

Reliability and Validity of the Coping Inventory for Stressful Situations(CISS) in African American Adolescents

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The purpose of this study was to extend the cross-cultural usage of the Coping Inventory for Stressful Situations(CISS) by determining reliability and validity of the CISS in the non-White sample. For the cross-cultural validity of the CISS, the factor structure of the CISS was explored and the relationship between the CISS scales and measures of psychological adjustment was examined in 150 African American high school students. Results showed that emotion- and avoidance-oriented coping positively related to negative affects such as anxiety, depression, and hostility in African American adolescents. However, the relationship between task-oriented coping and positive affect was not found to be significant. Factor analysis of the CISS in the African American sample showed ethnic and cultural differences between Whites and non-Whites in stress coping. This finding suggested that the CISS standardized in the individualistic White culture may not accurately take into account the culturally unique characteristics of coping activities of non-Whites in the collective culture such as African Americans and Koreans. The issue of cross-cultural validation of the Western stress coping scales in the Korean sample was discussed.

Coping is defined as goal-directed cognitive, affective, and behavioral responses to manage stressful life events (Folkman, 1984). It has been conceptualized as a crucial variable that mediates the negative effects of stressful events. A primary distinction in the coping literature is to differentiate between problem-focused and emotion-focused coping (Folkman & Lazarus, 1985). The former is directed at changing the cause of stress, whereas the latter is aimed at reducing emotional distress of negative life events. The distinction between problem-focused and emotion-focused coping has been widely accepted and therefore, most of coping inventories have been made to measure these two coping strategies. A second distinction of coping is between approach and avoidance coping (Roth & Cohen, 1986). This distinction is made on the basis of whether one moves towards or away from facing and resolving stressful problems.

In terms of the effectiveness of coping strategies, problem-focused coping has been related to positive psychological outcomes (Compas et al, 1988). In contrast, avoidance coping has been found to be less effective than problem-focused coping (Bowman & Stern, 1995). There have been mixed results on the effectiveness of emotion-oriented coping. Some studies showed that emotion-focused coping was not effective in resolving problems (Latack, 1986; Billings & Moos, 1981), whereas others found a positive and functional role for problem-appraisal types of

emotion-focused coping which involves efforts to reduce the perceived stressfulness of a problem (Parkes, 1990). However, avoidance types of emotion-focused coping (e.g., wishful thinking) have been strongly associated with negative outcomes (Aldwin & Revenson, 1987).

Endler and Parker (1990a) have constructed the Coping Inventory for Stressful Situations (CISS) to measure basic coping styles of adolescents and adults. Endler and Parker (1990b) found that the reliability of the CISS was excellent in a variety of the samples. In a study of Endler et al. (1993), it was found that the CISS emotion-oriented coping scale was positively related to psychopathology indexes of the MMPI-2. Data seems to assert that the CISS is a reliable and valid coping instrument. But, it is lacking in cross-cultural usage because, like other major coping inventories used in the U.S., the CISS has been standardized using predominantly White American samples. Therefore, information on the reliability and validity of the CISS is not yet available for minority and foreign samples.

In this context, the purpose of this study was to extend the cross-cultural usage of the CISS by determining reliability and validity of the CISS in the African American adolescents. For the cross-cultural validity of the CISS, the factor structure of the CISS was explored and the relationship between the CISS scales and measures of psychological adjustment was examined.

METHOD

1. Instruments

The Coping Inventory for Stressful Situations (CISS; Endler & Parker, 1990a) is a self-report questionnaire that measures basic coping styles. Using a 5-point Likert scale (1=not at all to 5=very much), the CISS asks respondents to indicate how much they engage in certain types of coping activities when faced with stressful situations. The 48-item CISS has three 16-item scales: Task-, Emotion-, and Avoidance-Oriented Coping. According to Endler and Parker (1990a), Cronbach's alpha coefficients for the CISS scales in 817 early and late adolescents were as follows: Task-Oriented Coping (.91), Emotion-Oriented Coping (.86), and Avoidance-Oriented Coping (.83). Cronbach alphas for the CISS scales in 537 adults ranged from .82 (Avoidance-Oriented Coping) to .90 (Emotion-Oriented Coping). The adolescent version of the CISS was used in this study.

The Multiple Affect Adjective Checklist-R6 (MAACL-R6; Lubin, Whitlock, & Rea, 1995) is designed to examine respondents' psychological adjustment by measuring a defined set of affects. The MAACL-R6 is a briefer version of the Multiple Affect Adjective Checklist-Revised (MAACL-R; Zuckerman & Lubin, 1985) and it includes only 59 adjectives that were found to be at the sixth grade reading level. The MAACL-R6 consists of five individual scales: Anxiety,

Depression, Hostility, Positive Affect, and Sensation Seeking. The MAACL-R6 has a trait version ("How do you generally feel") and a state version ("How do you feel now today"). The state version of the MAACL-R6 was used in this study. Lubin et al. (1995) reported Cronbach's alphas of .86 for Anxiety, .88 for Depression, .89 for Hostility, .94 for Positive Affect, and .60 for Sensation Seeking in a college student sample.

2. Subjects

Participants were 150 African American 9th graders (66males and 84 females). They were attending an urban high school located in a predominantly African American community in Flint, Michigan. The community was generally of a low socio-economic status. The high school served an average of 1123 students and 97% of the students were African Americans.

3. Procedure

After reading a brief description of the study to the students, teachers asked all students to take parental/guardian consent forms home to obtain parents' signature. In addition, students were asked to provide their own written agreement for research participation. Data collection occurred during one class period of the regular school day and classes were randomly selected.

RESULTS

1. The Internal Consistency of the CISS and the MAACL-R6

In this study, high internal consistency reliabilities were found for the CISS and the MAACL-R6 scales in a sample of 150 African American high school students. Cronbach's alpha coefficients for the CISS scales were .90 for Task-Oriented Coping, .87 for Emotion-Oriented Coping, and .89 for Avoidance-Oriented Coping. Cronbach's alphas for the MAACL-R6 scales were .68 for Anxiety, .80 for Depression, .84 for Hostility, .90 for Positive Affect, and .74 for Sensation Seeking. The CISS and the MAACL-R6 were found to be reliable with alpha coefficients ranging from .68 to .90.

2. The Factor Structure of the CISS

In this study, the 48 items of the CISS were analyzed, using principle components factor analysis with a varimax rotation. A combination of the eigenvalue greater than 1.0 criterion and the scree test showed that a three-factor solution best represented the underlying structure of the CISS when the CISS was used with the African American adolescent population. Therefore, the results of this study confirmed the three factor solution reported in the CISS manual (Endler & Parker, 1990a). The factor analysis with a varimax rotation was repeated on the 48

CISS items for a three-factor solution. The varimax rotated factor loadings of the CISS items were presented in Table 1. The three factors with eigenvalues of 13.79, 5.03, and 3.25 accounted for 46% of the total variance among the CISS items. Factor loadings greater than .35 were considered significant in this study. .

The first factor, labeled "African American Adolescents' Task-Oriented Coping," accounted for 28.7% of the CISS total variance. Items with the highest loadings on this factor included Item 41 ("Get control of the stressful situation"), Item 36 ("Analyze my problem before reacting"), and Item 47 ("Think about the event and learn from my mistakes"). Of the 16 items of the CISS Task-Oriented Coping scale, 14 items had the highest loadings on this factor. However, Item 10 ("Outline priorities") and Item 39 ("Adjust priorities") loaded less than .35 on this factor.

The second factor explained 10.5% of the variance and was labeled "African American Adolescents' Emotion-Oriented Coping." Items with the highest loadings on this factor included Item 25 ("Freeze and not know what to do"), and Item 30 ("Worry about what I am going to do"). Of the 16 items of the CISS Emotion-Oriented Coping scale, 14 items had the highest loading on this factor. However, Item 33 ("Tell myself that it will never happen again") and Item 34 ("Focus on my general inadequacies") had the highest factor loadings of .51 and .50 on the first Task-Oriented Coping scale

Table 1. Factor Analysis of the Coping Inventory for Stressful Situations

Original Scale	Item #	Factor1	Factor2	Factor3
TASK	1	<u>.40</u>	.31	.32
TASK	2	<u>.59</u>	-.11	.06
TASK	6	<u>.36</u>	-.04	.34
TASK	10	<u>.33</u>	.31	.28
TASK	15	<u>.61</u>	.30	.13
TASK	21	<u>.48</u>	.26	.26
TASK	24	<u>.57</u>	.43	.23
TASK	26	<u>.66</u>	-.14	.27
TASK	27	<u>.70</u>	-.04	.23
TASK	36	<u>.71</u>	.17	.12
TASK	39	<u>.41</u>	.52	.33
TASK	41	<u>.78</u>	.21	.07
TASK	42	<u>.74</u>	.04	.32
TASK	43	<u>.69</u>	-.11	.14
TASK	46	<u>.64</u>	.29	.34
TASK	47	<u>.71</u>	.10	.31

EMOT	5	.27	<u>.56</u>	-.07
EMOT	7	.02	<u>.43</u>	.18
EMOT	8	.25	<u>.69</u>	-.16
EMOT	13	.19	<u>.48</u>	-.14
EMOT	14	.11	<u>.73</u>	.00
EMOT	16	.17	<u>.56</u>	.36
EMOT	17	.02	<u>.68</u>	.02
EMOT	19	.05	<u>.59</u>	.16
EMOT	22	.10	<u>.68</u>	.05
EMOT	25	.03	<u>.73</u>	.05
EMOT	28	.31	<u>.42</u>	.15
EMOT	30	<u>.51</u>	.35	.34
EMOT	34	<u>.50</u>	.41	.27
EMOT	38	-.12	<u>.63</u>	.06
EMOT	45	-.31	<u>.66</u>	.18

AVOID	3	.29	.20	<u>.49</u>
AVOID	4	.16	.01	<u>.51</u>
AVOID	9	.06	<u>.26</u>	.10
AVOID	11	.13	.14	<u>.47</u>
AVOID	12	.39	.17	<u>.59</u>
AVOID	18	.25	.08	<u>.80</u>
AVOID	20	.20	.21	<u>.75</u>
AVOID	23	.06	.10	<u>.73</u>
AVOID	29	.24	-.15	<u>.75</u>
AVOID	31	.33	.25	<u>.62</u>
AVOID	32	.23	-.12	<u>.51</u>
AVOID	35	.57	.20	.14
AVOID	37	.02	.10	<u>.73</u>
AVOID	40	.19	.11	<u>.83</u>
AVOID	44	.41	.19	.16
AVOID	48	.16	.13	<u>.48</u>
Eigenvalues		13.79	5.03	3.25
% of the Explained Variance		28.70	10.50	6.80

Note: The highest factor loading is underlined. TASK = The CISS Task-Oriented Coping scale, EMOT = The CISS Emotion-Oriented Coping scale, and AVOID = The CISS Avoidance-Oriented Coping scale.

Table 2. Multiple Regressions with the CISS Coping Scales Predicting the MAACL-R6 Scales

Dependent Variable and Predictors Entered	β	t	p -value
Anxiety			
Task-Oriented Coping	.18	0.76	.451
Emotion-Oriented Coping	.53**	2.63	.009
Avoidance-Oriented Coping	.16	0.75	.457
Depression			
Task-Oriented Coping	-.50*	-2.06	.041
Emotion-Oriented Coping	.98***	4.73	.000
Avoidance-Oriented Coping	.30	1.34	.181
Hostility			
Task-Oriented Coping	-.31	-0.85	.397
Emotion-Oriented Coping	.70*	2.21	.028
Avoidance-Oriented Coping	.92**	2.68	.008

Note: $n = 149$. * $p < .05$. ** $p < .01$. *** $p < .0001$

The third factor, labeled "African American Adolescents's Avoidance-Oriented Coping," accounted for 6.8% of the variance. The items that uniquely loaded on this factor included Item 40 ("See a movie"), Item 29 ("Visit a friend"), Item 23 ("Go to a party"), and Item 18 ("Go out for a snack or meal"). Of the 16 items of the CISS Avoidance-Oriented Coping scale, 13 items had the highest loadings on this factor. However, Item 9 ("Window shop") did not load .35 or above on any one of the three factors. In addition, Item 35 ("Talk to someone whose advice I value") and Item 44 ("Take some time off from stressful situations") had the highest factor loadings of .57 and .41 on the first Task-Oriented Coping factor.

3. The Relationship between the CISS Scales and the MAACL-R6

In this study, the Multiple Affect Adjective Checklist-R6 (MAACL-R6; Lubin et al., 1995) was used to measure African American adolescents' psychological adjustment. In order to examine the relationship between the CISS and the MAACL-R6 scales, a series of simultaneous multiple regressions were performed with each of the MAACL-R6 scales as a dependent variable and the entire CISS scales as predictors. These regression analyses were conducted to find if coping strategies significantly predicted psychological adjustment in the African American adolescent sample.

Table 2 presents the results of these

analyses. It was found that the entire CISS scales significantly accounted for 10% of the variance in Anxiety ($F(3, 145) = 5.26, p < .01$), 16% of the variance associated with Depression ($F(3, 145) = 9.44, p < .0001$), and 12% of the variance in Hostility ($F(3, 145) = 6.35, p < .001$). In terms of regression coefficients, the significantly positive relationship of Emotion-Oriented Coping to Anxiety ($\beta = .53$), Depression ($\beta = .98$), and Hostility ($\beta = .70$) indicates that African American adolescents who use greater levels of emotion-oriented coping strategies are more likely to feel higher levels of negative affect such as anxiety, depression, and hostility. In addition, the positive relationship between Avoidance-Oriented Coping and Hostility ($\beta = .92$) suggests that those with greater use of avoidance-oriented coping strategies are more likely to feel higher levels of hostility. In contrast, the significantly negative relationship found between Task-Oriented Coping and Depression ($\beta = -.50$) indicates that African American 9th graders with more use of task-oriented coping strategies are less likely to feel higher levels of depression.

DISCUSSION

The results of this study generally conformed those of previous factor analyses of the CISS that supported a three-factor solution for the CISS (Endler & Parker, 1990a, 1990b). These results are notable in

that they provide a cross-validation of the three-factor structure of the CISS in a sample of African American adolescents. However, as Daly et al. (1995) pointed out, African Americans tend to have an unique orientation to coping and problem-solving activities through interpersonal processes and emphasize the role of a community in developing effective coping and problem-solving.

African Americans' collective and interpersonal approach to coping was also reflected in this study. For example, factor analysis of the CISS showed that several items of the CISS Emotion-and Avoidance-Oriented Coping items had the highest loadings on the Task-Oriented Coping factor and thus, may represent African American adolescents' task-oriented or problem-focused coping activities.

Those items were Item 33 ("Tell myself that it will never happen again"), Item 34 ("Focus on my general inadequacies"), Item 35 ("Talk to someone whose advice I value"), and Item 44 ("Take some time off from stressful situations"). Especially, in light of African Americans' interpersonal collectivity in coping and problem-solving processes, Item 35 ("Talk to someone whose advice I value") that is supposed to measure respondents' avoidance coping within the CISS could be an effective problem-focused coping strategy for African American adolescents. These findings reflected ethnic and cultural differences in coping behavior between African American

and Whites. In this regard, some important interpersonal and affective components of African Americans' unique problem-focused coping activities may be not accurately taken into consideration within the CISS standardized predominantly in the White sample.

In examining the relationship between the CISS and the MAACL-R6, this study showed the strongly positive relationship of the CISS Emotion and Avoidance Coping scales to negative affect scales such as Anxiety, Depression, or Hostility on the MAACL-R6. In contrast, the CISS Task Coping scale was not significantly related to any mental health indicators such as Positive Affect and Sensation Seeking on the MAACL-R6. Part of the reason why the CISS Task Coping scale, as compared to the CISS Emotion and Avoidance Coping scales, was found to be less significantly related to the MAACL-R6 scales in this study may be that culturally unique aspects of African Americans' effective problem-focused coping activities are not accurately measured by the CISS.

In this context, the ethnic and cultural differences in the use of coping strategies under stress are very likely to be overlooked or even distorted when coping behavior of non-Whites (such as African Americans and Asians) is assessed by the culturally insensitive measure, which was developed using the predominantly White population. As in the case of African Americans, Koreans also have a strong tendency to emphasize

collectivism over individualism. In a study of Hofstede (1991), the United States ranked top in individualism and South Korea ranked 11th in collectivism among over 50 countries. Individualistic cultures such as those of Western Europe and North America emphasize autonomy, individual initiative, and independence. However, in collective cultures of Korea, China, Japan, South-east Asia, Africa, and South America, group collaboration and interpersonal and emotional dependence are valued (Youn, 1997). Therefore, a lot of attention should be paid to the possibility that stress coping and problem-solving scales standardized in the Western individualistic cultures may pathologize non-Whites when such scales fail to take into account non-Whites' culturally unique components of stress coping and problem-solving.

Concerning the limitation of this study, the sample of this study was small in number and derived exclusively from African American 9th graders in an urban and economically disadvantaged setting. Therefore, this study is limited in the external validity of generalization. For the future study, the cross-cultural validation of the Western stress coping scales including the CISS is strongly recommended for Koreans. It is important to examine whether the factor structure of the Korean sample will be different from that of the White sample and also, to create items that reflect Koreans' culturally unique stress coping activities.

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흑인청소년을 대상으로 한 스트레스 대응전략 측정도구의 문화간 타당화 연구

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이 연구의 목적은 백인들을 대상으로 표준화되었던 스트레스 대응전략 측정도구(the Coping Inventory for Stressful Situations: CISS)의 신뢰도와 타당도를 흑인청소년을 대상으로 연구함으로써 측정도구의 문화간 사용가능성을 고찰하는데 있다. 문화간 타당도를 측정하기 위하여 150명의 흑인 고등학교 학생들을 대상으로 스트레스 대응전략 측정도구의 요인분석 구조를 살펴보았으며, 스트레스 대응전략 측정도구와 심리적 적응과 관련된 측정도구간의 관계도 살펴보았다. 주요결과로써, 감정적 혹은 회피적 스트레스 대응전략을 많이 사용할수록 불안, 우울, 그리고 분노와 같은 부정적 정서를 경험할 가능성이 높은 것으로 나타났다. 반면에, 과제 지향적인 스트레스 대응전략과 긍정적 정서와의 관계는 유의미하지 않았다. 흑인청소년에게 나타난 스트레스 대응전략 측정도구의 요인분석 구조는 스트레스 대응에 있어서 인종적 그리고 문화적 차이가 있음이 나타났다. 이러한 결과는 개인주의적 백인문화권에서 표준화된 스트레스 대응전략 측정도구들이 집단주의적 가치관이 강한 흑인이나 한국인들의 문화적으로 고유한 스트레스 대응행동을 정확히 측정하지 못할 가능성이 있다는 것을 시사한다. 따라서 서구의 스트레스 대응전략 측정도구를 한국인에게 적절히 사용하기 위한 문화간 타당화 작업과 한국인 고유의 스트레스 대응행동에 대한 문항을 새로이 창조하는 작업의 필요성이 논의되었다.