韓國心理學會誌：健康
Korean Journal of Health Psychology
1998, Vol. 3, No. 1, 18 ~ 32

Korean Adaptation of the State-Trait Anger Expression Inventory (STAXI-K): The Case of College Students[1)]

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The present study was part of a series of attempts to adapt the State-Trait Anger Expression Inventory in Korea (STAXI-K). Particularly, the fifth stage of the STAXI-K was conducted and reported in the present study. Participants were 1200 college students representative of major areas in Korea. Major findings in the present study include: (1) Factor analyses revealed the same factor structures to the original English STAXI (Spielberger, 1988). These findings were obtained, however, only after four indigenous items were substituted for problematic items in the STAXI; (2) Reliability check revealed Cronbach alpha higher than .70. One exception, however, was found for the anger-in scale for the female sample (.62). (3) When test-retest reliabilities for a three week period were calculated, all scales were satisfactory, trait anger (r=.81), anger-in (r=.67), anger-out (r=.71), and anger-control (r=.82), except state anger (r=.14). The low test-retest reliability for state anger, however, was consistent with the concept that state anger would be unstable in contrast to an stability of the trait anger. (4) When correlations were calculated among scales of the STAXI, there was some degree of association between anger-in and anger-out (.24), implying that these two scales may not be orthogonal. Finally, implications of the present findings for future studies are suggested.

Recently, there is a resurgence of interest in anger. This is in large part due to an accumulation of studies showing evidence that anger is associated with cardiovascular diseases such as hypertension (Goldstein, Edelberg, Meier, & Davis, 1988) and Coronary Heart Diseases (CHD, Anderson & Lawler, 1995; Siegman, 1994). The relation between anger and cardiovascular disease was noted in ancient times by Celsus in 30 A.D.

1 "This paper was supported by NON DIRECTED RESEARCH FUND, Korea Research Foundation, 1996"

(Dembroski, MacDougall, Eliot, & Buell, 1983). In modern times, Alexander (1939) proposed that the mode of anger expression was an important factor to hypertension. Namely, if a person does not express his or her anger and suppress it, it could lead to the activation of the autonomic nervous system and cardiovascular system, which in turn result in hypertension.

Recent studies attest that anger is an important psychological factor to cardiovascular diseases. For example, the experience of anger has been associated with hypertension and CHD (Goldstein, Edelberg, Meier, & Davis, 1988). In addition, although some studies showed that anger-out (anger is outwardly expressed) was significantly associated with cardiovascular diseases (Abel, Larkin, & Edens, 1995; Diamond, Schneidermn, Schwartz, Smith, Vorp, & Pasin, 1984), the majority of studies showed anger-in (anger is held in or suppressed) being significantly associated with cardiovascular diseases (Anderson, & Lawler, 1995; Goldstein, Edelberg, Meier, & Davis, 1988; Jorgensen, Gelling, & Kliner, 1992; Mills & Dimsdale, 1993; Schneider, Egan, & Johnson, 1986; Spielberger, Krasner, & Solomon, 1988; Vögele & Steptoe, 1993). Moreover, recent studies even suggest that anger is an important emotional stress for cancer (Greer, Morris, & Pettingale, 1979; Kune, Kune, Watson, & Bahnson, 1991; Morris, Greer, Pettingale, & Watson, 1981) or pain (Kerns, Rosenberg, & Jacob, 1994).

In line with the importance of anger to critical diseases, several attempts have been made to develop an instrument to measure anger. There have been attempts to develop anger measurements in 1950, mostly in a projective technique, interview, or behavioral observation. Buss and Durkee (1957) and Novaco (1975) also tried to develop anger instrument with a more objective and reliable measurement. Unfortunately, in part due to a lack of sound theoretical background or examination for validity of the instrument, severe limitations have been raised in their reliability and validity (Baggio, Supplee, & Curtis, 1981). Thus, these earlier instruments are now revised for a better tool for tapping anger (Buss & Perry, 1992; Novaco, 1994).

Recently, several new attempts have been made to develop an anger instrument (Siegel, 1985, 1986; Spielberger, 1988; Spielberger, Jacobs, Russell, & Crane, 1983; Spielberger, Johnson, Russell, Crane, Jacobs, & Worden, 1985; Muller & Elbert, 1994). At the present time, the STAXI (State-Trait Anger Expression Inventory, Spielberger, 1988) is the most widely-used instrument for measuring anger throughout the world. The STAXI is a combination of STAS (State-Trait Anger Scale, Spielberger, Jacobs, Russell, & Crane, 1983) and AX (Anger Expression Scale, Spielberger, Johnson, Russell, Crane, Jacobs, & Worden, 1985). More specifically, the STAXI consists of state anger (10 items) and trait anger (10 items) at the level of anger experience, and anger-in (8 items), anger-out (8 items), and anger-control (8 items) at the level of anger expression. As described in part earlier, anger-in refers to the mode of anger expression as being held in or suppressed, anger-out being outwardly expressed, and anger-control being overtly controlled (Tanzer, Sim, & Spielberger, 1996).

Since its publication in 1988, the STAXI has been adapted in several countries such as Brazil, France, Germany, Italy, Japan, Netherlands, and Norway. Currently, more than 10 countries are now adapting the STAXI. Since its development, STAXI has also been used in a variety of studies examining the relation between anger and health.

For example, STAXI was used to explore the role of anger in relation to the Type A Behavior Pattern (Croyle, Jennott, & Carpenter, 1988; Janisse, Edguer & Dyck, 1986; Spielberger et al., 1988), hypertension (Gorkin, Appel, Holroyd, Saab, & Stauder, 1986; Johnson, Spielberger, Worden, & Jacobs, 1987; Schneider, Egan, & Johnson, 1986; Spielberger et al., 1988), chronic pain (Curtis, Kinder, Kalichman, & Spana, 1988), and cancer (Rodrigue, Boggs, Weiner, & Behen, 1993).

The present study is a part of a series of attempts to adapt the STAXI in Korea (Chon, 1991; Chon, 1996; Chon, Hahn, Lee, & Spielberger, 1997). Due to space limitations, we will only describe the fifth stage of STAXI-K (See Chon, 1996, Chon, Hahn, Lee, & Spielberger, 1997 for detailed descriptions of the Korean adaptation of STAXI). Just note, in passing, however, that a variety of populations were employed in previous stages of STAXI-K: high school students (first), college students (first, second, and fourth), and adult (third, and fourth), and that four items were replaced by new items at the fourth stage of STAXI-K, which will be reported elsewhere.

METHOD

Participants and procedure

Participants in the present study consist of 1200 college students. They are from major urban areas in Korea, thus the present sample is representative of Korea in terms of geography. The questionnaire was administered by professors who do not have background knowledge on the theme of the study, and the participants completed the questionnaire.

Instrument: STAXI-K

As described above, the STAXI was designed to measure both anger experience and anger expression. Anger experience is assessed by state anger (10 items) and trait anger (10 items); and anger expression is measured by anger-in (8 items), anger-out (8 items), and anger-control (8 items). Each item was rated on a four-point rating scale; State anger was assessed by 1--'not at all,' 2--'somewhat', 3--'moderately so,' and 4--'very much so', while other subscales (trait anger and anger expression) were rated by 1--'almost never,' 2--'sometimes,' 3--'often,' and 4--'almost always'.

According to Spielberger (1988), anger expression consists of two subscales, state anger and trait anger. Although state anger is composed of one factor, trait anger is in turn divided into trait anger temperament (e.g., "I am quick tempered") and trait anger reaction (e.g., 'I get angry when I'm slowed down by other's mistakes"). Thus, anger experience is composed of three factors: one factor for state anger, and two factors for trait anger. Anger expression consists of three separate modes of expression (anger-in, anger-out, and anger-control). Consequently, the STAXI consists of state anger (1 factor), trait anger (2 factors), and three modes of anger expression (3 factors). Internal consistencies in terms of Cronbach alpha was .93 for state anger, .86 for trait anger, .76 for anger-in, .74 for anger-out, and .85 for anger-control, revealing satisfactory level of reliabilities. Finally, internal consistencies for trait anger temperament and trait anger reaction were .75 and .84, respectively.

Table 1
Demographic Characteristics (N = 1200)

Variable	%	Variable	%
Sex		Region	
Male	40.4%	Seoul	10.5%
Female	59.6%	Kangrung	9.6%
		Inchon	11.4%
		Taejeon	11.2%
Religion		Chungju	5.8%
Protestant	27.1%	Chonju	8.3%
Catholic	10.5%	Kwangju	11.8%
Buddhist	15.7%	Taegu	11.1%
Miscellaneous	1.5%	Jinju	11.9%.
Atheists	45.3%	Cheju	8.6%

The present instrument was composed of the original items except for four items. As was shown in previous studies (Chon, 1996; Chon, Hahn, Lee, & Spielberger, 1997), there were some problematic items, revealing different factor structures. Thus, additional items based on responses from an open questionnaire on anger were included and analyzed in a recent study (Chon, Hahn, Lee, & Spielberger, in preparation).

RESULTS

Demographic characteristics

Table 1 provides demographic characteristics of participants. As is shown in Table 1, 40% were female and 60% were male participants. Religions of the participants were Protestant (27.1%), Buddhist (15.7%), and Catholic (10.5%). Finally, the major areas in Korea were included in the sample: Seoul (10.5%), Kangrung (9.6%), Inchon (11.4%), Chungju (5.8%), Taejeon (11.2%), Chonju (8.3%), Kwangju (11.8%), Taegu (11.1%), Jinju (11.9%), and Cheju (8.6%).

Factor analysis

In order to examine the construct validity of the STAXI-K, factor analyses were performed, and the result of the analyses are provided in Table 2 through Table 5. In line with conceptual framework, factor analyses were performed separately for anger experience and anger expression. State anger and trait anger were put together in the same factor analysis, followed by anger-in, anger-out, and anger-control in the same analysis. The appropriate number of factors in each analysis were based on the scree tests. In principle, principal component analysis was adapted. If there were low correlations among the factors, the varimax rotation was performed. On the other hand, if there were substantial correlations among the factors, the oblimin rotation were performed.

Table 2

Factor Loadings and Internal Consistencies of Anger Experience With Total Sample (N=1200)

Item		S-Anger	T-Ang/T	T-Ang/R
Feel like I am about to explode		.81		
Mad		.80		
Feel like breaking things		.77		
Angry		.77		
Feel like banging		.76		
Furious		.74		
Feel like swearing		.72		
Feel like hitting someone		.71		
Feel like yelling		.69		
Annoyed		.63		
Fiery temper			.84	
Hot-headed person			.82	
Quick-tempered			.74	
Fly off the handle			.67	
Say nasty things			.42	
Infuriated with poor evaluation				.83
Annoyed when not given recognition				.77
Furious when criticized				.71
Angry when slowed down by others				.57
Hit when frustrated				.42
Eigenvalues		6.41	3.16	1.47
Variance explained	55.2%	32.0%	15.8%	7.4%
Alphas		(α=.90)	(α=.79)	(α=.75)

Note. Loadings <.30 not reported.

In order to examine any sex differences, analyses were separately performed for the male participants and female participants.

Factor analysis with the total sample was performed for state anger and trait anger combined. The scree test revealed a three factor solution. Principal components analysis revealed relatively high associations among factors, suggesting that these factors were not independent. Thus, the oblimin rotation was performed. (Since similar patterns emerged in subsequent analyses, all factor analyses were done with the oblimin rotation in the present study). The variance explained by three factors were 32.0% for state anger, 15.8% for trait anger-temperament, and 7.4% for trait anger-reaction.

When analyses were done with male sample and female sample separately, the three factor solution was also shown to be the best. In the male sample, these three factors explained 58.2% of the total variance. More specifically, each factor explained 35.6% for state anger, 15.8% for trait anger-temperament, and 6.8% for trait anger-reaction. In a similar fashion, three factors explained 52.4% of the total variance in the female sample. Each factor explained 28.7% for state anger, 15.9% for trait anger-temperament, and 7.9% for trait anger-reaction. In short, the STAXI-K revealed the same factor structures to the original English scale. Further, male and female samples revealed the same factor structures to the total sample.

Table 3

Factor Loadings and Internal Consistencies of Anger Experience With Male (N = 484) and Female Sample (N=715)

Item		S-Anger		T-Ang/T		T-Ang/R	
		M	F	M	F	M	F
Mad		.83	.75				
Feel like I am about to explode		.83	.81				
Angry		.82	.71				
Feel like banging		.80	.68				
Feel like breaking things		.79	.73				
Furious		.77	.72				
Feel like swearing		.74	.67				
Feel like hitting someone		.74	.64				
Feel like yelling		.70	.71				
Annoyed		.67	.60				
Fiery temper				.83	.86		
Quick-tempered				.81	.74		
Hot-headed person				.73	.82		
Fly off the handle				.61	.70		
Say nasty things				.41	.46		
Infuriated with poor evaluation						.82	.76
Annoyed when not given recognition						.77	.67
Furious when criticized						.73	.58
Angry when slowed down by others					.36	.57	.58
Hit when frustrated						.49	.37
Eigenvalues		7.11		3.17		1.35	
Variance explained	58.2%	35.6%		15.8%		6.8%	
Alphas		(α=.90)		(α=.79)		(α=.75)	
Eigenvalues			5.73		3.17		1.58
Variance explained	52.4%		28.9%		15.9%		7.9%
Alphas			(α=.90)		(α=.79)		(α=.75)

Note. Loadings <.30 not reported.

Factor analyses were also performed for anger expression. At this point, a little digression is needed to describe the fourth stage of the development of the STAXI-K. At this stage of the development of the STAXI-K, new additional items were included, and four items were replaced for problematic original items[2]. More specifically, two items in the anger-in scale were replaced by new items; item 3 ("I keep anger in") and item 10 ("I boil inside, but I don't show it") were replaced by "I don't talk" and "I avoid eye contact." In addition, two items in the anger-out scale were replaced by new items; item 7 ("I make sarcastic remarks to others"), and item 14 ("I strike out at whatever infuriates me") were replaced by the following new items "I shout" and "I raise my voice."

2 More detailed information on the fourth stage of the STAXI-K development will be reported in a separate paper. It is suffice to say, however, that 11 new items for the expression of anger were included to improve the STAXI-K, and four new items were finally selected and replaced for problematic items until the third stage of the STAXI-K. In addition, it should be mentioned that some factor loadings in Chon, Hahn, Lee, & Spielberger (1997), which was the report from the third stage of the STAXI-K, were misprinted. More specifically, Table 6 (p. 68) should be corrected such that, in the male sample, the factor loadings of anger-in items of 23, 12, 1, and 3 should be reported in items 26, 16, 7, and 19 respectively.

Table 4

Factor Loadings and Internal Consistencies of Anger Expression With Total Sample (N=1200)

Item		AX/Con	AX/Out	AX/In
Control my temper		.75		
Patient with others		.72		
Stop self from temper		.69		
Control angry feelings		.68		
Tolerant and understanding		.67		
Control my behavior		.65		
Keep my cool		.54		
Calm down faster		.45		
*Raise my voice			.71	
*Shout			.64	
Lose my temper			.57	
Say nasty things			.54	
Argue with others			.53	
Slam doors			.53	
Express my anger			.46	
Tell my angry feelings		.40	.44	
Withdraw from people				.65
Harbor grudge				.64
*Avoid eye contact				.63
*Don't talk				.62
Irritated than recognized				.57
Secretly critical of others				.54
Pout or sulk				.49
Angrier than admit				.48
Eigenvalues		5.10	2.95	1.72
Variance explained	40.7%	25.2%	12.3%	7.2%
Alphas		(α=.81)	(α=.74)	(α=.73)

Note. * Replaced items. Loadings <.30 not reported.

Scree test revealed a three factor solution, consistent with the theoretical framework. Since there were relatively high correlations among factors, the oblimin rotation was performed, and the results are displayed in Table 4, 5. As can be seen in Table 4 and Table 5, three factors explained 40.7% of the total variance in the total sample, 41.3% in the male sample, and 40.3% in the female sample. Again, the STAXI-K revealed the same factor structures to the original English one, and male and female samples revealed the same factor structures to the total sample.

Interestingly enough, replaced items revealed the highest factor loadings in each scale. These findings suggest that the newly included items are valid and the best ones in Korean cultures. Thus, in order to adapt a good scale in certain culture, it is necessary to consider cultural factors; it is advisable to omit some of original items and replace them with indigenous items.

TABLE 5

Factor Loadings and Internal Consistencies of Anger Expression With Male (N = 484) and Female Sample (N=715)

Item	AX/Con		AX/IN		AX/OUT	
	M	F	M	F	M	F
Control my temper	.75	.71				
Patient with others	.71	.71				
Control angry feelings	.69	.62				
Stop self from temper	.68	.65				
Tolerant and understanding	.65	.70				
Control my behavior	.64	.66				
Keep my cool	.55	.51				
Calm down faster	.39	.52				
Withdraw from people			.73	.59		
*Avoid eye contact			.69	.57		
Harbor grudge			.66	.64		
*Don't talk			.61	.61		
Pout or sulk			.59	.41		
Irritated than recognized			.56	.57		
Angrier than admit			.52	.45		
Secretly critical of others			.52	.55		
*Raise my voice					.70	.73
*Shout					.59	.67
Say nasty things					.56	.49
Slam doors					.54	.58
Lose my temper					.53	.59
Express my anger					.51	.50
Argue with others					.50	.54
Tell my angry feelings					.45	.49
Eigenvalues		5.10		2.95		1.72
Variance explained	40.7%	25.2%		12.3%		7.2%
Alphas		(α=.79)		(α=.78)		(α=.73)
Eigenvalues			5.17		2.80	1.70
Variance explained	40.3%		21.5%		11.7%	7.1%
Alphas			(α=.81)		(α=.74)	(α=.69)

Note. * Replaced items. Loading <.30 not reported.

Rliability

Internal consistencies for each scale were calculated and also provided in Tables 2 through Table 5. As mentioned earlier, four new items, which were not included in the original English scale, were replaced. Internal consistences for the total sample were first calculated, then for the male and female samples. As were shown in Table 2 to Table 5, all Cronbach alphas were higher than .70, suggesting satisfactory level of reliability (Nunnally, 1978). One exception, however, was the anger-in scale for the female sample (.69).

In addition to internal consistencies of scales, test-retest reliabilities were also calculated to examine temporal stability. The test-retest reliability is provided in Table 6.

As can be seen in Table 6, there was strong association in trait anger (r=. 81), while there was no association in state anger (r=.14), consistent with the theoretical framework. Stated differently, trait anger is stable, while state anger is unstable. With respect to anger expression, there were significant associations among anger-in (r=.67), anger-out (r=.71), and anger-control (r=.82). The present findings suggest that there are stable modes of anger expression. Modes of anger expression were shown to be stable in other studies. For example, Hâseth (1996) reported that test-retest correlations of anger-in, anger-out, and anger-control were .67, .70, and .52, respectively, over a period of four weeks in the Norwegian STAXI.

Correlational analysis

Correlational analysis among the scales were calculated, and provided in Table 7. As a whole, there were significant associations among the scales, except anger-in vs. anger-control (r=-.06). In addition, there was a significant but weak association (r=-.08) between state anger and anger-control.

With respect to the associations among anger experience, there was medium range of association between state anger and trait anger (r=.31). As expected, there were strong associations between trait and trait-temperament (r=.87), trait and trait-reaction (r=.85).

One of the intriguing associations among the scales was the relation between anger-in and anger-out. In the present study, there was some

Table 6
Test-retest Reliabilities over Three Weeks (n = 41)

No. of weeks	S-Anger	T-Anger	T-Ang/T	T-Ang/R	AX/In	AX/Out	AX/Con
3	.14	.81**	.75**	.65**	.67**	.71**	.82**

Table 7
Correlation Matrix among STAXI-K

Variable State	S-Anger	T-Angers	T-Ang/T	T-Ang/R	AX/In	AX/Out	AX/Con
S-Anger		.31**	.28**	.25**	.25**	.19**	-.08*
T-Anger			.87**	.85**	.37**	.61**	-.34**
T-Ang/T				.49**	.26**	.64**	-.38**
T-Ang/R					.37**	.40**	-.20**
AX/In						.24**	-.06
AX/Out							-.44**
AX/Con							

Note. * p <.05, ** p <.01

association between anger-in and anger-out (r=.24), suggesting that anger-in and anger-out are not independent. There was also a strong association between anger-out and anger-control (r=-.44), suggesting that anger-out is incompatible with anger-control. Finally, there was no association between anger-in and anger-control (r=-.06).

Finally, regarding the relations between anger experience and anger expression, there was a weak association between state anger and anger expression (state anger and anger-in, .25; state anger and anger-out, .19). On the other hand, there were strong associations between trait anger and anger expression (trait anger and anger-in, .37; trait anger and anger-out, .61; trait anger and anger-control, -.34). These findings provide evidence that there is a stable mode of anger expression, and in general when a person experiences anger, he or she may express anger either anger-in or anger-out mode. On the other hand, a person who experiences anger frequently, it is not compatible with anger control.

DISCUSSION

In the present study, recognizing anger as one of the most important psychological factors to chronic ill health such as cardiovascular diseases, a series of attempts were made to adapt the STAXI in Korea. In the present study, the fifth stage of the STAXI-K was constructed and described. The major findings in the present study included: (1) factor analyses revealed the same factor structures to the original English scale. However, the same factor structures were obtained only after problematic items were replaced by new indigenous items; (2) Cronbach Alphas for the scales of the STAXI-K were over .70, except anger-in for female sample (α = .69); (3) Test-retest reliability over three weeks revealed stability in most scales of the STAXI-K, except state anger scale (α = .14), consistent with the conceptual framework of state vs. trait anger; (4) When correlational analyses among the scales were conducted, there were significant associations among them. One exception was the relation between anger-in and anger-control (r=-.06), suggesting that, although they appear to be similar concepts, anger-in and anger-control are separate constructs.

Factor structures of the STAXI-K are the same to the original English scale. However, this same factor structure appeared only when some of the original items were replaced by new items. In fact, some items in original scale appeared to be problematic in other cultures as well. For example, Tanzer and his colleagues (1996) reported that "I keep things in" was under the anger-out scale, although it was originally located on the anger-in scale, and that "I boil inside, but don't show it" was shown to be negative factor loadings for anger-out for female participants. These findings suggest that some of the original English items may not fit to other cultures. In previous studies with Koreans, "I boil inside, but don't show it" was located on the anger-control scale instead of the anger-in scale, and "Slam doors" was located on the anger-in scale instead of the anger-out scale (Chon, 1996). In addition, "I keep things in" was located on the anger-control scale instead of the anger-in scale (Chon, Hahn, Lee, & Spielberger, 1997).

The internal consistencies found in the present study are similar to other studies. For example, Chon (1996) reported that the range of internal

consistencies were .74 (anger-out) to .95 (state anger). In a similar fashion, Spielberger (1988) reported internal consistencies of scales with a range of .74 (anger-out) to .93 (state anger). One exception is the internal consistency of anger-in for female participants (.69). Hâseth (1966) reported that some scales of the Norwegian adaptation of the STAXI were shown to be .60 level. For example, internal consistencies of anger-in were .66 (female college students, n = 141), or .66 (female high school students, n = 137). Moreover, anger-control was also shown to be .69 (male high school students, n = 114) and trait anger-reaction was .69 (male high school students, n = 114), and .69 (male Air Pilot Academy recruits, n = 212). In addition, Tanzer and his colleagues (1996) reported that, when the STAXI was administered to 273 Singaporeans, internal consistencies of anger-in were .60 (for male), and .68 (for female), respectively. These findings suggest that some items in the original scale need to be improved.

Test-retest reliabilities in the present study were also similar to other studies. For example, Hâseth (1966) reported that when he analyzed with 50 high school students for a two week period, test-retest reliability were .01 (state anger), .77 (trait anger), .82 (anger-in), .84 (anger-out), and .67 (anger-control). Test-retest reliability with 100 Air Pilot Academy Recruits for a four week period were .17 (state anger), .75 (trait anger), .67 (anger-in), .70 (anger-out), and .52 (anger-control).

Finally, there have been stronger association between state anger and anger-in, and trait anger and anger-out, consistent with previous studies (Chon, Hahn, Lee, & Spielberger, 1997; Spielberger, 1988). One interesting finding in the present study was that there was a significant association between anger-in and anger-out (r=.24). This finding is different from the original scale; there was no association between anger-in and anger-out in the original scale, suggesting their independent nature in the Americans sample (Spielberger, Johnson, Russell, Crane, Jacobs, & Worden, 1985). However, there have been significant associations between anger-in and anger-out in other studies conducted outside the US (Chon, Hahn, Lee, & Spielberger, 1997; Hâseth, 1996). These findings suggest that anger-in and anger-out in some cultures are not independent but interdependent (see also Tanzer, Sim, & Spielberger, 1996).

In summary, the present findings indicated that the Korean adaptation of the State-Trait Anger Expression Scale is a reliable and valid instrument for measuring anger. However, the present study was confined to college students. Thus, in order to generalize the reliability and validity of the STAXI-K to other populations such as adults, further studies are certainly called for in future studies.

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韓國心理學會誌 : 健康
Korean Journal of Health Psychology
1998, Vol. 3, No. 1, 18 ~ 32

한국판 상태-특성 분노 표현 척도(STAXI-K): 대학생 집단

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본 연구는 한국판 상태-특성 분노 표현 척도(STAXI-K)를 개발하기 위하여 시도된 다섯 번째 단계의 결과이다. 연구의 참여자는 전국에 주요 지역을 대표하는 1200명 대학생이었으며, 다음과 같은 결과가 나타났다. (1) 요인 분석 결과, 미국판과 동일한 요인 구조가 나타났다. 하지만, 이와 같은 동일한 요인 구조는 원래 척도 문항 가운데 4문항을 한국 문화에 알맞은 문항으로 교체한 후에 얻어졌다. (2) 신뢰도 검증을 위하여 내적 일치도를 산출한 결과, 모든 척도에서 .70이상으로 나타났으며, 예외적으로 여자 대학생의 경우 분노-억제에서만 .62로 나타났다. (3) 3주 기간에 걸친 검사-재검사 신뢰도를 산출한 결과, 모든 척도가 만족스럽게 나타났다: 특성 분노(r=.81), 분노-억제(r=.67), 분노-표출(r=.71), 및 분노-통제(r=.82). 하지만, 상태-분노의 경우 구성 개념과 일치하게 불안정하게 나타났다(r=.14). (4) 분노 척도간의 상관을 산출한 결과, 분노-억제와 분노-표출간에 어느 정도의 연관성이 나타나서 미국판과 달리 두 척도가 독립적이지 않음을 암시하고 있었다. 끝으로, 본 연구 결과의 시사점이 논의되었다.