The Brief COPE in cancer research

Matthew Hankins[1], Claire Foster[1], Nick Hulbert-Williams[2], Matthew Breckons[1] Contact: m.hankins@soton.ac.uk

1 Macmillan Survivorship Research Group, Faculty of Health Sciences, University of Southampton, UK
2 Department of Psychology, University of Chester

Introduction

The number of people living with and beyond cancer is growing steadily (Macmillan, 2008). The need to understand the problems faced following treatment and how they are resolved is becoming increasingly important for cancer survivors, service planners and health policy makers (Foster & Fenlon, 2011).

The Brief COPE (Carver, 1997) is often used in research to assess coping strategies used by cancer patients at various stages (e.g. Horney et al., 2011; Scrignaro et al., 2011). It was developed from the much longer COPE (Carver et al., 1989), and this short version scale consists of 28 items, each assessed on a four-point Likert scale. The scale was initially reported to have acceptable reliability and validity data; however reliability was highly variable, ranging from .50 to .90 (Carver, 1997).

Individual items are grouped into 14 subscales ranging in score from 0 to 6 (0-3 per item contributing to each subscale): Active coping, Planning, Positive reframing, Acceptance, Humour, Religion, Using emotional support, Using instrumental support, Self-distraction, Denial, Venting, Substance use, Behavioural disengagement and Self-blame.

Aim

To explore the reliability and factor structure of the Brief COPE for cancer research using data from three separate studies.

Methods

Brief COPE data were collected in three separate studies: Study 1 with 182 people who had completed primary treatment for various cancers in past 12 months (Breckons et al., 2012); study 2 (Hulbert-Williams et al 2012) with 160 people newly diagnosed with breast, colorectal, lung or prostate cancer; study 3 with 130 people with breast, colorectal, lung or prostate cancer 2 to 12 months post-diagnosis.

Reliability of subscales was assessed cross-sectionally within each sample using Cronbach's Alpha. Factor structure was examined using exploratory and confirmatory factor analysis on pooled data (N=472).

Results

Sample characteristics (size, age, sex) are shown in Table 1.

Table 1: participant characteristics for the 3 studies

	Study 1	Study 2	Study 3
N	182	160	130
Female (%)	80.9	60.6	56.5
Male (%)	19.1	39.4	43.5
Age (years)			
Mean	50.0	64.2	63.9
SD	9.6	9.9	11.7
Min - Max	23.0 – 79.0	35.0 – 89.4	32.0 – 90.0

Scale reliability varied widely across scales and samples (See Table 2: alpha range 0.40 to 0.96), equating to measurement error of between 4% and 60%. Scales with low reliability (alpha<0.70) were Acceptance, Self-distraction, Behavioural disengagement, Venting and Denial. Scales with high reliability (Alpha>0.80) were Emotional support, Substance use, Religion and Humour.

Factor analysis results were consistent with either a smaller number of coping strategies or highly correlated scales: the proposed structure of 14 subscales was not supported by the pooled data.

Table 2: Reliability (Alpha) for Brief COPE subscales

Subscale	Study 1	Study 2	Study 3
Self-distraction	0.56	0.56	0.57
Active coping	0.90	0.68	0.76
Denial	0.68	0.71	0.66
Substance use	0.96	0.81	0.89
Use of emotional support	0.87	0.74	0.85
Use of instrumental support	0.85	0.73	0.72
Behavioural disengagement	0.76	0.64	0.48
Venting	0.76	0.54	0.64
Positive reframing	0.77	0.73	0.59
Planning	0.89	0.73	0.71
Humour	0.96	0.83	0.93
Acceptance	0.74	0.42	0.40
Religion	0.89	0.93	0.89
Self-blame	0.79	0.71	0.81

Conclusions

The Brief COPE measures coping strategies with varying reliability, with some scales falling far below acceptable thresholds.

The proposed structure of 14 subscales was not supported by the analysis of the pooled data, suggesting either that people did not employ 14 separate coping strategies, or that coping strategies are 'clustered' and highly interdependent.

The kinds of coping strategies used by people with cancer should be clarified with more detailed qualitative research and the development of more reliable measures if the concept is to retain any utility in cancer research.

References

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