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Abstract

This study examined a stress/coping model of adjustment in early caregiving. It was hypothesized that better adjustment would be related to higher social support and approach coping, and lower stress appraisals and avoidant coping. One hundred young carers aged 10–25 years completed questionnaires. Predictors included choice in caregiving, social support, stress appraisal and coping. Dependent variables were global distress and positive outcomes (life satisfaction, positive affect, benefits). Correlations supported all hypothesized relations between the stress/coping predictors and adjustment outcomes. Regression analyses showed social support as the strongest predictor of adjustment, whereas coping and choice in caregiving emerged as weaker predictors and stress appraisal was unrelated to adjustment. The stress/coping framework and findings have the potential to inform interventions designed to promote well-being in young carers.

Keywords

- *adjustment*
- *caregiving*
- *coping*
- *social support*
- *stress*
- *young carers*

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YOUNG people who have a family member with an illness/disability often assume responsibility for their care and have been referred to as young carers. Although the impact of caregiving on adult carers has been well documented, few studies have examined the effects of caregiving on children caring for an ill/disabled family member. There are an estimated 347,666 young carers aged under 25 years in Australia (Australian Bureau of Statistics, 2003); however, this is likely to be an underestimation because of the 'hidden' nature of young caregiving and the tendency for young people not to identify themselves as 'carers' (Aldridge & Becker, 1993a, 1993b). Although prior studies show that caring for a parent with an illness/disability may be stressful for young people, few studies have examined predictors of adjustment to early caregiving. The purpose of the present study is to examine the utility of a stress and coping model in accounting for adjustment outcomes in young carers. Furthermore, previous studies have primarily examined the negative impacts of early caregiving, despite findings from qualitative studies that have shown that young carers experience positive, as well as negative, outcomes. Hence, the present study adopts a broader conceptualization of young carer adjustment that simultaneously takes into account both positive and negative outcomes and examines the role of stress and coping predictors in shaping both types of caregiving outcomes.

Definitions used to describe young people who care for a relative or friend include terms such as 'primary carer' (e.g. those considered to be the main provider of care), and 'secondary carer' (e.g. those who are not considered the main providers of care, but who do assist with the caring role). Often definitions of what constitutes a young carer are influenced by the duties young people assume and the associated restrictions imposed upon them as a result (e.g. Newman, 2002), while others have defined young carers more broadly. It has been argued that restrictive definitions limit the exploration of young people in different caregiving situations and risk excluding those who may be providing care and who may benefit from services (Newman, 2002). Given the evidence that children do not always identify themselves as carers, and the lack of data regarding the characteristics and roles of these young people, recruitment in the present study did not require potential participants to self-identify as 'young carers'. In addition, this study focused on children of an ill/disabled parent because most recipients of caregiving provided by youngsters are parents, particularly mothers (Dearden & Becker, 1998). Worsham, Compas and Sydney (1997) estimated that in the USA 5–15 per cent of children and adolescents are likely to have parents who suffer from a significant medical condition. Hence, for the purposes of the present research young people aged between 10 and 25 years who had a parent with an illness/disability were recruited.

We could find no published studies that had examined psychosocial predictors of adjustment in young carers within an established theoretical framework. Although several surveys have been conducted (Dearden & Becker, 1995, 1998, 2004), most of the young carer research is descriptive and has relied on qualitative methods (e.g. Aldridge & Becker, 1994; Becker, 1995; Dearden & Becker, 2000; Frank, 1995). Further, much of this research has been conducted in the United Kingdom by Becker and colleagues (e.g. Aldridge & Becker, 1994; Dearden & Becker, 1995) who have in the main recruited samples from young carers attending support services (Newman, 2002).

The research to date suggests that young carers often face multiple difficulties associated with their caregiving including isolation, managing adult family roles and responsibilities, restrictions on school and leisure activities, stigma associated with their parent's illness/disability, worry about their parent's health and safety and the external (expectations of others) and internal (self-imposed) pressures to care (Banks et al., 2002; Bursnall, Pakenham, Cannon, & Murphy, forthcoming; Lackey & Gates, 2001). Anecdotal evidence also suggests, however, that the caring role may result in positive outcomes including enhanced skill development, maturity, independence, self-efficacy, self-reliance, self-esteem, sensitivity and empathy for others and a fostered capacity to accept responsibility (Kornblum & Anderson, 1985; Segal & Simkins, 1993). Clearly, a better understanding of the positive and negative impact of caring on adjustment is needed to inform future research and practice.

Early caregiving adjustment outcomes

Emotional distress is the most widely researched negative outcome of early caregiving, with young carers showing higher levels of distress than comparison groups of young people (Banks et al., 2002;

Pakenham, Bursnall, Chiu, Cannon, & Okochi, 2006). Reviews of studies that have examined the impact of specific parental illnesses/disabilities on children suggest that parental illness is associated with moderate levels of psychological distress and maladjustment in children (Armistead, Klein, & Forehand, 1995; Worsham et al., 1997). There is also evidence to suggest that parental illness disrupts family roles and functioning and that those children who take on more family responsibilities are more likely to experience higher psychological distress (Grant & Compas, 1995).

In addition to distress, the present study also examined the positive outcomes of positive affect, life satisfaction and benefit finding. Although we could find no published studies of young carers that had examined these positive outcomes quantitatively, there are large bodies of research that have examined markers of resilience in children (see review by Alvord & Grados, 2005) and antecedents to positive outcomes in adult caregiving (e.g. Pakenham, 2005a). Positive affect represents the affective dimension of well-being (Pakenham, 2005b), whereas life satisfaction reflects the cognitive dimension of well-being and is referred to as a judgemental process, in which individuals assess the quality of their lives on the basis of their own set of criteria (Pavot & Diener, 1993). Benefit finding represents the meaning dimension of well-being. Adult carers report benefits including personal growth, the strengthening of relationships and a change in life's priorities (e.g. McCausland & Pakenham, 2003; Pakenham, Sofronoff, & Samios, 2004). Young carers also report benefits (e.g. perceived maturity and acquisition of skills) from their caregiving roles (e.g. Kornblum & Anderson, 1985; Segal & Simkins, 1993).

Stress and coping

Much of the research that has examined the role of coping in adaptation to adult caregiving (e.g. Goode, Haley, Roth, & Ford, 1998; Pakenham, 2002) has been guided by Lazarus and Folkman's (1984) stress and coping theory. Although various stress process models of caregiving have been derived from this theory, most are based on the premise that adjustment to caregiving and the care receiver's illness is determined by the caregiving context and three mediational processes: appraisal, coping strategies and coping resources. There is support for the application of the model to adult caregiving (e.g. Goode et al., 1998; Pakenham, 1998, 2001). To date the young carer research has not been theory driven and consequently this framework has not been applied, although it has been used to explain the process of adaptation to stress associated with having a parent with an illness/disability (e.g. Langrock, Compas, Keller, Merchant, & Copeland, 2002).

Appraisal

Appraisal is an evaluative process that reflects the person's subjective interpretation of the event. The appraisal of a caregiving-related event as stressful will likely generate stress that may exceed the coping resources available to the carer. The link between stress appraisals and poor adjustment has been well established in adult carer studies (Pakenham, 2001, 2002). In addition, Compas, Worsham, Ey and Howell (1996) found that children who reported higher levels of appraised stress associated with parental cancer reported higher distress.

Coping

Coping is defined as 'constantly changing cognitive and behavioural efforts to manage specific external and/or internal demands that are appraised as taxing or exceeding the resources of the person' (Lazarus & Folkman, 1984, p. 141). Although numerous classification systems of coping strategies have been proposed (see review by Skinner, Edge, Altman, & Sherwood, 2003), several researchers who have examined coping in adolescents have found support for the categorization of coping strategies into approach or avoidant strategies (e.g. Connor-Smith, Compas, Wadsworth, Thomsen, & Saltzman, 2000). Approach strategies involve direct efforts to alter the stressful situation and include problem solving, seeking support and acceptance. In contrast, avoidant strategies are characterized by the absence of attempts to alter the situation and include denial, avoidance and wishful thinking. A pattern of findings that has emerged in several cross-sectional and longitudinal studies of coping in adolescents indicates that better adjustment is associated with less reliance on avoidant coping strategies and greater use of approach strategies (e.g. Connor-Smith et al., 2000). In general, a similar pattern of results has emerged in research into adult caregiving and research that has examined adaptation to parental illness/disability in children and adolescents (e.g. Compas et al., 1996; Langrock et al., 2002).

Coping resources (social support)

Coping resources are relatively stable characteristics of a person's internal (e.g. disposition) and external (e.g. social support) environments, and refer to what is available to individuals when they develop their coping strategies (Moos & Billings, 1982). The availability of social support is likely to be an important coping resource for young carers given that the focus of most services is the care-receiver. Indeed, young carers in several studies have reported isolation and the lack of informal and formal supports (Aldridge & Becker, 1993a; Bursnall et al., forthcoming). There is evidence supporting an association between social support and better well-being in adult carers (e.g. Pakenham, 2001). Conrad and Hammen (1993) examined protective factors for the children (aged 8–16) of medically ill, affectively disordered and non-ill mothers. They found that regardless of the mother's condition, social support was one of several protective factors associated with reduced rates of psychological diagnoses.

Caregiving context

There are a range of variables that define the caregiving situation including parental factors (e.g. parental impairment, duration of parental illness/disability, predictability of parental illness/disability, type of illness/disability, which parent has the illness/disability), and environmental factors (e.g. co-residence, frequency of contact with the parent and extent of choice in caregiving). For example, caring for a parent who has a mental illness with an unpredictable course poses different caregiving demands to caring for a parent with a more stable physical disability such as paraplegia. To date, these factors have not been systematically examined as potential predictors of young carer adjustment; consequently no predictions are made concerning possible relations between these variables and adjustment in young carers.

In summary, the present study examined the role of caregiving context variables, social support, stress appraisal and coping strategies in sustaining positive psychological states (benefit finding, life satisfaction and positive affect) and regulating distress in early caregiving. It was hypothesized that better adjustment (higher positive outcomes and lower distress) would be related to higher levels of social support, lower stress appraisals, greater reliance on approach coping strategies (problem solving, seeking support and acceptance) and less reliance on avoidant coping (wishful thinking and denial).

Method

Participants and recruitment procedure

A total of 100 young carers between 10 and 25 years of age completed questionnaires. The lower age limit was 10 years because younger children were less likely to be able to give independent and reliable self-reports. It was essential that children be able to complete the questionnaire without adult assistance given the sensitive and confidential nature of the topic. Young people between 18 and 25 years of age were included to reflect the increased age of children living at home with their parents and the small amount of data available in regard to this age group. This age range ensured that the measures remained consistent and age appropriate with only minimal adjustment.

Participants were recruited from a university student participant pool ($n = 26$), a primary school ($n = 1$) and the general community responding to a newspaper advertisement regarding the project ($n = 15$). The remaining 58 young carers were recruited through local health or community organizations (motor-neuron, acquired brain injury, epilepsy and multiple sclerosis self-help groups, support groups for children of parents with a mental illness or physical disability (prior to any intervention) and carer organizations). The recruitment procedure varied according to the preferences of the organizations. Some organizations invited participants through their members who had children; other organizations forwarded materials directly to the children who were members of the organization; while others advertised the study in their newsletter. Given the variation in recruitment methods an overall response rate could not be calculated.

The project received ethical clearance from the relevant institutions (e.g. the University of Queensland, Education Queensland). Participation was voluntary and all questionnaires were anonymous. Parental consent was sought for participants under the age of 18 years. Participants were informed that they did not have to answer any question that they did not want to respond to and contact numbers were provided for any assistance that might be required as a result of participating in the study (including the Research Psychologist's contact details).

Characteristics of participants

The demographic characteristics of participants are summarized in Table 1. The mean age of the young

Table 1. Demographic characteristics of young carers

Demographics	%		*(n)*
Gender			
Female	72		(72)
Male	28		(28)
Ethnicity			
Australian	81		(81)
European	7		(7)
Asian	2		(2)
New Zealand	4		(4)
Other	3		(3)
Currently studying	87		(87)
Education type			
Primary school	19		(19)
High school	29		(29)
Tertiary	36		(36)
Other (e.g. TAFE)	5		(5)
Currently employed	45		(45)
Employment type			
Full-time	8		(8)
Part-time	10		(10)
Casual	28		(28)
Live with both parents	52		(52)
Co-residing with parent/s	73		(73)
Have siblings	89		(89)
	Mean	*(SD)*	*Range*
Age	16.38	(3.75)	10–25
Family size	4.64	(1.67)	2–13
Number of older siblings	0.93	(1.16)	0–15
Number of younger siblings	0.89	(1.03)	0–5

Note: Not all percentages add up to 100 because of missing data

carers was 16.38 years and most were females (72%). The overrepresentation of female young carers reflects trends in early caregiving both in Australia and internationally (Carers Australia, 2001; Dearden & Becker, 1995). Regarding ethnicity, most (81%) of the sample identified as Australian. The majority (87%) of participants were studying with just over a third (36%) in tertiary education, a third (29%) in secondary education and a little less than a third (19%) in primary school. Almost half of the participants were employed and most of these were in casual employment. Half of the participants (52%) lived with both parents, 73 per cent co-resided with at least one parent and 89 per cent had siblings. The mean number of persons in participants' families was 4.64 (SD = 1.67, range 2–13) and the mean number of older or younger siblings was just under one.

Measures

Two age-appropriate questionnaires were developed for young people aged 10–13 years and 14–25 years. The questionnaires were identical except for several words that were changed to make them more age appropriate. At the beginning of the section of the questionnaire that inquired about caregiving, respondents were asked to indicate 'which parent has an illness/disability'; if a respondent indicated that both parents had an illness/disability he/she was then asked to answer the remaining questions regarding the parent with the more severe illness/disability. Throughout the questionnaire, when referring to providing care for the parent with an illness/disability the terms 'help' or 'helping' were used instead of 'care' or 'caring/caregiving' (e.g. *My parent(s) relies on me to help them with household chores*). Both questionnaires were piloted with

Table 2. Caregiving context characteristics of young carers

Caregiving context variables	%		(n)
Parent with illness/disability			
Mother	76		(76)
Father	16		(16)
Both parents	7		(6)
Live with parent with illness/disability	73		(73)
Primary illness/disability of parent			
Physical illness	68		(68)
Mental illness	18		(18)
Physical disability	7		(7)
Sensory disability	2		(2)
Brain injury	2		(2)
Alcohol and/or drug problem	1		(1)
Other	2		(2)
Parent has additional illness(es)/disability(s)	21		(21)
Contact with parent with illness/disability			
Daily	73		(73)
2–4 times/week	12		(12)
Once/week	7		(7)
Twice per fortnight to once per month	5		(5)
	Mean	*(SD)*	*Range*
Duration parent's illness/disability (months)	134.71	(123.65)	2–600
Care duration of young carer (months)	56.11	(45.17)	0–214
Parental functional impairment (1 *no difficulty* to 5 *extreme difficulty*)	2.84	(1.16)	1–5
Choice in helping parent (1 *no choice* to 4 *I am free to make any choice*)	2.85	(0.91)	1–4
Unpredictability of parent's condition	10.42	(3.74)	0–16

Note: Not all percentages add up to 100 because of missing data

male and female young carers and non-carers. The internal reliability coefficients for all multi-item scales were adequate (range .71–.91).

Demographics Information was obtained on age, gender, ethnicity, study, education, employment status, family size, co-residence with parents and number of older and younger siblings.

Caregiving context variables Descriptive data for measures of the caregiving context variables are presented in Table 2. Young carers were asked to provide information on the following: whether they lived with the parent with an illness/disability; the parent's illness/disability type; additional illness(es)/disability(s) of the parent; frequency of contact with the parent; duration of parent's illness/disability; and duration of caregiving.

Over two-thirds (76%) of young carers had a mother with an illness/disability and over two-thirds (68%) had a parent with a physical illness including multiple sclerosis, diabetes, cancer, arthritis, epilepsy, chronic fatigue, heart disease and Lyme disease. Both of these proportions are consistent with findings from other young carer studies (Carers Australia, 2001; Dearden & Becker, 1995). Eighteen per cent had a parent with a mental illness including depression, anxiety, bipolar disorder, dissociative identity disorder, post-traumatic stress disorder and schizophrenia. Other parental conditions included physical disabilities (e.g. back pain and knee injuries), sensory disabilities (e.g. blindness), acquired brain damage (e.g. stroke) and alcohol/ drug problems. Twenty-one per cent of young carers had a parent who had at least one additional illness/disability. Most young carers (73%) co-resided with their ill/disabled parent and most (73%) had daily contact with this parent. There was a large variation in the duration of parents' illnesses/disabilities ranging from two months to 50 years. Similarly, there was considerable variation in the time that participants had been providing care ranging from a few weeks to 17.83 years.

Young carers also rated the extent to which their parent had difficulty performing daily activities (e.g. eating, dressing, going out) as a result of their illness/disability on a five-point Likert scale (1 *no difficulty*, 3 *some difficulty*, 5 *extreme difficulty*). From here on this variable is referred to as parental functional impairment. The mean rating (2.84) indicated that on average parents had some difficulty in performing daily activities.

In addition, young carers rated the extent to which they thought they had a choice in helping their parent on a four-point scale (1 *no choice*, 2 *a little choice*, 3 *quite a lot of choice*, 4 *I am free to make any choice*). The mean choice rating (2.85) was closest to the *quite a lot of choice* rating scale anchor; however, 34 per cent indicated *no choice* or *a little choice*.

Unpredictability of the parent's illness/disability was measured by four items developed for this study (e.g. *My parent's condition could change at any time with little warning*). Respondents rated the extent to which they agreed with each item on a five-point scale (0 *strongly disagree* to 4 *strongly agree*). A principal-components factor analysis indicated that all items loaded (> .73) on one factor, which explained 52 per cent of the total variance. All items were summed with higher scores indicating greater unpredictability (Cronbach's alpha = .80).

Stress appraisal

In order to obtain a global stress appraisal of caregiving, young carers were asked to rate on a scale from 0 to 100 (0 *not stressful at all* to 100 *most stressful ever*) the extent to which helping their parent was stressful.

Social support

The six-item Brief Social Support Questionnaire (Sarason, Sarason, Shearin, & Pierce, 1987) was used to measure both qualitative (satisfaction with social support) and quantitative support (number of support persons).

Coping strategies

The 28-item coping inventory consisted of items selected from widely used coping measures that represented the seven coping strategies commonly used by adolescents: active coping; seeking social support; positive reinterpretation; acceptance; denial; distraction; and wishful thinking (Connor-Smith et al., 2000; Skinner et al., 2003). Items were selected from three measures: the COPE Scale (19 items; Carver, Scheier, & Weintraub, 1989), the Ways of Coping Questionnaire (five items; Lazarus & Folkman, 1984), Coping Scale (three items; Terry & Hynes, 1998) and Response to Stress Questionnaire (one item; Aldwin & Revenson, 1987). Four items were used to assess each of the seven coping strategies. Respondents indicated how much they used each coping strategy in dealing with difficult situations using a four-point rating scale (0 *not used* to 3 *used a great deal*). A principal-components factor analysis produced a five-factor solution, which explained 59 per cent of the total variance. The five factors reflected problem solving, wishful thinking, acceptance, denial and seeking social support. A mean score for each sub-scale was computed.

Adjustment

Global distress

Distress was measured by the Brief Symptom Inventory-18 (BSI-18) (Derogatis, 2000), which was derived from the 52-item Brief Symptom Inventory (BSI) (Derogatis & Spencer, 1982). The BSI (Derogatis & Spencer, 1982) has been widely used as a measure of emotional distress in adolescents (e.g. Compas et al., 1994, 1996; Lester, Stein, & Bursch, 2003; Milan et al., 2004). The BSI-18 measures distress in three domains: depression; anxiety; and somatization. Respondents indicated how much each problem had upset them in the past seven days using a five-point rating scale (0 *not at all* to 4 *extremely*). A mean global distress score was computed.

Positive affect

Positive affect was measured by a modified version of the Bradburn Affect Balance Scale (Bradburn, 1969). An additional three items were added to Bradburn's five positive affect items. Participants rated the extent to which they had felt each of the eight positive states during the past week (1 *not at all* to 5 *very often*). Item ratings were summed with higher scores indicating greater positive affect. Bradburn's (1969) scale has been used as a measure of adjustment in adolescents (e.g. Baker, Cesa, Gatz, & Mellins, 1992).

Life satisfaction The five-item Satisfaction with Life Scale (Pavot & Diener, 1993) was used to assess the participant's global judgement of life satisfaction. Items were rated on a seven-point scale (1 *strongly disagree* to 7 *strongly agree*). The scale has been used as a measure of adjustment in younger children and adolescents (e.g. Shek, 1999) and university students (Pavot & Diener, 1993).

Benefit finding An 18-item Benefit Finding Scale (BFS) was developed for this study. The scale was derived from benefit finding data collected from adult carers (Pakenham, 2005b). Items that reflected the following benefit finding themes were included: insights into illness and hardship; caregiving gains; personal growth; the strengthening of relationships; appreciation of life; health gains; spiritual growth; and positive changes in life priorities and personal goals. The following orienting instruction was given: 'Sometimes people who help a family member who has an illness/disability get something positive out of it. Please rate how much you have experienced each item below as a result of helping your parent.' Respondents rated the extent to which they agreed with each of the statements on a five-point rating scale (1 *strongly disagree* to 5 *strongly agree*). A principal-components factor analysis indicated that all items loaded (> .50) on one factor and accounted for 42 per cent of the total variance; hence, a global benefit finding score was obtained by summing across the items.

To determine whether the BFS provided a comprehensive assessment of benefits, young carers were asked to describe other benefits not mentioned in the BFS. A total of 31 per cent did not respond to this question, 21 per cent indicated that they could not identify additional benefits and almost half (48%) reported additional gains. Most of the additional gains were elaborations of BFS items. However, some of the additional benefits were not well represented in the BFS such as the reciprocity in relationship with the parent.

Data analysis procedure

Primary analyses, consistent with prior applications of the stress/coping model to adult caregiving, examined relations between four sets of predictors (caregiving context, social support, stress appraisal and coping) and each of the outcomes (global distress, life satisfaction, positive affect and benefit finding). These relations were examined at the bivariate and multivariate levels. Prior to conducting these analyses, preliminary investigations examined relations among the dependent variables and predictors.

Results

Preliminary analyses

Correlations among the four adjustment measures showed that all associations among the three positive outcomes were significant and positive with the exception of the correlation between benefit finding and life satisfaction (mean intercorrelation = .35). Significant inverse correlations emerged between distress and positive affect ($r(100) = -.51$, $p < .000$) and life satisfaction ($r(100) = -.51$, $p < .000$), however, the correlation between distress and benefit finding was non-significant.

In order to determine whether the dependent variables varied as a function of demographics (age, gender, ethnicity, co-residence, family size, education, employment, number of younger and older siblings), correlations were performed on continuous demographic data and one-way ANOVAs on categorical demographic data. None of the demographics were related to the dependent variables.

In order to determine which caregiving context variables to include in the regression analyses, preliminary investigations were undertaken to examine relations between the dependent variables and the caregiving context variables (additional parental illness/disability, perceived choice in caregiving, parental functional impairment, frequency of contact with the ill/disabled parent, co-residence with ill/disabled parent, predictability of the parental illness/disability, parental illness/disability type (physical vs mental parental illness/disability), duration of the parent's illness/disability, which parent has the illness/disability). Only choice in caring was related to the dependent variables. Specifically, higher levels of choice in caring were related to higher levels of life satisfaction $r(97) = .20$, $p < .05$ and positive affect $r(97) = .35$, $p < .01$ and lower distress $r(97) = -.22$, $p < .05$.

Bivariate correlations among the predictor variables were examined for evidence of multicollinearity. In no instance did the correlation between any two scales approach the mean scale reliability (see Campbell & Fiske, 1959). The scales were, therefore, considered to be empirically distinct and multicollinearity was not a threat to the stability of analyses.

Table 3. Correlations between stress and coping predictors and adjustment outcomes

	Positive outcomes			
	Positive affect	*Satisfaction with life*	*Benefit finding*	*Global distress*
Caregiving context[a]				
choice	.35**	.20	.10	−.22*
Social support				
Number	.32**	.42**	.12	−.28**
Satisfaction	.41**	.51**	.09	−.50**
Stress appraisal	−.18	−.22*	.01	.25*
Coping strategies				
Wishful thinking	−.26**	−.27**	−.18	.47**
Denial	−.16	−.09	−.21*	.27**
Acceptance	.22*	.10	.32**	−.08
Problem solving	.44**	.25*	.38**	−.24*
Seeking social support	.34**	.23*	.29**	−.13

Note: [a]Only caregiving context variables significantly related to adjustment outcomes are displayed.
*p < .05; **p < .01

Correlations between the independent and dependent variables

Correlations examined the extent to which each set of predictors and criterion variables were related at the bivariate level (see Table 3). Overall, the patterns of results were consistent with predictions. Stress appraisals were positively related to distress and inversely related to life satisfaction. With respect to social support, higher levels of both quantitative and qualitative social support were related to higher positive outcomes and less distress. Regarding coping strategies, reliance on problem solving, acceptance and seeking social support were related to higher positive outcomes, while a reliance on wishful thinking and denial were associated with lower positive outcomes. The latter two coping strategies were related to higher distress, whereas problem solving was linked with lower distress.

Hierarchical regression analyses of the effects of stress and coping predictors on distress and positive outcomes

Stress and coping theory guided the order of entry of variables into the hierarchical regression equations. The caregiving context variable, choice in caring, was entered first. Social support was entered on the second step. The more proximal variables, stress appraisal and coping, were entered at the third and fourth steps, respectively. Hierarchical regression analyses were performed on each dependent variable separately and the results are summarized in Table 4. When all the variables were in the equation, significant amounts of variance (22–38%) were accounted for in each of the dependent variables. Choice in caring accounted for a significant amount of the variance in positive affect and the amounts of variance accounted for in life satisfaction and global distress approached significance. Specifically, greater choice in caring was related to higher life satisfaction and positive affect and lower distress. Social support accounted for significant increments of variance (17–30%) in all dependent variables except benefit finding. Satisfaction with social support emerged as a stronger predictor than network size. As expected, greater satisfaction with social support availability was related to higher life satisfaction and positive affect and lower distress. Unexpectedly, stress appraisal failed to account for significant increments of variance in all dependent variables.

After controlling for the effects of all other predictors, coping strategies explained significant amounts of additional variance in all dependent variables (9–21%) except life satisfaction. Reliance on wishful thinking was related to greater distress, whereas reliance on acceptance and problem solving were weakly related to higher levels of benefit finding and positive affect, respectively.

Table 4. Regression analyses of the effects of stress and coping predictors on adjustment outcomes

	Positive outcomes							
	Satisfaction with life		*Positive affect*		*Benefit finding*		*Global distress*	
	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Caregiving context	.04†		.12***		.00		.03†	
Choice		.19†		.34***		.10		−.19†
Social support	.30***		.17***		.01		.22***	
Number		.23*		.16		.13		−.08
Satisfaction		.43***		.34***		−.04		−.45***
Stress appraisal	.01	−.09	.00	.01	.00	.03	.01	−.08
Coping	.03		.09*		.21***		.11*	
Wishful thinking		−.15		−.08		−.11		.34**
Denial		.12		.07		−.12		.01
Acceptance		.02		.10		.19†		−.09
Problem solving		.13		.24†		.16		−.11
Seeking social support		−.02		.04		.17		.14
Total R^2	.38		.38		.22		.37	
Total (9,83) F	5.54***		5.71***		2.77**		5.52***	

$^{\dagger}p < .10$; $*p < .05$; $**p < .01$; $***p < .001$

Discussion

Results support the utility of a stress and coping model in accounting for both positive and negative adjustment outcomes in young carers. In general, those variables postulated to be important in the adaptation process evidenced associations with adjustment that were consistent with the model predictions. Of interest were the distinct relations between predictors and the various adjustment domains particularly at the multivariate level. In particular, social support emerged as the strongest and most consistent predictor of adjustment outcomes across all domains except benefit finding. Coping and choice in caring also emerged as important predictors, although associations between these variables and adjustment were weaker at the multivariate level. This study therefore provides important preliminary data on the application of stress and coping theory to adaptation to early caregiving.

Of the caregiving context variables measured, choice in caring emerged as the strongest correlate of young carer adjustment. Not only was greater perceived choice in caring related to more positive outcomes and lower distress, but it was also related to more adaptive coping processes (higher social support and approach coping, and lower appraised stress and avoidant coping). Several descriptive studies have reported that young carers who perceive little or no choice in taking on their caring role may feel trapped into taking on family responsibilities that may place them at risk of experiencing psychological and social difficulties (Aldridge & Becker, 1993a; Bursnall et al., forthcoming). Children may perceive little or no choice in caring as a result of socio-economic difficulties that restrict the family from receiving outside help or election of the child into the caring role by other family members (Aldridge & Becker, 1993a, 1993b). Delegation into the caring role may be determined by family relationships and expectations (Dearden & Becker, 1995).

As expected, and consistent with prior research, higher levels of satisfaction with the availability of social support and greater social support network were related to both positive outcomes (except benefit finding) and lower global distress in bivariate and multivariate analyses. Several factors may account for the fact that of all the stress and coping variables, social support was clearly the strongest and most consistent predictor of adjustment. First, social support would appear to be an important resource to young carers because of the isolation and the lack of formal support reported by young carers. The focus of most services is the care-receiver, hence, many young carers have to rely on peers or family members for support (Aldridge & Becker, 1993a; Bursnall et al., forthcoming). Second, caregiving occurs in a relational context and interpersonal issues are central to the normative developmental tasks of older children, adolescents and young adults (e.g. Beach, 1997). Thus, the presence of strong support networks is crucial to this population.

As predicted, higher stress appraisals were related to higher distress and lower life satisfaction and positive affect at the bivariate level. However, stress appraisal was unrelated to benefit finding which is consistent with findings from adult carer studies (e.g. McCausland & Pakenham, 2003). The latter may be due to the fact that situational appraisals do not tap a person's assumptions and beliefs about the world and the self in the world, which are likely to be more strongly related to global meaning constructs such as benefit finding (Folkman & Moskowitz, 2000). The pattern of significant correlations between stress appraisal and the adjustment outcomes were not replicated at the multivariate level. This may be due to the fact that stress appraisal was moderately correlated with social support satisfaction and choice in caring, which were entered into the regression prior to stress appraisal, thereby reducing the associations between appraisal and adjustment. Alternatively, the single item measure of appraised caregiving stress may have been inadequate in that it failed to tap the multiple dimensions of primary (harm, threat and challenge) and secondary (controllability and self-efficacy) appraisal processes.

With respect to coping strategies, in general, findings supported the hypothesis that better adjustment (higher positive outcomes and lower distress) would be related to greater reliance on the approach coping strategies (problem solving, seeking support and acceptance) and less reliance on the avoidant coping strategies (wishful thinking and denial). Interestingly, differential relations emerged between the coping strategies and the positive and negative adjustment outcomes. Acceptance and seeking social support emerged as unique correlates of the positive outcomes, whereas problem solving, wishful thinking and denial coping were correlated with both distress and the positive outcomes. However, at the multivariate level, although coping as a block accounted for significant increments in the variance in positive affect, benefit finding and distress, the associations between the individual coping strategies and the criterion variables were much weaker, with the exception of the strong link between wishful thinking and distress. The lack of stronger associations in the regression analyses between the individual coping strategies and adjustment may be due to the fact that coping was entered on the last step and the analyses had limited statistical power (nine predictors with a sample size of 92). In addition, the coping measure may not have been adequate in tapping those coping strategies pertinent to the differing age groups in the sample. For example, meaning-based coping strategies have been shown to be a strong predictor of positive outcomes in older (adult) carers (e.g. Pakenham, 2005a) and, although some coping items in the present study tapped this dimension, the specific effects of this type of coping were not examined. In this regard, the approach vs avoidant method of categorizing coping strategies may be overly simplistic (Skinner et al., 2003).

A noteworthy feature of the present study is the inclusion of a measure of benefit finding. The authors are not aware of any published studies that have examined benefit finding in young carers, despite qualitative data that indicate a variety of positive impacts of early caregiving (e.g. Beach, 1997; Segal & Simkins, 1993). The measure of benefit finding was shown to be unidimensional and internally reliable. Responses to the open-ended question asking for additional benefits from caregiving, indicated that, in general, the benefit finding scale was relatively comprehensive in tapping most areas of gain associated with helping a parent with an illness/disability. Interestingly benefit finding was unrelated to age indicating that children as young as 10 years are able to find benefits associated with caregiving.

Several limitations of the present study should be discussed. First, the non-random sampling limits the generalizability of the findings. Second, although the associations between predictors and adjustment are promising, the causal direction remains ambiguous, because of the cross-sectional study design. A third potential problem is the wide age range of participants. Although age was found to be unrelated to the adjustment variables, we conducted post-hoc correlations between age and all other study variables. Age was shown to be unrelated to all variables except two caregiving context variables. As might be expected, older age was associated with greater caregiving duration and not co-residing with the ill/disabled parent. It would seem that age of the young caregivers in this study was unrelated to adjustment, stress and coping processes and most caregiving context variables, although it is acknowledged that age may play a role in areas of young caregiving not examined in this study. Fourth, the fact that the sampling strategy relied on a variety of recruitment methods means that it was not possible to calculate response rates and that it is difficult for others to replicate this work. However, it should be noted that the variety of sampling methods is likely to have enhanced the diversity of young caregivers recruited. Finally, relations between each of the parental illness/disability groups and young carer adjustment could not be examined because the sample sizes for some of the parental illness/disability groups were too small. Hence, the potential impact of variations in parental illness/disability such as onset, course and outcome could not be assessed. However, measures of young carers' perceptions of the predictability and the functional impairment of their parent's illness/disability would have tapped the corresponding parental illness/disability characteristics.

The methodological strengths of the study should also be noted, including the relatively large sample, the use of theoretically derived predictors and the utilization of both positive and negative outcomes. It is also noteworthy that analyses provided a fairly conservative test of the effects of stress and coping on adjustment to early caregiving in that analyses controlled for the effects of choice in caregiving.

A recent review highlighted the need for theoretical frameworks that are able to inform the development of interventions and services for carers (Coon, Ory, & Schulz, 2003). In this regard, findings from the present study suggest that interventions for young carers should target social support building, cognitive appraisals (e.g. stress appraisals), coping skills (e.g. problem solving, seeking support and acceptance) using cognitive behavioural techniques such as cognitive restructuring and coping skills training. Findings suggest that targeting these areas may not only help young carers to regulate distress but also enhance positive psychological states. Recently there has been an upsurge in the development of well-being enhancing interventions in clinical medicine for adults (see review by Fava & Ruini, 2003). Our findings provide some direction for the development of such interventions for youngsters caring for an ill/disabled parent. Practitioners are encouraged not only to attend to the reduction of distress, but also to the enhancement of the affective, cognitive and meaning dimensions of well-being. Young carer psycho-educational support groups may be an effective way to address these needs.

Given the paucity of theory-driven research examining predictors of adjustment in young carers, the present study advances research because it provides support for the role of stress and coping variables in not only regulating distress but also in promoting positive outcomes. In general, coping resources and strategies associated with the regulation of distress were also related to the promotion of one or more domains of well-being in the context of early caregiving. Findings indicate that choice in caregiving, appraisal, coping strategies and particularly social support shape both positive and negative young carer outcomes. The guiding framework and findings of the present study highlight areas that should be targeted in interventions designed to promote well-being in young carers. This study is noteworthy because it is the first published study that has examined the utility of a stress and coping framework in explaining positive and negative outcomes in early caregiving. Hence, findings provide a foundation for further investigation. Future research should include young carers who provide care to other family members (e.g. siblings and grandparents), measure both the parent's and young carer's perspectives of adaptation and examine the long-term effects of stress and coping predictors.

References

Aldridge, J., & Becker, S. (1993a). *Children who care: Inside the world of young carers*. Loughborough: Young Carers Research Group.

Aldridge, J., & Becker, S. (1993b). Punishing children for caring: The hidden cost of young carers. *Children and Society*, *7*(4), 376–387.

Aldridge, J., & Becker, S. (1994). *My child; my carer: The parents' perspective*. Loughborough: Young Carers Research Group.

Aldwin, C. M., & Revenson, T. A. (1987). Does coping help? A reexamination of the relation between coping and mental health. *Journal of Personality and Social Psychology*, *53*(2), 337–348.

Alvord, M. K., & Grados, J. J. (2005). Enhancing resilience in children: A proactive approach. *Professional Psychology: Research and Practice*, *36*(3), 238–245.

Armistead, L., Klein, K., & Forehand, R. (1995). Parental physical illness and child functioning. *Clinical Psychology Review*, *15*(5), 409–422.

Australian Bureau of Statistics. (2003). *Disability, ageing and carers: Summary of findings*. Australia: Australian Bureau of Statistics.

Baker, L. A., Cesa, I. L., Gatz, M., & Mellins, C. (1992). Genetic and environmental influences on positive and negative affect: Support for a two-factor theory. *Psychology and Aging*, *7*(1), 158–163.

Banks, P., Cogan, N., Riddell, S., Deeley, S., Hill, M., & Tisdall, K. (2002). Does the covert nature of caring prohibit the development of effective services for young carers? *British Journal of Guidance and Counselling*, *30*(3), 229–246.

Beach, D. L. (1997). Family caregiving: The positive impact on adolescent relationships. *The Gerontologist*, *37*, 233–238.

Becker, S. (Ed.). (1995). *Young carers in Europe: An exploratory cross-national study in Britain, France, Sweden, and Germany*. Leicestershire: Young Carers Research Group.

Bradburn, N. M. (1969). *The structure of psychological well-being*. Chicago, IL: Aldine Publishing Company.

Bursnall, S., Pakenham, K. I., Cannon, T., & Murphy, P. (forthcoming). Understanding the experiences and needs of young people whose parent has an illness or disability. Manuscript submitted for publication.

Campbell, D. T., & Fiske, D. W. (1959). Convergent and discriminant validation by the multi-trait multi-method matrix. *Psychological Bulletin*, *56*, 81–105.

Carers Australia. (2001). *Young carers research report: Final report*. Canberra: Commonwealth of Australia.

Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, *56*(2), 267–283.

Compas, B. E., Worsham, N. L., Epping-Jordan, J. E., Grant, K. E., Mireault, G., Howell, D. C. et al. (1994). When mom or dad has cancer: Markers of psychological distress in cancer patients, spouses and children. *Health Psychology*, *13*(6), 507–515.

Compas, B. E., Worsham, N. L., Ey, S., & Howell, D. C. (1996). When mom or dad has cancer: II. Coping, cognitive appraisals, and psychological distress in children of cancer patients. *Health Psychology*, *15*(3), 167–175.

Connor-Smith, J. K., Compas, B. E., Wadsworth, M. E., Thomsen, A. H., & Saltzman, H. (2000). Responses to stress in adolescence: Measurement of coping and involuntary stress responses. *Journal of Consulting and Clinical Psychology*, *68*, 976–992.

Conrad, M., & Hammen, C. (1993). Protective and resource factors in high- and low-risk children: A comparison of children with unipolar, bipolar, medically ill, and normal mothers. *Development and Psychopathology*, *5*, 593–607.

Coon, D. W., Ory, M. G., & Schulz, R. (2003). Family caregivers: Enduring and emergent themes. In D. W. Coon, D. Gallaher-Thompson, & L. W. Thompson (Eds.), *Innovative interventions to reduce dementia caregiver distress: A clinical guide* (pp. 3–27). New York: Springer Publishing.

Dearden, C., & Becker, S. (1995). *Young carers: The facts*. Loughborough University: Young Carers Research Group.

Dearden, C., & Becker, S. (1998). *Young carers in the United Kingdom: A profile*. London: Carers National Association.

Dearden, C., & Becker, S. (2000). *Growing up caring: Vulnerability and transition to adulthood—young carers' experiences*. Leicester: Youth Work Press.

Dearden, C., & Becker, S. (2004). *Young carers in the UK: The 2004 report*. London: Carers UK.

Derogatis, L. R. (2000). *Brief symptom inventory 18: Administration, scoring and procedures manual*. Minneapolis, MN: National Computer Systems, Inc.

Derogatis, L. R., & Spencer, P. M. (1982). *Administration and procedures: BSI manual*—Baltimore, MD: Clinical Psychometric Research.

Fava, G. A., & Ruini, C. (2003). Development and characteristics of a well-being enhancing psychotherapeutic strategy: Well-being therapy. *Journal of Behavior Therapy and Experimental Psychiatry*, *34*, 45–63.

Folkman, S., & Moskowitz, J. T. (2000). Positive affect and the other side of coping. *American Psychologist*, *55*(6), 647–654.

Frank, J. (1995). *Couldn't care more: A study of young carers and their needs*. London: The Children's Society.

Goode, K. T., Haley, W. E., Roth, D. L., & Ford, G. R. (1998). Predicting longitudinal changes in caregiver physical and mental health: A stress process model. *Health Psychology*, *17*(2), 190–198.

Grant, K. E., & Compas, B. E. (1995). Stress and anxious-depressed symptoms among adolescents: Searching for mechanisms of risk. *Journal of Consulting and Clinical Psychology*, *63*(6), 1015–1021.

Kornblum, H., & Anderson, B. (1985). Parents with insulin dependent diabetes: Impact on family and child development. In S. Thurman (Ed.), *Children of handicapped parents: Research in clinical perspectives* (pp. 97–109). London: Academic Press.

Lackey, N. R., & Gates, M. F. (2001). Adults' recollections of their experiences as young caregivers of family members with chronic physical illnesses. *Journal of Advanced Nursing*, *34*(3), 320–328.

Langrock, A. M., Compas, B. E., Keller, G., Merchant, M. J., & Copeland, M. E. (2002). Coping with the stress of parental depression: Parents' reports of children's coping, emotional, and behavioral problems. *Journal of Clinical Child and Adolescent Psychiatry*, *31*, 312–324.

Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal and coping*. New York: Springer Publishing Company.

Lester, P., Stein, J., & Bursch, B. (2003). Developmental predictors of somatic symptoms in adolescents of parents with HIV: A 12-month follow-up. *Journal of Developmental and Behavioral Pediatrics*, *24*(4), 242–250.

McCausland, J., & Pakenham, K. I. (2003). Investigation of the benefits of HIV/AIDS caregiving and relations among caregiving adjustment, benefit finding, and stress and coping variables. *AIDS Care*, *15*(6), 853–869.

Milan, S., Ickovics, J. R., Kershaw, T., Lewis, J., Meade, C., & Ethier, K. (2004). Prevalence, course, and predictors of emotional distress in pregnant and parenting adolescents. *Journal of Consulting and Clinical Psychology*, *72*(2), 328–340.

Moos, R. H., & Billings, A. G. (1982). Conceptualising and measuring coping resources and processes. In L. Goldberger & S. Breznitz (Eds.), *Handbook of stress: Theoretical and clinical aspects* (pp. 212–230). New York: Free Press.

Newman, T. (2002). 'Young carers' and disabled parents: Time for a change of direction? *Disability and Society*, *17*(6), 613–625.

Pakenham, K. I. (1998). Couple coping and adjustment to multiple sclerosis in care receiver–carer dyads. *Family Relations: Interdisciplinary Journal of Applied Family Studies*, *47*(3), 269–277.

Pakenham, K. I. (2001). Application of a stress and coping model to caregiving in multiple sclerosis. *Psychology, Health and Medicine*, *6*(1), 13–27.

Pakenham, K. I. (2002). Development of a measure of coping with multiple sclerosis caregiving. *Psychology and Health*, *17*(1), 97–118.

Pakenham, K. I. (2005a). Relations between coping and positive and negative outcomes in carers of persons with multiple sclerosis. *Journal of Clinical Psychology in Medical Settings*, *12*(1), 25–38.

Pakenham, K. I. (2005b). The positive impact of multiple sclerosis on carers: Associations between carer benefit finding and positive and negative adjustment domains. *Disability and Rehabilitation*, *27*(17), 985–997.

Pakenham, K. I., Bursnall, S., Chiu, J., Cannon, T., & Okochi, M. (2006). The psychosocial impact of caregiving on young people who have a parent with an illness or disability: Comparisons between young caregivers and non-caregivers. *Rehabilitation Psychology*, *51*(2), 113–126.

Pakenham, K. I., Sofronoff, K., & Samios, C. (2004). Finding meaning in parenting a child with Asperger syndrome: Correlates of sense making and benefit finding. *Research in Developmental Disabilities*, *25*, 245–264.

Pavot, W., & Diener, E. (1993). Review of the satisfaction with life scale. *Psychological Assessment*, *5*(2), 164–172.

Sarason, I. G., Sarason, B. R., Shearin, E. N., & Pierce, G. R. (1987). A brief measure of social support: Practical and theoretical implications. *Journal of Social and Personal Relationships*, *4*, 497–510.

Segal, J., & Simkins, J. (1993). *My mum needs me: Helping children with ill or disabled parents*. Hamondsworth: Penguin.

Shek, D. (1999). Individual and dyadic predictors of family functioning in a Chinese context. *American Journal of Family Therapy*, *27*(1), 49–61.

Skinner, E., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, *129*(2), 216–269.

Terry, D. J., & Hynes, G. J. (1998). Adjustment to a low-control situation: Reexamining the role of coping responses. *Journal of Personality and Social Psychology*, *74*(4), 1078–1092.

Worsham, N. L., Compas, B. E., & Sydney, E. Y. (1997). Children's coping with parental illness. In S. A. Wolchik & I. N. Sandler (Eds.), *Handbook of Children's Coping: Linking Theory and Intervention* (pp. 195–213). New York: Plenum Press.

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