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Self-esteem, self-efficacy and optimism as psychological resources among family caregivers
of people with dementia: Findings from the IDEAL study

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Abstract

Objectives

Being a family caregiver, and in particular giving care to someone with dementia, impacts upon mental and physical health, and potentially reduces the ability of caregivers to 'live well'. This paper examines whether three key psychological resources, self-efficacy, optimism and self-esteem, are associated with better outcomes for caregivers of people with dementia.

Design and Participants

Caregivers of 1283 people with mild-to-moderate dementia in the Improving the experience of Dementia and Enhancing Active Life (IDEAL) project responded to measures of self-efficacy, optimism and self-esteem, and 'living well' (quality of life, life satisfaction and well-being). Multivariate linear regression was used to examine the association between psychological resources and 'living well'.

Results

Self-efficacy, optimism and self-esteem were all independently associated with better capability to 'live well' for caregivers. This association persisted when accounting for a number of potential confounding variables (age group, sex, and hours of caregiving per day).

Conclusions

Low self-efficacy, optimism and self-esteem might present a risk of poor outcomes for caregivers of people with dementia. These findings encourage us to consider how new or established interventions might increase the psychological resilience of caregivers.

Key words: QUALITY OF LIFE, LIFE SATISFACTION, WELL-BEING, LIVING WELL, CARER

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In the United Kingdom alone, it is estimated that around 670,000 family and close friends are providing unpaid care such as practical, emotional and financial support to people with dementia (Lakey et al., 2012), and that £11.6 billion of the £26.3 billion annual care costs of dementia are met by these family caregivers (Alzheimer's Society, 2014). A review by Schulz and Martire (2004) highlights numerous studies showing the negative impact of caring for a person with dementia on the mental and physical health of caregivers. Other research demonstrates poorer quality of life and well-being among this group compared not only to non-caregivers but also to those caring in a different context (Mallya and Fiocco, 2017; Pinquart and Sorensen, 2003). However, there are differences in the way individuals appraise and cope with stress and so the pressures placed on a caregiver will not always directly predict caregiver experiences and appraisals of caring (Chappell and Reid, 2002).

Measures of quality of life, life satisfaction and well-being are broader indicators of 'living well' among caregivers than are health-related measures or measures of caregiver burden (Clare et al., 2014). These measures examine different dimensions of caregivers' experiences, including the psychological, physical, and social dimensions. Using these broader measures of 'living well', the recent Improving the experience of Dementia and Enhancing Active Life (IDEAL) study modelled the strength of association between indices of 'living well' and seven latent factors relating to dementia caregivers' personal resources and experiences (Clare et al., 2019). The latent factor representing caregivers' 'psychological characteristics and psychological health' was found to be most strongly associated with 'living well' in this comprehensive model. The latent factor combined six psychological variables; neuroticism, optimism, loneliness, depression, subjective age, and self-esteem.

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Accounting for some of the heterogeneity in experiences of caregiving and aiming to inform future support for caregivers, the current study examines in more detail individual associations between psychological characteristics of caregivers and their ability to 'live well'.

Previous research on psychological resources for adaptation to stressors is guided by Taylor's (1983) *cognitive adaptation theory* and later developments of this theory (Aspinwall & Taylor, 1992; Taylor & Brown, 1988). This research has linked self-efficacy, optimism and self-esteem to more successful coping in relation to groups facing significant stressors, such as illness (e.g., Rini et al., 1999; Teoh et al., 2009). These three psychological resources may therefore be beneficial if supported in the context of caregiving. *Self-efficacy* is an individual's conviction that s/he is able to perform the actions needed to produce desired outcomes (Bandura, 1977). *Self-esteem* is an individual's overall evaluation of his/her own worth (Blascovich and Tomaka, 1991), while *optimism* is described as the expectation of positive outcomes in the face of adversity (Carver and Scheier, 2014). Caregiving is a role-based identity, but one for which individuals are often unprepared. Having confidence in one's ability, oneself, and being optimistic about future outcomes are therefore expected to be particularly important for caregivers. Unfortunately, experiences of caregiving may also reduce levels of these psychological resources if caregivers are not supported appropriately. For example, previous research shows that caregivers report both lower self-efficacy and subjective well-being than non-caregivers, even more so in the case of caregivers of people with dementia (Pinquart and Sorensen, 2003).

There is evidence of poorer physical and mental health and life satisfaction among those with low levels of these positive psychological resources (e.g., Atienza et al., 2002; Hooker et al., 1998; Trapp et al., 2015; Vedhara et al., 2000). This may be linked to more negative appraisals of life events and less adaptive approaches to coping among those with

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low levels of these psychological resources. Bandura's (1997) early theory of self-efficacy and later research (Crellin et al., 2014) states that low self-efficacy stimulates negative appraisals of challenging situations. Negative appraisals may subsequently reduce the likelihood that individuals engage and persist in challenging tasks, and that they cope well with them (Bandura, 1977). Similarly, self-esteem has been found to moderate the use of adaptive coping strategies among those experiencing negative life events. Low self-esteem is correlated with fewer attempts to take control over a situation (typically seen as a more adaptive strategy) and the use of avoidant approaches to coping and rumination (seen as less adaptive strategies; Rector and Roger, 1996).

Among caregivers of those with dementia, researchers have tended to examine the association between positive psychological resources and mental and physical health-related outcomes or burden (e.g., Hooker et al., 1998; Trapp et al., 2015; Vedhara et al., 2000). However, only a handful of small studies have explored the association between one or two of these psychological resources and one index of 'living well' among caregivers of people with dementia (Chappell and Reid, 2002; Gignac and Gottlieb, 1996; Haley et al., 1996; Tay et al., 2016). In the current study we directly explored self-efficacy, optimism, and self-esteem as predictors of multiple broader indices of 'living well' among caregivers of people with dementia. Each psychological resource is expected to be an independent predictor of 'living well', as well as showing some overlap with other positive psychological resources (as would be expected). By examining these predictors of 'living well', we aim to provide insights for future support targeted at caregivers of those with dementia.

Methods

Sample

The current paper uses data from the IDEAL study, a cohort study spanning 29 research sites across England, Scotland and Wales, approved by the Wales 5 National Health

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Service Research Ethics Committee (reference: 13/WA/0405) and the Ethics Committee of the School of Psychology, Bangor University (reference 2014 – 11684), and registered with UKCRN (registration number 16593). Full details of the study aims and methodology are in the published protocol paper (Clare et al., 2014). The IDEAL baseline cohort includes 1547 participants with dementia, of whom 1283 had a caregiver also participating (Clare et al., 2014). All participants with dementia had a clinical diagnosis and a Mini-Mental State Examination score of 15 or above (Folstein et al., 1975; indicating mild-to-moderate dementia), were living independently in the community and able to provide informed consent. Exclusion criteria were having a co-morbid terminal illness or posing a potential danger to visiting researchers. Caregivers were chosen by participants with dementia as individuals who provided them with regular support and were willing to take part in the study. People with dementia were interviewed in their homes while caregivers self-completed questions assessing social capitals, assets and resources, challenges and coping, as well as ‘living well’, for both themselves and the person with dementia. The current analyses utilise the responses of the 1283 caregivers on measures relevant to the present hypotheses only.

Measures

Pre-processing of data included checking data assumptions for combined scores. The distributions of psychological resources measures deviated from normality and so it was decided that, for the purposes of the analysis, these measures should be split into low, moderate or high tertiles. Schwarzer and Jerusalem’s (1995) 10-item General Self-Efficacy Scale (GSES) assessed self-efficacy (Cronbach’s $\alpha = .91$; low: range 14-29, $N = 335$; moderate: range 30-32, $N = 459$; high: range 33-40, $N = 432$), 6 non-filler items from Scheier et al.’s (1994) Life Orientation Test Revised (LOT-R) measured optimism (Cronbach’s $\alpha = .82$; low: range 0-13, $N = 460$; moderate: range 14-16, $N = 364$; high: range 17-24, $N = 411$), and Rosenberg’s (1965) 10-item Self-Esteem scale (RSE) assessed global self-esteem

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(Cronbach's $\alpha = .87$; low: range 15-29, $N = 424$; moderate: range 30-33, $N = 427$; high: range 34-40, $N = 367$). Appraisals of 'living well' were made using three measures: a factor score created from the World Health Organization's 26-item WHOQOL-BREF quality of life assessment (Skevington et al., 2004; Clare et al., 2019; Cronbach's $\alpha = .92$), the 5-item Satisfaction with Life Scale (SwLS; Diener et al., 1985; Cronbach's $\alpha = .88$), and the percentage score from the 5-item World Health Organization-Five Well-being Index (WHO-5; Bech, 2004; Cronbach's $\alpha = .86$). All measures were based on caregiver self-report and higher total scores indicate positive valence, i.e. higher self-efficacy, life satisfaction, optimism etc.

Caregiver age group and sex were measured, alongside hours of caregiving per day (<1, 1-10, 10+ or 'other'), caregiver depressive symptomology (Centre for Epidemiologic Studies Depression Scale Revised, CESD-R; Eaton, Smith, Ybarra, Muntaner, & Tien, 2004) and whether the caregiver lives at the same address as the person with dementia or not ('participant/caregiver co-habitation').

Analyses

Analyses were conducted with IDEAL baseline data version 2.0 using IBM SPSS Statistics v24. Missing data was less than 5.07% for all study variables. To test whether the three psychological resources (self-efficacy, optimism and self-esteem) were predictors of living well measures (quality of life, life satisfaction and well-being) among caregivers, multivariate univariable linear regression was used. Multivariate multivariable analyses were also conducted to further assess whether overlap in these psychological resources led to a reduction in the independent association between each psychological resource and living well measures. Analyses are shown both unadjusted and adjusted for caregiver-related factors (age group, sex, and hours caregiving per day). Levels of caregiver psychological resources did not differ notably as a function of the characteristics of the person with dementia and so only

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caregiver variables were included in the analyses. This was the case for the functional ability of participants with dementia (assessed using caregiver ratings on a modified Functional Activities Questionnaire; Martyr et al., 2012), cognitive ability (assessed with Addenbrooke's Cognitive Examination-III; Hsieh et al., 2013) and dementia sub-type. Regression coefficients (effect sizes) and confidence intervals (CIs) were examined, whereby coefficients were considered to be significant if their 95% CI did not include 0. Effect sizes were judged as clinically meaningful if $SwLS > 1.5$, and $WHO-5 > 5.0$ (based on Kobau et al., 2010; Topp et al., 2015). No similar cut-off is available for the WHOQOL-BREF.

Results

Data were included for the 1283 cases where there was both a person with dementia and caregiver participating in the study (full descriptives in Table 1). Caregivers were 68.7% female, had an average age of 69.13 years ($SD = 11.08$) and 81% were spouses or partners of the person with dementia. Therefore, contact with the person with dementia was high, with 81.4% of caregivers living at the same address as the person with dementia and 71.2% providing care for more than an hour a day. The majority of caregivers (87.3%) did not meet the threshold (scores of 16 or above on the CESD-R scale) for any kind of symptomology indicative of clinical depression. Caregivers were caring for people with a range of dementia diagnoses (see Table 1). People with dementia were 58.8% male, had an average age of 76.18 years ($SD = 8.24$), on average had mild-to-moderate cognitive impairment (Addenbrooke's Cognitive Examination-III, $M = 68.92$, $SD = 13.43$; Hsieh et al., 2013) and impaired functional ability (Functional Activities Questionnaire, $M = 17.84$, $SD = 8.61$). Living well measures were strongly intercorrelated (between $r = .56$ and $r = .73$).

Multivariable analyses show some change in effect sizes from unadjusted to adjusted models, but no difference in conclusions when examining the associations between the three psychological resources and living well measures (Table 2). The adjusted model shows that

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high GSES (compared to low GSES) is associated with an increase of .74 points on the WHOQOL-BREF factor score (95% CI: .46, 1.03), 2.81 points on the SwLS (95% CI: 1.85, 3.78) and 8.27 points on the WHO-5 (95% CI: 5.37, 11.17). High RSE (compared to low RSE) is associated with an increase of 1.88 points on the WHOQOL-BREF factor score (95% CI: 1.59, 2.17), 3.48 points on the SwLS (95% CI: 2.48, 4.48) and 13.71 points on the WHO-5 (95% CI: 10.70, 16.72). Finally, high LOT-R (compared to low LOT-R) is associated with an increase of 1.10 points on the WHOQOL-BREF factor score (95% CI: .83, 1.37), 3.24 points on the SwLS (95% CI: 2.32, 4.16) and 7.65 points on the WHO-5 (95% CI: 4.88, 10.42). The associations between psychological resources and living well measures are consistently smaller in these multivariable analyses, when compared to the corresponding effect sizes in univariable analyses (Table 3). Thus, as expected, there is substantial shared variance between psychological resources.

Discussion

National dementia strategies emphasise the need to support caregivers to ‘live well’ (e.g., All-Party Parliamentary Group on Dementia, 2014; National Institute for Health and Care Excellence, 2018), and the current findings increase our confidence that promotion of psychological resources may be a beneficial route to achieving this. Previous research using small samples has established individual associations between self-efficacy and quality of life (Tay et al., 2016) and the importance of self-efficacy and self-esteem for life satisfaction (Chappell and Reid, 2002; Gignac and Gottlieb, 1996; Haley et al., 1996) among caregivers of people with dementia. However, the current study provides strong cross-sectional evidence, using a large and varied (e.g., in age, sex, dementia type, relationship to the person with dementia) sample of caregivers from across Great Britain. Three key psychological resources (self-efficacy, optimism and self-esteem) are examined together and alongside a comprehensive battery of living well measures (quality of life, life satisfaction and well-

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being), presenting the most extensive examination to date of the relationship between psychological resources and indices of ‘living well’ among caregivers of people with dementia.

As predicted by early theories of resources for adaptation to stressors (Taylor, 1983; Taylor & Brown, 1988), our findings demonstrate an independent positive association between all three psychological resources and indices of ‘living well’ among caregivers of people with dementia. Based on pre-defined criteria for clinical meaningfulness (Kobau et al., 2010; Topp et al., 2015), those with low levels of each psychological resource have meaningfully lower life satisfaction and well-being scores than those with moderate or high levels of each resource. Quality of life scores were also lower when psychological resources were lower. Although each psychological resource was an independent predictor of living well measures within the model, a large proportion of shared variance was evident between all three psychological resources, which indicates that in targeting one psychological resource, interventions may also positively impact the other two. These findings are important for the identification of modifiable resources that may benefit caregivers.

The cross-sectional data cannot account for changes over time in the physical and cognitive health of the person with dementia, caregiving needs, and caregiver adjustment, or examine the role of psychological resources among those caring for someone with more severe dementia. However, when available, longitudinal data from IDEAL will provide further evidence about the relationship between psychological resources and living well measures, taking into account health-related changes. This will help to clarify the role of psychological resources in promoting better outcomes for caregivers of people with dementia. Also note that we measured general self-efficacy, whereas it is possible that a domain-specific measure assessing caregivers’ self-efficacy specifically within this role might have shown a stronger association with indicators of ‘living well’ (Crellin et al., 2014). Further, the

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large majority of caregivers in the present study were cohabiting spouses. Factors associated with the caring role may differ for those who care but do not cohabit, and for whom the relationship does not include a long-term spousal engagement.

As increasing numbers of people find themselves caring for a family member or friend with dementia, there is a need to recognise the impact on caregivers and to ensure they are properly supported to 'live well'. Our findings suggest that supporting caregiver self-efficacy, optimism and self-esteem may be a way of doing this. While interventions have shown the potential to improve self-efficacy among caregivers of people with dementia (Coon et al., 2003), more research is needed to understand how to bolster caregiver self-esteem and optimism. Previous research has found that self-esteem is related to whether a new situation is appraised as a positive challenge or a negative threat (Rector and Roger, 1996), and so enabling caregivers to feel good about themselves and the important role they occupy may promote more adaptive appraisals and coping strategies when caring. Although optimism is often considered a 'personality trait', variation in optimism over time among caregivers of people with Alzheimer's disease has been found, showing potential to intervene (Shifren and Hooker, 1995). Future research might explore interventions that are both specific to the challenges of caregiving, and also varied in approach to suit different individual backgrounds and preferences (e.g. group-based, one-to-one, or online). Finally, these findings also help to define some of the potential risk factors for caregivers who may struggle to cope with new caring responsibilities.

Conflicts of interest: none.

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Author contributions: RAL is responsible for the data analysis and interpretation, and drafting the article. CQ, SMN, AM, JMR, JVH and LC were involved in the original conception and design of the IDEAL study. All authors contributed to the critical revision of the article and approved the version to be published.

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Data availability: The IDEAL data will be deposited with the UK Data Archive upon completion of the study in March 2020. Details on how the data can be accessed after this date will be made available on the project website www.idealproject.org.uk.

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Table 1

Descriptive information about IDEAL study caregivers and people with dementia; N (%)

Caregivers		People with dementia			
<u>Age group</u>			<u>Caregiver/participant</u> <u>co-habitation</u>		<u>Dementia subtypes</u>
80+	216 (16.8%)	482 (37.6%)	At different address	237 (18.5%)	Alzheimer's disease (AD) 715 (55.7%)
75-79	223 (17.4%)	306 (23.9%)	At same address	1045 (81.4%)	Vascular dementia (VD) 142 (11.1%)
70-74	267 (20.8%)	232 (18.1%)	Missing data	1 (0.1%)	Mixed AD and VD 263 (20.5%)
65-69	208 (16.2%)	160 (12.5%)	<u>Hours caregiving per day</u>		Frontotemporal dementia 45 (3.5%)
<65	369 (28.8%)	103 (8%)	10+ hours	415 (32.3%)	Parkinson's disease dementia 43 (3.4%)
<u>Sex</u>			1-10 hours	499 (38.9%)	Dementia with Lewy bodies 43 (3.4%)
Men	402 (31.3%)	755 (58.8%)	Less than 1 hour	232 (18.1%)	Unspecified 32 (2.5%)
Women	881 (68.7%)	528 (41.2%)	Other	137 (10.7%)	

* $p < .001$, caregivers N = 1283; people with dementia N = 1547.

DEMENTIA CAREGIVER PSYCHOLOGICAL RESOURCES

Table 2

The association between psychological resources and living well outcomes, multivariate multivariable analyses; B (95% CI)

		GSES			RSE			LOT-R		
		WHOQOL-BREF	SwLS	WHO-5	WHOQOL-BREF	SwLS	WHO-5	WHOQOL-BREF	SwLS	WHO-5
1.Unadjusted	Low	-	-	-	-	-	-	-	-	-
	Moderate	.54 (.30, .78)	1.88 (1.04, 2.72)	5.44 (2.93, 7.95)	1.12 (.89, 1.35)	2.40 (1.58, 3.22)	11.00 (8.56, 13.45)	.67 (.43, .91)	2.39 (1.57, 3.22)	4.45 (1.98, 6.93)
	High	.75 (.48, 1.02)	2.61 (1.68, 3.55)	7.95 (5.15, 10.74)	2.04 (1.77, 2.32)	4.32 (3.36, 5.27)	15.86 (13.01, 18.71)	1.09 (.84, 1.34)	3.33 (2.44, 4.21)	7.56 (4.92, 10.21)
2. Adjusted	Low	-	-	-	-	-	-	-	-	-
	Moderate	.53 (.28, .78)	1.67 (.80, 2.53)	5.58 (2.97, 8.19)	1.02 (.77, 1.27)	1.81 (.96, 2.66)	9.52 (6.97, 12.08)	.66 (.41, .91)	2.07 (1.21, 2.93)	4.06 (1.47, 6.64)
	High	.74 (.46, 1.03)	2.81 (1.85, 3.78)	8.27 (5.37, 11.17)	1.88 (1.59, 2.17)	3.48 (2.48, 4.48)	13.71 (10.70, 16.72)	1.10 (.83, 1.37)	3.24 (2.32, 4.16)	7.65 (4.88, 10.42)

Note: GSES: General Self-Efficacy Scale; RSE: Rosenberg Self-Esteem; LOT-R: Life Orientation Test-Revised; WHOQOL-BREF: The World Health Organization's quality of life assessment; SwLS: Satisfaction with Life Scale; WHO-5: World Health Organization-Five Well-being Index. Adjusted for caregiver age group, caregiver sex and hours caregiving per day . 'Low' levels of all psychological resources were used as the reference group.

DEMENTIA CAREGIVER PSYCHOLOGICAL RESOURCES

Table 3

The association between psychological resources and living well outcomes, multivariate univariable analyses; B (95% CI)

Model	1. GSES			2. RSE			3. LOT-R		
	WHOQOL-BREF	SwLS	WHO-5	WHOQOL-BREF	SwLS	WHO-5	WHOQOL-BREF	SwLS	WHO-5
a. Unadjusted									
Low (Ref)	-	-	-	-	-	-	-	-	-
Moderate	1.22 (.95, 1.49)	3.54 (2.67, 4.41)	10.67 (8.03, 13.31)	1.60 (1.37, 1.83)	3.91 (3.12, 4.70)	14.94 (12.60, 17.27)	1.27 (1.02, 2.03)	3.90 (3.07, 4.74)	9.64 (7.09, 16.11)
High	2.07 (1.80, 2.34)	5.87 (4.99, 6.75)	17.84 (15.17, 20.50)	2.89 (2.65, 3.13)	7.06 (6.24, 7.88)	23.01 (20.59, 25.43)	2.28 (2.03, 2.52)	6.24 (5.43, 7.04)	17.57 (12.19, 20.04)
b. Adjusted									
Low (Ref)	-	-	-	-	-	-	-	-	-
Moderate	1.10 (.82, 1.38)	2.90 (2.02, 3.79)	9.64 (6.94, 12.34)	1.49 (1.25, 1.74)	3.26 (2.44, 4.09)	13.45 (10.99, 15.91)	1.22 (.95, 1.91)	3.43 (2.57, 4.29)	8.74 (6.11, 11.36)
High	1.94 (1.66, 2.22)	5.54 (4.65, 6.44)	16.67 (13.95, 19.39)	2.72 (2.46, 2.98)	6.24 (5.36, 7.11)	20.91 (18.30, 23.53)	2.17 (1.91, 2.43)	5.77 (4.94, 6.61)	16.46 (13.91, 19.01)

Note: GSES: General Self-Efficacy Scale; RSE: Rosenberg Self-Esteem; LOT-R: Life Orientation Test-Revised; WHOQOL-BREF: The World Health Organization's quality of life assessment; SwLS: Satisfaction with Life Scale; WHO-5: World Health Organization-Five Well-being Index. Adjusted for caregiver age group, caregiver sex and hours caregiving per day. 'Low' levels of all psychological resources were used as the reference group.