

Correlations among the revised ACQ subscales, STAXI-2, AQ, and DASS are presented in Table 2.

Regressions

A series of hierarchical multiple regressions were conducted in which gender, T-Ang, AX-O, AX-I, AC-O, and AC-I were regressed on each of the five ACQ subscales (see Table 3). Anger consequences involving aggression or relationship problems were predicted by trait anger and aggressive anger expression; consequences related to negative emotions or self-harm were predicted by trait anger and anger suppression.

CONCLUSIONS

A 30-item revision of the ACQ was produced through principal axis factoring. The primary differences between the revised and original instrument were (1) the Tense/Uptight and Negative Emotions clusters merged to form one Negative Emotions factor; and (2) Physical Fights, Verbal Fights, and Property Damage clusters formed an Aggression factor. The construct validity of the revised instrument was supported through relationships with trait anger, anger expression/control, aggression, stress, depression, and anxiety.

This study provides researchers with a useful starting point for continued refinement of the ACQ. Other recommended revisions include (1) the addition of items to more fully assess important clinical domains that are currently underrepresented (e.g., workplace consequences); (2) collection of non-college data to expand the normative age range; and (3) collection of clinical data to develop clinical norms.