

TEST-RETEST RELIABILITY OF THE DISPOSITIONAL RESILIENCE SCALE-15, A BRIEF HARDINESS SCALE¹

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Summary.—Test-retest correlations provide the most appropriate estimate of reliability when short scales are used to measure complex constructs. A brief, 15-item hardiness scale was developed from a longer version known as the Dispositional Resilience Scale (DRS), which first appeared in 1989. This short hardiness scale (DRS-15) has the advantages of brevity, good internal consistency, and validity (Bartone, 1995, 1999); however, test-retest reliability has not yet been estimated. The present study addresses this issue, using a sample of 104 military academy cadets. The 3-wk. test-retest reliability coefficient was .78.

Hardiness is a personality style associated with resilience, good health, and performance under stressful conditions (Maddi & Kobasa, 1984; Bartone, 1999; Ramanaiyah, Sharp, & Byravan, 1999). A short, 15-item hardiness measure (DRS-15) was derived from a longer (30-item) version and has shown good internal consistency ($\alpha = .82$) and criterion-related validity across multiple samples (Bartone, 1995, 1999). The 30-item version is a short form of the original 45-items (Bartone, Ursano, Wright, & Ingraham, 1989; Bartone, 1991). Efforts to create a short hardiness scale were spurred by the need for a scale that could be completed quickly and easily by respondents, while eliminating any items only weakly associated with the core construct. Scores on the DRS-15 version correlate .84 with the 30-item version ($N = 1193$ Army males, unpublished data). The present study estimated the test-retest reliability of this 15-item hardiness scale.

The DRS-15 was completed by 104 undergraduate freshmen at the U.S. Military Academy, West Point as part of a larger study. The sample was 86.5% male, and 13.5% female, with a mean age of 18.9 yr. Three weeks later, the same group completed the version again. Pearson correlation coefficients were computed for total hardiness scores and for the hardiness subscales of Commitment, Control, and Challenge, over the 3-wk. interval.

The 3-wk. test-retest reliability coefficient for the DRS-15 was .78. Corresponding test-retest coefficients for the three hardiness subscales, with five items each, were Commitment = .75, Control = .58, and Challenge = .81. These coefficients indicate acceptably high reliability for both the scale and

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subscales, although some caution may be warranted with respect to the Control scale.

Cronbach coefficient alpha is by far the most commonly used index of reliability for self-report scales. But Cronbach alpha reflects the internal consistency of scale items and can underestimate reliability when a complex construct is measured with relatively few items. In such cases, test-retest reliability is the preferred approach (Anastasi & Urbina, 1997). The 3-wk. test-retest coefficient of .78 reported here indicates high reliability for the DRS-15 short hardiness scale.

REFERENCES

- ANASTASI, A., & URBINA, S. (1997) *Psychological testing*. (7th ed.) Upper Saddle River, NJ: Prentice-Hall.
- BARTONE, P. T. (1991, June) Development and validation of a short hardiness measure. Paper presented at the American Psychological Society Annual Convention, Washington, DC.
- BARTONE, P. T. (1995, June) A short hardiness scale. Paper presented at the American Psychological Society Annual Convention, New York.
- BARTONE, P. T. (1999) Hardiness protects against war-related stress. *Consulting Psychology Journal*, 51, 72-82.
- BARTONE, P. T., URSANO, R. J., WRIGHT, K. W., & INGRAHAM, L. H. (1989) The impact of a military air disaster on the health of assistance workers: a prospective study. *Journal of Nervous and Mental Disease*, 177, 317-328.
- MADDI, S. R., & KOBASA, S. C. (1984) *The hardy executive*. Homewood, IL: Dow Jones-Irwin.
- RAMANAIAH, N. V., SHARP, J. P., & BYRAVAN, A. (1999) Hardiness and major personality factors. *Psychological Reports*, 84, 497-500.

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Addendum: DRS-15(v 3.2)

Instructions: Below are statements about life that people often feel differently about. Please check a box to show how much you think each one is true for you. Give your own honest opinions... There are no right or wrong answers!

1. Most of my life gets spent doing things that are meaningful (CM)
2. By working hard you can nearly always achieve your goals (CO)
- *3. I don't like to make changes in my regular activities (CH)
- *4. I feel that my life is somewhat empty of meaning (CM)
5. Changes in routine are interesting to me (CH)
6. How things go in my life depends on my own actions (CO)
7. I really look forward to my daily activities (CM)
- *8. I don't think there's much I can do to influence my own future (CO)
9. I enjoy the challenge when I have to do more than one thing at a time (CH)
10. Most days, life is really interesting and exciting for me (CM)
- *11. It bothers me when my daily routine gets interrupted (CH)
12. It is up to me to decide how the rest of my life will be (CO)
- *13. Life in general is boring for me (CM)
- *14. I like having a daily schedule that doesn't change very much (CH)
15. My choices make a real difference in how things turn out in the end (CO)

Response options: 0 = Not at all true; 1 = A little true; 2 = Quite true; 3 = Completely true.
Scoring:

*Asterisks indicate items that are negatively keyed and must be reversed before scoring , as follows: (0 = 3; 1 = 2; 2 = 1; 3 = 0).

To obtain scale and subscale scores, sum responses to items and appropriate subscale items.
CM=commitment; CO=control; CH=challenge
Total hardiness = Sum of (CM+CO+CH)