

EFFECT OF INAPPLICABLE ITEMS IN THE FACTOR STRUCTURE OF THE SPANISH VERSION OF THE WAYS OF COPING QUESTIONNAIRE^{1,2,3}

MARÍA CRISTINA RICHAUD DE MINZI AND CARLA SACCHI

Consejo Nacional de Investigaciones Científicas y Técnicas

Summary.—The aim of this work was to examine how the presence of inapplicable items might change the factor structure of the 1984 Ways of Coping Questionnaire by Lazarus and Folkman. The Spanish version of the Ways of Coping Questionnaire was administered to 156 subjects with university degrees. The 95 women and 61 men whose ages were from 18 and 45 years ($M = 27.8$, $SD = 12.1$) were of middle socioeconomic status. All were residents of Buenos Aires. To study whether relevant items modify the factor structure of the Ways of Coping Questionnaire, two factor analyses were carried out, one with items rated as not relevant (Item Mean) and the other with the same items rated as not chosen. In both factor analyses, principal axes method and oblimin rotation were performed, and five factors were considered. Congruence indexes were performed. Analysis showed that not choosing an item because it does not coincide with one's behavior or ideas is not the same as not selecting that item because it does not apply to the current threatening situation. Lack of discrimination between situations when analyzing data leads to a distorted interpretation of the way in which the subject actually behaves or copes with the situation.

Waller (1989) pointed out that behavioral rating scales often contain items inapplicable to specific individuals in certain situations. He demonstrated that the presence of a small to moderate percentage of ratings of not relevant items could seriously obfuscate analyses. Ben-Porath, Waller, and Butcher (1991) stated that in "using cognitive-behavioral checklists in the assessment of coping, certain items may be inapplicable for some individuals in specific situations. Take, for example, the WOC item 'I jogged or exercised' One of the subjects in our study completed the WOC in reference to a severe automobile accident that left him immobilized in a hospital bed for several weeks. The fact that this subject did not jog or exercise to help with his injury and prolonged hospitalization bears no relevance to the extent to which he relied on tension reduction in coping with this particular stressor" (p. 163). These authors indicated one should take nonrelevant items into account, since findings of situational effects on coping turn out quite differently depending on how nonrelevant items are treated.

¹This work was made in the Centro Interdisciplinario de Investigaciones en Psicología Matemática y Experimental (CIIPME-CONICET), Buenos Aires, Argentina.

²The authors thank Dr. Horacio J. A. Rimoldi for his continued support.

³Address correspondence to María Cristina Richaud de Minzi or Carla Sacchi, Tte. Gral. Perón 2158, 1040 Buenos Aires, Argentina.

The aim of this work was to examine how the presence of nonrelevant items might change the factor structure of the Spanish version of the Ways of Coping Questionnaire (Lazarus & Folkman, 1984).

METHOD

Questionnaire

The Ways of Coping Questionnaire is a measure of coping derived from Lazarus' transactional model of stress (Aldwin, Folkman, Shaefer, Coyne, & Lazarus, 1980; Folkman & Lazarus, 1980). It contains a wide range of thoughts and behaviors which people use to deal with internal or external demands of specific stressful encounters (Folkman & Lazarus, 1985).

In this work, the Spanish version of 67 items of the Ways of Coping Questionnaire (Lazarus & Folkman, 1986, translation by María Zaplana) was used. In its original form the Ways of Coping Questionnaire contained two rationally derived scales, Problem-focused Coping and Emotion-focused Coping. In a more recent analysis Aldwin, *et al.* (1980) reported six factors related to emotion-focused coping. Thus, in its present form, the Ways of Coping Questionnaire contains seven scales of Problem-focused, Wishful Thinking, Growth, Minimize Threat, Seeks Social Support, Blamed Self, and a Mixed Scale that contains both avoiding and help-seeking strategies. According to the factor analysis by Vitaliano, Russo, Carr, Maiuro, and Becker (1985) and the factor analysis of the Spanish version of the Ways of Coping Questionnaire by Richaud de Minzi and Sacchi (1995), items are grouped into five factors of Problem-focused, Wishful Thinking, Avoidance, Seeks Social Support, and Blamed Self. In the same study Richaud de Minzi and Sacchi found a Cronbach α of .88 for 172 subjects.

Respondents rated how much or often they used each of the 66 behaviors and cognitions described in the questionnaire when coping with a particular stressor. In the Ways of Coping Questionnaire responses on a 4-point scale anchored by 1: does not apply or not used, 2: used somewhat, 3: used quite a bit, and 4: used a great deal. Thus, a rating of 1 confounds an inapplicable item with one of a coping response which the subject chooses not to employ. For the purpose of this study the response format was altered as follows: A: not relevant, 1: relevant but not used, 2: used somewhat, 3: used quite a bit, 4: used a great deal. The response options were described to the subjects with particular attention paid to explaining when to use the nonrelevant response. The instructions were "If you were able to use a particular behavior or thought described in an item to cope with a particular stressor but chose not to do so, then answer 1: Relevant but not used. If you did not use a particular way of coping described in an item because it was impossible to do so in the stressful situation you describe, then answer A: Not relevant" (Ben-Porath, *et al.*, 1991, p. 165).

Subjects

The Spanish version of the Ways of Coping Questionnaire was administered to 156 subjects with university degrees (95 women and 61 men). Their ages were between 18 and 45 years ($M=27.8$ yr., $SD=12.1$), and their socioeconomic status middle. All were residents in Buenos Aires.

Statistics

Two factor analyses were carried out, one with the confounded rating of not relevant and no choice (rating of one) and the other one with the median of the corresponding items as the value of inapplicable items. In both analyses principal axes method and oblimin rotation were performed and five factors were considered. Congruence indexes were performed to compare the two factor structures obtained.

RESULTS

In Table 1 (first analysis), the first factor indicates a strategy described by a positive view of events through a cognitive redefinition of the problem (Items 5, 15, 19, 30, and 38) taking action (Items 27, 34, 39, 49, 52, and 56) based on an assessment of the situation (Items 62, 64, and 29). This factor corresponds to the Problem-focused factor of the previous factor analyses (Vitaliano, *et al.*, 1985; Richaud de Minzi & Sacchi, 1995). The second factor (Avoidance) defines coping as evasion or negation of the threat (Items 16, 32, 40, and 50) as well as impulsive behaviors as a form of emotional release (Items 6, 17, 28, 33, and 47). The third factor (Seeks Instrumental Social Support) is bipolar and indicates a way of facing the threat by seeking an instrumental support in others (Items 8, 22, 31, 42, and 45) contrasting to an attitude of withdrawal and evasion (Items 14, 24, 41, 43, 44, and 53). The fourth factor indicates active coping (Items 26, 34, and 49) based on an analysis of the problem (Items 1, 2, 48, and 62) but unlike the first factor, with a negative view of the subjects' own resources (Items 12, 13, 37, and 61). The fifth factor (Wishful Thinking) indicates avoidance or negation of the threat by seeking refuge in magic thought (Items 55, 57, 58, and 59) with resignation (Items 4 and 61) and not very active.

In the second factor analysis (Table 2) the first factor has a psychological interpretation similar to that of the first factor in the first analysis, while the second factor is notoriously similar to the fifth in the first analysis. The third factor is very similar to the second in the first analysis and indicates evasion or negation of the threat although less intense (Items 16, 32, 50, and 55) with impulsive behaviors (Items 6, 33, and 47) but also with some activity which implies seeking information and logical analysis (Items 42, 63, and 64). The fourth factor reflects coping with the threat through a logical analy-

TABLE 1
 FACTORIAL ANALYSIS WITH OBLIMIN ROTATION FOR INAPPLICABLE ITEMS USING RATING OF ONE

Item	Scale	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	Problem-focused	.19	-.02	-.23	.55	.06
2	Problem-focused	.26	-.07	-.16	.41	.20
3	Avoidance (Fatalism)	.12	.21	.21	-.13	.11
4	Wishful Thinking	.01	.05	.23	.07	.37
5	Problem-focused	.51	-.22	-.12	.20	.30
6	Avoidance (Impulsive Action)	.21	.45	.09	-.05	.05
7	Problem-focused	.17	.43	-.07	.05	.26
8	Seeks Social Support	.18	.04	-.31	.10	.56
9	Blamed Self	.08	.18	.01	.14	.39
10	Problem-focused	.16	.07	-.05	.16	.37
11	Wishful Thinking	.14	.11	.17	.21	.45
12	Avoidance (Fatalism)	.02	-.03	.03	.32	.12
13	Avoidance	-.01	-.11	.23	.35	-.27
14	Avoidance (Withdrawal)	.04	-.01	.55	-.07	-.03
15	Problem-focused	.36	-.25	-.05	.26	.34
16	Avoidance	-.03	.44	.05	-.19	.29
17	Emotional Release	-.04	.57	-.16	.09	.00
18	Seeks Social Support	.33	.23	-.21	.18	.12
19	Problem-focused (Redefinition)	.60	-.24	.03	.21	.04
20	Problem-focused	.40	-.02	.02	.24	-.08
21	Avoidance	.06	.23	.28	-.22	.11
22	Seeks Social Support	.02	-.06	-.35	.07	.29
23	Problem-focused (Redefinition)	.48	.05	.04	.08	.34
24	Avoidance	.03	-.03	.34	.03	.14
25	Problem-focused	.26	.24	-.12	.26	.18
26	Problem-focused (Active)	.13	-.12	-.08	.63	.22
27	Problem-focused (Active)	.34	.05	-.10	.07	.02
28	Emotional Release	.14	.36	-.29	.15	.16
29	Blamed Self	.25	-.04	.04	.10	.30
30	Problem-focused (Redefinition)	.33	-.17	-.02	-.03	.05
31	Seeks Social Support	.19	-.07	-.53	.16	.32
32	Avoidance	.13	.32	-.03	.08	.32
33	Emotional Release	-.08	.47	.09	.05	.22
34	Problem-focused (Active)	.34	.19	-.00	.48	.34
35	Emotional Control	.17	.05	.16	.27	.28
36	Wishful Thinking	.49	-.08	-.13	.28	.27
37	Emotional Control	.47	.06	.16	.38	.26
38	Problem-focused (Redefinition)	.54	.02	.26	.24	.09
39	Problem-focused (Active)	.47	.10	-.03	.15	-.09
40	Avoidance (Withdrawal)	-.06	.31	.06	-.03	.08
41	Avoidance	.19	.10	.36	.13	.11
42	Seeks Social Support	.39	.13	-.51	.15	.04
43	Avoidance (Withdrawal)	-.00	.15	.56	.06	.24

(continued on next page)

Note.—KMO Measure of Sampling Adequacy=.48; Bartlett Test of Sphericity=3207.48, $p < .001$.

TABLE 1 (CONT'D)
 FACTORIAL ANALYSIS WITH OBLIMIN ROTATION FOR INAPPLICABLE ITEMS USING RATING OF ONE

Item	Scale	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
44	Avoidance	.08	.26	.34	.20	.06
45	Seeks Social Support	.20	.23	-.45	.00	.17
46	Problem-focused	.51	-.00	-.11	.53	.32
47	Emotional Release	-.16	.64	-.08	.05	.04
48	Problem-focused	.13	.25	.16	.51	-.10
49	Problem-focused (Active)	.23	.10	-.05	.58	.12
50	Avoidance	-.02	.43	.29	-.05	.28
51	Problem-focused (Redefinition)	.19	.33	.21	.12	.20
52	Problem-focused (Active)	.54	.20	-.04	.28	.38
53	Avoidance (Fatalism)	-.10	-.16	.36	.12	.10
54	Emotional Control	.36	-.06	.17	.22	-.05
55	Wishful Thinking	.18	.28	.08	.29	.49
56	Problem-focused (Active)	.60	.16	.00	.02	.28
57	Wishful Thinking	.13	.13	.11	.11	.46
58	Wishful Thinking	-.07	.32	.10	.10	.52
59	Wishful Thinking	.23	.20	.01	.16	.50
60	Wishful Thinking	.30	-.15	-.06	.25	.18
61	Avoidance (Fatalism)	.17	.07	.18	.53	.29
62	Problem-focused	.30	.10	.04	.78	.19
63	Seeks Social Support	.30	.25	-.16	.20	-.03
64	Problem-focused	.35	.22	-.20	.12	.07
65	Problem-focused (Redefinition)	.19	.18	.04	.47	.27
66	Avoidance	.28	.17	.01	.17	.20
Eigenvalue		7.54	3.63	3.04	2.29	1.93

Note.—KMO Measure of Sampling Adequacy = .48; Bartlett Test of Sphericity = 3207.48, $p < .001$.

sis of the situation (Items 1, 2, and 62), seeking instrumental support (Items 8, 22, 31, and 42), and actual behavior to solve the problem (Items 26, 34, 46, and 49). The fifth factor indicates evasion from the threat through disregarding it, not taking it into account, or forgetting its existence (Items 3, 13, 21, 24, 41, and 43) with elements of fatalism (Items 53 and 61).

TABLE 2
 FACTORIAL ANALYSIS WITH OBLIMIN ROTATION FOR INAPPLICABLE ITEMS USING RATING OF MEAN

Item	Scale	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
1	Problem-focused	.12	.04	.11	.59	.10
2	Problem-focused	.20	.08	-.01	.51	.11
3	Avoidance (Fatalism)	-.07	.21	.07	-.16	.37
4	Wishful Thinking	-.10	.22	.14	-.01	.25
5	Problem-focused	.55	.17	-.09	.28	.09

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Note.—KMO Measure of Sampling Adequacy = .60; Bartlett Test of Sphericity = 4605.65, $p < .0001$.

TABLE 2 (CONT'D)
 FACTORIAL ANALYSIS WITH OBLIMIN ROTATION FOR INAPPLICABLE ITEMS USING RATING OF MEAN

Item	Scale	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
6	Avoidance (Impulsive Action)	.18	.18	.36	-.12	.13
7	Problem-focused	.04	.44	.17	.09	-.04
8	Seeks Social Support	.12	.25	.09	.34	-.05
9	Blamed Self	.20	.28	.44	.08	.00
10	Problem-focused	.32	.41	.07	.20	-.01
11	Wishful Thinking	-.03	.39	.16	.11	.33
12	Avoidance (Fatalism)	-.01	.15	.15	.25	.17
13	Avoidance	.05	-.15	-.03	.14	.31
14	Avoidance (Withdrawal)	.07	.04	.04	-.18	.46
15	Problem-focused	.42	.29	-.15	.30	.02
16	Avoidance	.01	.25	.27	-.26	.10
17	Emotional Release	-.14	.26	.49	.00	.07
18	Seeks Social Support	.34	.05	.17	.33	-.12
19	Problem-focused (Redefinition)	.57	.02	-.03	.21	.05
20	Problem-focused	.41	-.04	.02	.16	.12
21	Avoidance	.00	.21	.15	-.17	.41
22	Seeks Social Support	.11	.22	.08	.39	-.10
23	Problem-focused (Redefinition)	.56	.20	.33	.05	.13
24	Avoidance	.16	.00	.03	.08	.45
25	Problem-focused	.19	.29	.24	.11	.13
26	Problem-focused (Active)	.14	.11	-.02	.49	.10
27	Problem-focused (Active)	.15	.10	.03	.16	.20
28	Emotional Release	.11	.07	.54	.17	-.04
29	Blamed Self	.37	.19	.32	.08	.06
30	Problem-focused (Redefinition)	.51	.04	.08	.05	-.01
31	Seeks Social Support	.29	.25	.11	.46	-.21
32	Avoidance	.06	.12	.39	.00	.10
33	Emotional Release	.01	.12	.45	-.05	.08
34	Problem-focused (Active)	.27	.25	.30	.35	.07
35	Emotional Control	.21	.22	.19	.25	.40
36	Wishful Thinking	.53	.29	.03	.29	.12
37	Emotional Control	.48	.21	-.01	.25	.26
38	Problem-focused (Redefinition)	.46	-.03	.22	.02	.43
39	Problem-focused (Active)	.52	-.04	.37	.18	.13
40	Avoidance (Withdrawal)	.03	.19	.23	-.10	.14
41	Avoidance	.17	.21	.00	-.02	.50
42	Seeks Social Support	.26	.07	.39	.35	-.06
43	Avoidance (Withdrawal)	.11	.39	.17	-.17	.52
44	Avoidance	.05	.17	.19	-.13	.33
45	Seeks Social Support	.17	.05	.38	.26	-.19
46	Problem-focused	.38	.27	.05	.46	-.04
47	Emotional Release	-.18	.16	.49	-.07	.01
48	Problem-focused	.07	.10	.36	.23	.45

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Note.—KMO Measure of Sampling Adequacy = .60; Bartlett Test of Sphericity = 4605.65, $p < .0001$.

TABLE 2 (CONT'D)
 FACTORIAL ANALYSIS WITH OBLIMIN ROTATION FOR INAPPLICABLE ITEMS USING RATING OF MEAN

Item	Scale	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
49	Problem-focused (Active)	.31	-.08	.15	.52	.08
50	Avoidance	.03	.39	.29	-.24	.26
51	Problem-focused (Redefinition)	.33	.25	.43	.00	.25
52	Problem-focused (Active)	.36	.27	.28	.26	.11
53	Avoidance (Fatalism)	-.04	.14	.00	.11	.49
54	Emotional Control	.19	-.06	.08	.15	.45
55	Wishful Thinking	.15	.39	.32	.21	.18
56	Problem-focused (Active)	.53	.20	.28	.04	.14
57	Wishful Thinking	.18	.52	.17	.00	.17
58	Wishful Thinking	-.08	.61	.28	.08	.25
59	Wishful Thinking	.16	.50	.19	.15	.10
60	Wishful Thinking	.15	.26	-.03	.22	.21
61	Avoidance (Fatalism)	.14	.40	.17	.30	.43
62	Problem-focused	.32	.20	.24	.49	.31
63	Seeks Social Support	.19	.07	.39	.13	.19
64	Problem-focused	.30	.14	.35	.20	.22
65	Problem-focused (Redefinition)	.21	.28	.29	.23	.28
66	Avoidance	.19	.27	.11	.08	.16
Eigenvalue		7.57	3.57	2.52	2.04	1.73

Note.—KMO Measure of Sampling Adequacy = .60; Bartlett Test of Sphericity = 4605.65, $p < .0001$.

The congruence indexes indicate that there are differences between the two structures (Table 3). Three factors are similar, while the other two are different.

TABLE 3
 CONGRUENCE INDEXES

Factor*	Factors With Inapplicable Items Using a Rating of One				
	1	2	3	4	5
F' 1	.95	.11	-.08	.63	.57
F' 2	.51	.57	.13	.50	.91
F' 3	.49	.84	-.04	.45	.59
F' 4	.41	-.04	.44	.57	.33
F' 5	.31	-.02	.44	.16	.12

*With inapplicable items using a rating of mean.

DISCUSSION

Differentiation between those items which subjects deem inapplicable to the stress-causing situation on which his answers have been focused and those which the subject does not choose because he has not applied the behavior or thought mentioned has produced differences in the factor structure obtained in each case. From a purely mathematical point of view, congruence coefficient indicates similarities in three factors out of the five ob-

tained in the two analysis. On the other hand, this is expressed in the psychological interpretation of the coping strategies which arise in each analysis. In the first factor analysis, which does not take inapplicable items into account, five coping strategies are defined. Three of them describe coping focused on the problem-solving oriented behavior, although in one case such conduct is coupled with a positive cognitive redefinition; in another, it includes a negative assessment of resources; and in the third case it is based on seeking instrumental support from others. The two remaining strategies are centered on avoidance; one is accompanied by nonreflexive action which works as emotional release and the other one is based on magic thought.

The second factor analysis which considers inapplicable items also defines five strategies but, in this case, only two are centered on behavior and three on avoidance. Among the former, one is similar to the first factor in the other analysis, while the latter is based on an actual behavior grounded on logical analysis and support of others. This means that it presents coping focused on the problem but one which coordinates the subjects' own resources with social support. As regards evasion strategies, two factors are similar to those of the previous analysis, with the addition of a third factor based on ignoring the threat and waiting for a fatalistic solution.

Obtained results show that not choosing an item because it does not coincide with one's behavior or ideas is not the same as not selecting the item because it does not apply to the current threatening situation. Lack of discrimination between the situations when analyzing data leads to a distorted interpretation of the way in which the subject actually behaves or copes with the situation.

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Accepted January 18, 2001.