

BRIEF COMMUNICATION

The stability of the Ways of Coping (Revised) Questionnaire over time in parents of children with Down's syndrome: a research note

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SYNOPSIS The stability of the Ways of Coping (Revised) Questionnaire over time was assessed by comparing the scores of 68 mothers and 53 fathers of school-aged children with Down's syndrome over a 3-year time interval on the five coping strategy subscales described by Knussen *et al.* (1992). For this analysis, mothers' and fathers' scores were analysed separately. It was shown by *t* tests that mothers' and fathers' scores on the coping strategy subscales had not significantly changed over the three-year period. Time 1 and Time 2 scores on all of the coping subscales were strongly positively associated, with the exception of fathers' scores on the Stoicism subscale. Test–retest reliability was adequate for all subscales except mothers' scores on the Passive Acceptance subscale and fathers' scores on the Stoicism subscale. These results, by demonstrating the stability of the Ways of Coping (Revised) Questionnaire over a 3-year time period, further illustrate the utility of this instrument for investigating coping in families with special problems.

INTRODUCTION

The cognitive model of stress and coping developed by Lazarus & Folkman (1984) has had a considerable impact on the study of coping and adaptation in families with a child with a disability (Friedrich *et al.* 1985). A measure of coping developed in accordance with this theoretical model, the Ways of Coping (Revised) Questionnaire (WC-R) (Folkman & Lazarus, 1985), has been suggested to be a potentially valuable instrument for investigating coping in families with special problems. Knussen *et al.* (1992), using the WC-R with a British sample of 182 parents of children with Down's syndrome, demonstrated that questionnaire subscales representing different coping strategies showed adequate internal reliability and psychometric properties. The WC-R has also been shown to have validity in its pattern of

associations with outcome variables such as stress and satisfaction with life (Vitaliano *et al.* 1987; Sloper *et al.* 1988, 1991). However, no published information concerning the stability of scores on the WC-R over time in parents of children with a disability is currently available. This research note assesses the stability of parental scores on the WC-R over a 3-year time period in parents of children with Down's syndrome. Here, stability over time is meant in two senses; first, whether parental scores on the WC-R increase or decrease over time; and secondly, whether the pattern of parental responses on the WC-R changes over time.

METHOD

Sample

The sample consisted of parents from the Manchester Down's Syndrome Cohort (Sloper *et al.* 1988). Postal contact was attempted with all parents of children with Down's syndrome (parents in 127 families) in the cohort at the time of the study. Separate copies of the questionnaire

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were included for mothers and fathers. Returns were received from parents of children with Down's syndrome in 83 families (69% of possible respondents), 68 of which contained two parents. The WC-R questionnaires were returned throughout the spring and summer of 1990, and were compared to WC-R data collected on the Manchester Down's Syndrome Cohort throughout 1986 and 1987, approximately 3 years earlier. The mean age of the children in 1990 was 12.2 years (range 9 to 17 years). Respondents in 1986/7 and 1990 showed no significant differences in social class distribution, number of families with an unemployed father and number of male children, although there were more single parent families in 1990 compared to 1986/7. Also, *t*-test comparison of 1990 respondents *v.* 1990 non-respondents on demographic information collected in 1986/7 revealed no significant differences. For ease of interpretation single parent responses were not included in the study.

Procedure

Parents were contacted by letter informing them of the nature of the research. Following their agreement to participate, a questionnaire booklet (including the WC-R) was sent to parents to complete and return. Parents were asked to complete the questionnaires without collaboration with partners. Further copies of the questionnaire booklet and letters were sent to non-respondents.

Measures

Ways of Coping (Revised) Questionnaire (WC-R)

The measure used to assess parental coping in both 1986/7 and 1990 was the WC-R (Folkman & Lazarus, 1985), slightly modified for a UK sample (see Sloper *et al.* 1988, for more details). The WC-R consists of 66 items representing thoughts and actions which can be used to deal with the demands of a stressful encounter. Respondents rate each item on a four-point Likert scale, from 'not used' to 'used a great deal'.

Knussen *et al.* (1992) factor analysed the WC-R from the 1986/7 data to produce five subscales representing different coping strategies: Practical Coping (17 items); Wishful Thinking (18 items); Stoicism (5 items); Seeking Emotional Social

Support (5 items); and Passive Acceptance (3 items). Responses to the 1990 questionnaire were coded into the same five subscales for comparison.

Scores on the WC-R were originally obtained by summing the scores of each item in a subscale to produce a raw score (e.g. Folkman & Lazarus, 1985). However, Vitaliano *et al.* (1987) suggested that relative scores (the proportion of total endorsements of items falling within each subscale) offered more insight into coping processes, by taking into account individual differences in overall response rates (Folkman *et al.* 1987). Both Vitaliano *et al.* (1987) and Knussen *et al.* (1992) found that relative scores were more strongly associated with predicted outcome measures than raw scores. Therefore, relative scores rather than raw scores were used to test the stability of scores on the WC-R over time.

RESULTS

For inclusion in the analyses, parents had to be in a two-parent family, and parents had to have completed the WC-R in both 1986/7 and 1990. Using these criteria, responses from 68 mothers and 53 fathers were available for analysis. A *t* test comparison of 1990 respondents *v.* 1990 non-respondents on 1986/7 coping scores and demographic information revealed no significant differences, suggested that the 1990 sample is representative of the larger 1986/7 sample.

Paired samples *t* tests were conducted on all five coping subscales for mothers and fathers separately, to look for increases or decreases in coping subscale scores between 1986/7 and 1990 (see Table 1). As Table 1 shows, there were no significant differences between 1986/7 and 1990 on any coping subscale score for either mothers or fathers. Thus, mothers and fathers did not report any proportional increase or decrease in their use of coping strategies between 1986/7 and 1990.

Correlations were used to look for changes in the pattern of mothers' and fathers' 1986/7 and 1990 responses on all five coping subscales (see Table 1). As Table 1 shows, mothers' 1986/7 and 1990 scores on all coping subscales were strongly positively associated, indicating that the pattern of scores on the coping subscales had remained relatively stable over the 3-year time

Table 1. Results from *t* tests, correlations and alpha reliabilities between 1986/7 and 1990 scores on all five WC-R subscales, mothers and fathers analysed separately

	<i>t</i> tests		Correlations		Test-retest	
	Mothers	Fathers	Mothers	Fathers	Mothers	Fathers
Practical coping	+1.93	-0.68	+0.47**	+0.66**	+0.67	+0.82
Wishful thinking	-0.51	-0.47	+0.52**	+0.63**	+0.71	+0.79
Stoicism	+0.50	+0.56	+0.41**	+0.22	+0.63	+0.39
Seeking emotional social support	-1.06	+1.48	+0.53**	+0.47**	+0.74	+0.68
Passive acceptance	-0.72	-0.83	+0.33**	+0.60**	+0.42	+0.75

** $P < 0.01$.

period. A similar pattern was evident for fathers, except that there was no association between 1986/7 and 1990 scores on the Stoicism subscale.

Finally, alpha reliabilities on mothers' and fathers' 1986/7 and 1990 scores on all five coping subscales were calculated (see Table 1). A strictly parallel test of goodness-of-fit was used to provide a stringent test of test-retest reliability (Norušis/SPSS Inc, 1992). Table 1 shows that, for mothers, four out of five subscales showed adequate (i.e. $\alpha > 0.6$) levels of test-retest reliability, with only the Passive Acceptance subscale failing to reach an adequate level of test-retest reliability. For fathers, all the coping subscales except Stoicism showed adequate levels of test-retest reliability.

DISCUSSION

Overall, this study shows a high degree of stability in parental WC-R scores over a 3-year time period. Both mothers and fathers reported no overall proportional increases or decreases in their use of any coping strategy between 1986/7 and 1990. This study is agnostic as to the cause of this stability; highly stable circumstances or personal dispositions towards particular coping strategies are both possible explanations of these results.

This study, perhaps more importantly, demonstrates that the pattern of parental responses to the WC-R is generally highly stable over time. Both the correlations and the test-retest reliabilities indicate the stability of the WC-R between 1986/7 and 1990, reinforcing suggestions that the WC-R is a useful instrument for investigating coping in families with a child with a disability (Knussen *et al.* 1992). The

representativeness of the 1990 sample of parents suggests that the results are readily generalizable to the larger cohort of parents from which they were drawn, and hence to UK parents of children with Down's syndrome. There are some suggestions from this study that the Practical Coping, Wishful Thinking and Seeking Emotional Social Support subscales may be more stable over time than the Stoicism and Passive Acceptance subscales. It is worth noting that the more stable subscales are also those which overlap more closely with other studies and which are more strongly associated with outcome measures (Knussen *et al.* 1992). This supports the view that measures of parental coping could be useful tools for intervention (Byrne & Cunningham, 1985; Donovan, 1988; Sloper *et al.* 1991), since the coping strategies crucial for intervention tend to be stable over time.

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REFERENCES

- Byrne, E. A. & Cunningham, C. C. (1985). The effects of mentally handicapped children on families - a conceptual review. *Journal of Child Psychology and Psychiatry* 26, 847-864.
- Donovan, A. M. (1988). Family stress and ways of coping with adolescents who have mental handicaps: maternal perceptions. *American Journal on Mental Retardation* 92, 502-509.
- Folkman, S. & Lazarus, R. S. (1985). If it changes it must be a process: study of emotion and coping during three stages of a college examination. *Journal of Personality and Social Psychology* 48, 150-170.

- Friedrich, W. N., Wiltner, L. T. & Cohen, D. S. (1985). Coping resources and parenting mentally retarded children. *American Journal on Mental Retardation* **90**, 130–139.
- Knussen, C., Sloper, P., Cunningham, C. C. & Turner, S. (1992). The use of the Ways of Coping (Revised) questionnaire with parents of children with Down's syndrome. *Psychological Medicine* **22**, 775–786.
- Lazarus, R. S. & Folkman, S. (1984). *Stress, Appraisal and Coping*. Springer Publishing Co: New York.
- Norušis, M./SPSS Inc. (1992). *SPSS for Windows: Base System User's Guide, Release 5.0*. SPSS Inc.: Chicago.
- Sloper, P., Cunningham, C. C., Knussen, C. & Turner, S. (1988). *A Study of the Process of Adaptation in a Cohort of Children with Down's Syndrome and their Families*. University of Manchester, Final Report to DHSS: Manchester.
- Sloper, P., Knussen, C., Turner, S. & Cunningham, C. C. (1991). Factors related to stress and satisfaction with life in families of children with Down's syndrome. *Journal of Child Psychology and Psychiatry* **32**, 655–676.
- Vitaliano, P. P., Maiuro, R. D., Russo, J. & Becker, J. (1987). Raw versus relative scores in the assessment of coping strategies. *Journal of Behavioral Medicine* **10**, 1–18.