

You Want to Measure Coping But Your Protocol's Too Long: Consider the Brief COPE

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Studies of coping in applied settings often confront the need to minimize time demands on participants. The problem of participant response burden is exacerbated further by the fact that these studies typically are designed to test multiple hypotheses with the same sample, a strategy that entails the use of many time-consuming measures. Such research would benefit from a brief measure of coping assessing several responses known to be relevant to effective and ineffective coping. This article presents such a brief form of a previously published measure called the COPE inventory (Carver, Scheier, & Weintraub, 1989), which has proven to be useful in health-related research. The Brief COPE omits two scales of the full COPE, reduces others to two items per scale, and adds one scale. Psychometric properties of the Brief COPE are reported, derived from a sample of adults participating in a study of the process of recovery after Hurricane Andrew.

Key words: coping, assessment, stress, avoidance

The literature on stress and coping has grown enormously over the past two decades. Studies have examined people's responses to such disparate stressors as chronic illness, diagnosis with life-threatening illness, natural disasters, and the challenge of difficult examinations. Although several clear principles have been derived from this body of research as a whole, there is near-unanimity that many questions remain to be answered. Thus, research into the coping process continues.

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Researchers in this area increasingly have turned to applied settings to conduct their studies. Such settings permit examination of coping with respect to psychologically impactful and highly meaningful stresses. Increasingly the studies also are prospective in design, with multiple measures of both coping and outcome variables. Given the considerable effort involved in recruiting applied samples and collecting the data, researchers frequently include measures to permit examination of several distinct hypotheses within the sample. The strength of this strategy is that it maximizes the use of outcome data and thus makes optimal use of the participants' involvement.

There are, however, drawbacks to these strategies. Both the repeated measurement design and the inclusion of large numbers of measures in a given study raise the issue of participant response burden. That is, the amount of time and effort demanded by a project of this sort can be substantial. The larger the demand on the participants, the less likely they may be to commit themselves to involvement in the study. Completing a half-hour interview (or set of questionnaire materials) is far less daunting than a similar 2-hr task. For this reason, researchers are in need of measures that adequately assess the psychological qualities of interest in as brief a manner as possible.

One important psychological quality in this research is coping reactions *per se*. Several measures of coping currently are in widespread use, including the Ways of Coping (Folkman & Lazarus, 1985; Lazarus & Folkman, 1984), Multidimensional Coping Inventory (Endler & Parker, 1990), the Coping Strategies Inventory (Tobin, Holroyd, Reynolds, & Wigal, 1989), and the COPE inventory (Carver, Scheier, & Weintraub, 1989; for yet other measures see Billings & Moos, 1981, 1984; McCrae, 1982, 1984; Pearlin & Schooler, 1978; Stone & Neale, 1984). Although the various measures differ from one another in other respects, they all assess both problem-focused coping responses and responses directed to aspects of the situation other than the stressor *per se*. The measures also typically assess coping responses that seem potentially dysfunctional as well as adaptive responses. Studies using the various measures have shown that there is merit in examining both aspects of coping (e.g., Aldwin & Revenson, 1987; Billings & Moos, 1984; Bolger, 1990; Felton, Revenson, & Hinrichsen, 1984; Folkman & Lazarus, 1985; Holahan & Moos, 1985; Rohde, Lewinsohn, Tilson, & Seeley, 1990; Vaillant, 1977; Wills, 1986).

I focus for the remainder of this article on the COPE inventory (Carver et al., 1989). This measure was derived in part from the then-extant literature of coping, in part from the Lazarus and Folkman (1984) model of coping, and partly from the Carver and Scheier (1981, 1990) model of behavioral self-regulation. The COPE comprises 15 scales, each with a specific conceptual focus. Several scales focus

¹ The initial publication of the COPE (Carver et al., 1989) reported data concerning 13 scales. As noted in a footnote to that article, two further scales had been developed beyond those reported on in detail in that article. The inventory as distributed has included all 15 of the scales.

explicitly on theoretically meaningful aspects of coping; others were included because previous evidence suggested the importance of those particular aspects of coping.

The COPE has been used in a number of health-relevant studies. The available evidence suggests that many of the coping responses that it assesses are important in the coping process and some are predictive of prospective physiological effects. With respect to distress as an endpoint, denial and behavioral disengagement both have been found to be prospective predictors of distress in a study of HIV-positive men (Antoni et al., 1991) and another study of women diagnosed with breast cancer (Carver et al., 1993). Acceptance as a coping response was a prospective predictor of lower distress in the latter study, and also in a study of symptomatic HIV-positive men (Lutgendorf et al., in press). With respect to physiological endpoints, Ironson et al. (1994) found that denial and behavioral disengagement in response to a positive HIV diagnosis predicted greater disease progression a year later (see also Antoni, Esterling, Lutgendorf, Fletcher, & Schneiderman, 1995).

The full COPE is a 60-item instrument with 4 items per scale. Within a given scale, the item content has considerable redundancy. We have found that patient samples become impatient with completing the full COPE (Carver et al., 1993), partly because of its length and partly because of this redundancy. The impatience on participants' part caused us to use only three items per scale in the study reported by Carver et al. (1993). In this article I report on the creation of an even briefer form. This Brief COPE consists of 14 scales, of two items each. Two scales from the full measure were omitted from the brief form because they had not proven useful in previous work. Three other scales were refocused slightly, as described next, because they had proven to be problematic in previous work. One scale—not part of the original COPE—was added, because of evidence of the importance of this response. Data concerning the reliability and validity of the Brief COPE also are reported here. These data come from a sample of community residents who were participating in a study of responses to a natural disaster: Hurricane Andrew.

METHOD

Reduction of Scales

Restraint Coping and Suppression of Competing Activities scales were omitted from consideration in the work reported here, the former because it had not proven to be of value in previous research, and the latter because its value had proven redundant with that of the Active Coping scale. For the remaining scales (with three exceptions described next), I used two criteria to select two items for each scale: The first criterion was that there must have been a high loading on the relevant factor in the original factor analyses (Carver et al., 1989). The second criterion, stemming

from information gathered in our field experience with the full instrument over several years, was the item's clarity and ease of communication with nonstudent populations.

Three of the original scales underwent further slight modification intended to sharpen their focus. The scale initially termed Positive Reinterpretation and Growth became Positive Reframing (omitting any mention of growth). The scale originally termed Focus on and Venting of Emotions became Venting (the "focusing" aspect of the previous items appeared to relate too closely to experiencing distress and thus it created a built-in relation to distress as an outcome). The scale originally termed Mental Disengagement became Self-Distraction (focusing more explicitly on doing things to take one's mind off the stressor).

A final step in item selection was the addition of a brief scale not contained in the original COPE. The original COPE did not have a measure of self-blame. Self-blame has been found, in research using other coping measures, to be a predictor of poor adjustment under stress (Bolger 1990; McCrae & Costa, 1986). For this reason, I wrote two items to reflect self-blaming tendencies.

The items of the resulting Brief COPE are listed in Table 1, along with the scale names. The items as shown in Table 1 are in a format that is situational and retrospective. Response options in this format range from 0 (*I haven't been doing this at all*) to 3 (*I've been doing this a lot*). The items can also be converted to a dispositional "coping style" format (Carver et al., 1989) or a situational concurrent format, by changing verb forms.

Data Collection for Reliability Information

The brief COPE was included in a large battery of assessment devices administered to a sample of community residents who were participating in a study of recovery after Hurricane Andrew (David et al., 1996; Ironson et al., 1997). Coping data from that project are presented here as they pertain to the internal structure of the scales of the Brief COPE. The use of this sample has the disadvantage that the sample is not as large as it might be. It has the advantage, however, of being a nonstudent sample under a good deal of real-life stress.

The sample began with 168 participants recruited from the community that had been seriously affected by the hurricane. This was a sample of convenience, rather than a random sample. An effort was made, however, to ensure diversity of ethnicity and socioeconomic status. The sample was approximately 66% female. Participants were primarily non-Hispanic Whites (40%), with substantial numbers of African Americans (34%) and Hispanics (17%), and a smaller number of Asians (5%). Initial data collection took place between 3 and 6 months post-hurricane. Six months later (while rebuilding was in full swing), 124 of these participants completed a second assessment. A third assessment took place 1 year later, with

TABLE 1
Items of the Brief Cope, by Scale

1. Active Coping ($\alpha = .68$)	I've been concentrating my efforts on doing something about the situation I'm in. I've been taking action to try to make the situation better.
2. Planning ($\alpha = .73$)	I've been trying to come up with a strategy about what to do. I've been thinking hard about what steps to take.
3. Positive Reframing ($\alpha = .64$)	I've been trying to see it in a different light, to make it seem more positive. I've been looking for something good in what is happening.
4. Acceptance ($\alpha = .57$)	I've been accepting the reality of the fact that it has happened. I've been learning to live with it.
5. Humor ($\alpha = .73$)	I've been making jokes about it. I've been making fun of the situation.
6. Religion ($\alpha = .82$)	I've been trying to find comfort in my religion or spiritual beliefs. I've been praying or meditating.
7. Using Emotional Support ($\alpha = .71$)	I've been getting emotional support from others. I've been getting comfort and understanding from someone.
8. Using Instrumental Support ($\alpha = .64$)	I've been trying to get advice or help from other people about what to do. I've been getting help and advice from other people.
9. Self-Distraction ($\alpha = .71$)	I've been turning to work or other activities to take my mind off things. I've been doing something to think about it less, such as going to movies, watching TV, reading, daydreaming, sleeping, or shopping.
10. Denial ($\alpha = .54$)	I've been saying to myself "this isn't real." I've been refusing to believe that it has happened.
11. Venting ($\alpha = .50$)	I've been saying things to let my unpleasant feelings escape. I've been expressing my negative feelings.
12. Substance Use ($\alpha = .90$)	I've been using alcohol or other drugs to make myself feel better. I've been using alcohol or other drugs to help me get through it.
13. Behavioral Disengagement ($\alpha = .65$)	I've been giving up trying to deal with it. I've been giving up the attempt to cope.
14. Self-Blame ($\alpha = .69$)	I've been criticizing myself. I've been blaming myself for things that happened.

126 persons participating. All of these assessments were used (separately) to evaluate the reliability of the scales.

RESULTS

I used two procedures to assess the soundness of the internal structure of the Brief COPE. First, although the sample was relatively small for this purpose, I conducted an exploratory factor analysis on the item set using an oblique rotation to permit correlations among factors. This analysis yielded nine factors with eigenvalues greater than 1.0, which together accounted for 72.4% of the variance in responding. (All primary loadings exceeded .4, and 22 of 28 were above .6; only six secondary loadings exceeded .3, and only one of them exceeded .4.)

Four a priori scales formed distinct factors: Substance Use, Religion, Humor, and Behavioral Disengagement. Use of Emotional Support and Use of Instrumental Support formed a single factor, as had occurred in the original analyses of the full COPE (Carver et al., 1989). As was also true of the original COPE, Active Coping and Planning items loaded on a single factor; unlike the original COPE, the Positive Reframing items also loaded on that factor. In two further cases (both involving new or newly refocused scales), items from two a priori scales loaded together on a single factor. One such factor was composed of the items from the Venting and Self-Distraction scales. The other was composed of the items from the Denial and Self-Blame scales. In only one case did the items of an a priori scale load on separate factors: One Acceptance item loaded by itself on its own factor; the other item loaded on the Active Coping factor (.52), but with a strong secondary loading (.47) on the Acceptance factor. In brief, although the factor structure emerging from the Brief COPE in this sample was not perfect, it was remarkably similar to that reported earlier for the full inventory.

A second indicator of the internal structure of the Brief COPE came from reliability analyses. Table 1 includes alpha reliabilities averaged across the three administrations of the COPE in this sample. As can be seen there, despite the fact that the scales are only two items each, their reliabilities all meet or exceed the value of .50 regarded as minimally acceptable (Nunnally, 1978). Indeed, all exceeded .60 except for Venting, Denial, and Acceptance. These data thus are supportive of the internal reliability of the abbreviated scales.

DISCUSSION

Research on the effects of coping has evolved to a point where more work is being done in applied settings with populations whose stress is relatively severe. Given the difficulty of obtaining such samples and the expense of conducting prospective,

repeated-measures research, behavioral scientists have tended to shift to a strategy of testing multiple hypotheses with the same sample. These different hypotheses typically involve different measures. Thus, this research strategy tends to place a relatively large response burden on research participants. As a result, there has come to be a premium on brevity in the assessment instruments used in such studies.

This article reports on a brief measure of coping reactions, based on the COPE inventory (Carver et al., 1989). The Brief COPE includes only 28 items, which measure 14 conceptually differentiable coping reactions. Some of these reactions are known to be generally adaptive; others are known to be problematic. The Brief COPE thus provides researchers a way to assess potentially important coping responses quickly. Data from a study of survivors of Hurricane Andrew indicate that the *a priori* scales have adequate internal reliability. An exploratory factor analysis yielded a factor structure that was generally consistent with that reported earlier for the full COPE. Although there were four instances in which two (or, in one case, three) *a priori* scales joined into a single factor, two of these instances also occurred in the original COPE. In only one case did the items of a given scale load on separate factors, and in this case the errant item had a very strong secondary loading on the expected factor. Given the relatively small ratio of participants to items in this sample, the clarity of the factor structure might even be regarded as surprisingly good.

One aspect of the outcome of the factor analysis deserves further brief mention. The two, two-scale factors that had not appeared in the original full-scale COPE both involved new or newly refocused scales. In each case, the pairing of scales in the emerging factor is very interesting. One factor involved both Venting (which entails a focusing on the stress) and Self-Distraction (which entails a focusing away from the stress). The other factor involved both Self-Blame (criticizing oneself for responsibility in the situation) and Denial (trying to push the reality of the situation away). In each case, there is the suggestion of a dialectical tension between opposing forces. The fact that in each case the opposing forces come together in a single factor (i.e., the forces tend to appear together, when they appear at all) is extremely intriguing. This is a pattern that surely bears further investigation.

The Brief COPE is intended to foster a wider examination of coping in naturally occurring settings. To that end, I close with two brief methodological points. First, as was true of the original COPE inventory, the instrument need not be used in an all-or-none fashion. Researchers who have very focused interests, or who have extreme time demands, can selectively use the scales that are of greatest interest in their samples. Second, as also was true of the original COPE, the items in Table 1 can potentially be used in many ways. They can assume a retrospective, situational format (as listed in Table 1), a concurrent, situational format (e.g., "I'm doing things to try to take my mind off the situation"), or even a dispositional format (e.g., "I do things to try to take my mind off the situation"). Each of these changes in format necessitates changes in the phrasing of response options and orienting instructions.

However, the flexibility of application of the items is determined by the needs and imagination of the researcher who is using them.

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