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Life satisfaction, social participation and symptoms of depression in young adult carers: evidence from 21 European countries

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ABSTRACT

This study aims to examine whether the association between life satisfaction and depressive symptoms in young carers was moderated by social participation. Cross-sectional data were extracted from the 7th wave of the European Social Survey. Our sample included 673 young carers and 1606 non-carers (aged 14–18 years) drawn from 21 participating countries who completed measures of life satisfaction, social participation and depression symptoms. As expected lower life satisfaction predicted higher symptoms of depression in young carers but social participation did not. However, as predicted, social participation moderated the relationship between life satisfaction and depression, with young carers who had higher life satisfaction and higher social participation experiencing lower levels of depression symptoms. Further, this effect was strongest in those with the highest rates of social participation with peers. The implications of the link between life satisfaction, social participation and depressive symptoms in young carers is discussed.

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Depression; life satisfaction; mental health; social factors; social participation; young carers

Introduction

Worldwide, there are estimated to be 349 million people dependent on family members for their care, i.e. family caregivers, the majority of which are women (WHO, 2017). A carer is a family member, sometimes paid but mainly unpaid, who regularly looks after and provides support (e.g. emotional and physical) for a sick or disabled relative or friend; this looking after (e.g. feeding, bathing, shopping) is referred to caregiving (Huntsberry-Lett, 2021). While some caregivers cope with the demands of caring, and experience positive effects (Brand et al., 2016), others do not and display higher rates of distress and depression compared to non-caregivers (Gallagher et al., 2018; Pinquart, 2018; Pinquart & Sorensen, 2003). However, a minority (2–13%) of young people are also estimated to be caring for others (Becker & Becker, 2008b; FCI, 2018; Leu et al., 2019). By young carer, we mean those aged under 18 years, while young adult carers are defined as aged between 18 and 24 years (Becker & Becker, 2008b). In relation to roles and responsibilities, there can be a continuum from 'caring about' (e.g. helping with cleaning and other basic domestic chores) to 'caring for' the person (e.g. taking on intimate personal, or specialized and medical care) which can shift across time (Becker, 2007). While there is often some variation in these roles across cultures, they tend to carry out the same range of caring tasks (Nagl-Cupal et al., 2015). These caring roles however often come at cost to young carers. For example, recent reports have also found that these young carers also experience higher rates of depression (D'Amen et al., 2021; Joseph et al., 2020) which has implications for future

health and disability (Burcusa & Iacono, 2007). Despite this, these are an overlooked population (Kavanaugh & Stamatopoulos, 2021) and the pathways behind the young caregiver and depression association are not fully understood with more research needed (D'Amen et al., 2021). Here, we examine the role of life satisfaction and social factors.

Life satisfaction is the cognitive component of subjective well-being and can be defined as 'a global measure of the degree of discrepancy between individual aspirations and achievements, or general contentment' (Diener et al., 2018). Its importance as a measure of subjective well-being for use in the general population is evident by the use of the scale by UK and WHO policy makers (Dolan & Metcalfe, 2012). Moreover, while higher life satisfaction has been found to predictive of lower morbidity and greater longevity (Koivumaa-Honkanen et al., 2000; Lee & Singh, 2020), lower satisfaction is associated with higher risk depression (Koivumaa-Honkanen et al., 2004). Caregiving is associated with poorer life satisfaction (Borg & Hallberg, 2006). In addition, a longitudinal study of informal caregivers in Germany found that the onset of informal caregiving was associated with a reduced life satisfaction (Hajek & Konig, 2016). Elsewhere, when comparing family caregivers and professional caregivers of people with dementia in Poland, family caregivers had higher scores in depression and lower life satisfaction than professional caregivers (Sadowska et al., 2020). While in caregivers of youths with mental health issues, caregiver life satisfaction was negatively affected by mental health symptom severity (Athay, 2012). Together these studies suggest that life satisfaction can be impacted by the stresses of caring for loved ones; a pattern that has also been evident in young carers (Pakenham et al., 2006a). Despite this, however, the association between life satisfaction and depressive symptoms in young carers is likely to be influenced by other factors such as social support. In fact, the effect of life satisfaction on depressive symptoms is likely to be moderated by social factors.

One theoretical framework for understanding this moderating influence of social resources on stress and health in caregivers including young carers is the cognitive model of stress (Fitzell & Pakenham, 2010; Folkman, 2010; Pakenham et al., 2007). According to the cognitive model of stress, during times of stress, i.e. caregiving, access to greater social resources via stress appraisal of the stressor leads to better health outcomes (Folkman, 2010). For example, the findings between higher social relationships and reduced depression is well established for the general (Gariépy et al., 2016) and caregiving populations (Dam et al., 2016), and has also been found in young carers (Pakenham et al., 2007). The mechanism of action here is that social resources including social participation assist the person with primary and secondary stressor appraisal, thereby mitigating the effects of, and assisting with the emotional responses, the stressor, i.e. caregiving stress, on health outcomes (Folkman, 2010). Moreover, social factors such as these are factors that promote resilience, i.e. the ability to bounce back from adversity, in young people (Newman & Blackburn, 2002). Recent research using a strengths-based approach, i.e. positive psychology approaches, found that social support facilitated higher resilience and greater benefiting finding in young carers (Gough & Gulliford, 2020). These social resources therefore aid an individual's capacity to cope with life stresses (Cohen, 2004), and social integration, defined as the extent to which individuals participate in a variety of social relationships, including engagement and participation in social activities or relationships (Holt-Lunstad & Uchino, 2015) are health protective.

In general, caregivers report less social support and social participation compared to non-caregivers (Gallagher & Whiteley, 2012; Rokicka & Zajkowska, 2020) with those that have greater social networks and higher social participation reporting lower depressive symptoms. For young carers, those reporting lower social support reported poorer psychological well-being (Pakenham et al., 2007). These direct effects are known as the main effect model whereby social factors influences well-being independent of other factors, whereas the indirect effect works via other psychological factors such as stress (Cohen, 2004); this is known as the stress buffering hypothesis (Cohen, 2004). The buffering model asserts that social factors protects against or moderates the negative effects of life stress on health when an individual perceives resources are available to them (Cohen, 2004). This is supported by studies showing that the effect of social support was

observed to mitigate the effects of stress on depression in parents caring for children with developmental disabilities (Cantwell et al., 2014), while other research found it was expressive support that was protective against stress in family caregivers (Ang & Malhotra, 2018). Another plausible indirect pathway in which it might exert its protective effect is through its influence on life satisfaction.

Social activities that involve doing them with others rather than alone have been found to lead to higher life satisfaction (Rohrer et al., 2018), implying that social participation with others rather than perceived availability of support is what is important for life satisfaction (Mackenzie & Abdulrazaq, 2021). In fact, the influence of higher social participation and increased life satisfaction has been found for a variety of ill and disabled populations (Bertelli-Costa & Neri, 2021) including family caregivers (Wakui et al., 2012; Zhao et al., 2021). Other studies have found that one of the reasons why caregivers may be less satisfied with life is due to having poor participation and social relationships (Ergh et al., 2003). Family caregivers are also likely to adjust their social participation, reducing or eliminating them altogether following onset of a caring relationship (Baumann & Bucki, 2013). Importantly, studies have found that social relationships were a moderator of life satisfaction in family caregivers of patients with brain injury (Ergh et al., 2003), implying that it is may be important factor for understanding the association between life satisfaction and depressive symptoms in young carers. It is worth noting that young carers not only have been found to have lower social support, but they are more likely to experience social withdrawal and have less opportunities for social participation (Joseph et al., 2020), suggesting that it may impact their life satisfaction. Thus, given the importance for social participation for life satisfaction and mental health, it might be that the association between life satisfaction and depressive symptoms in young carers will be moderated by social participation. To our knowledge this is yet to be examined in the context of young carers and will be examined in here.

The current study will examine the effects of caring on the mental health, i.e. depressive symptoms, of young carers relative to young people who are not caring. And based on the above evidence, we expect that young carers will report (1) higher depressive symptoms, (2) lower levels of life satisfaction and (3) lower social participation compared to non-caring youths. Moreover, we expect the association between life satisfaction and depression symptoms in young carers will be moderated by social participation. For this latter hypothesis, we expect that young carers who have higher social participation will be more satisfied with their lives which in turn will be associated with reduced depressive symptoms compared to young carers who participate less socially.

Methods

Participants, data, procedure and design

These cross-sectional analyses are based on the seventh wave of the European Social Survey (ESS Round 7: European Social Survey Round 7 Data, 2014). The ESS is a biennial multi-country survey and this seventh wave was conducted in 2014. We used data for the 21 participating countries: Austria, Belgium, Switzerland, Czech Republic, Denmark, Estonia, Finland, France, Germany, Hungary, Great Britain, Ireland, Israel, Lithuania, Netherlands, Norway, Poland, Portugal, Slovenia, Spain, and Sweden. Sample sizes in each country ranged from 1,224 (Slovenia) to 3045 (in Germany). Across the 21 countries, there were 40,185 participants. We included all participants aged between 14 and 18 years who had complete depression symptoms data, and who were categorized as being a young carer or not (i.e. responded yes/no to the item 'Looking after or helping family members, friends, neighbours or others'). Our final sample included 673 young carers (carers) and 1606 young people not caring (non-carers) and Israel had the highest percentage of carers at 9.4% and Lithuania the lowest at 1.5%. Carers also reported how many hours week they provided care each week (e.g. less than 1 hour, 1–10 hours, 11–20, 21–30 and so on).

Table 1. Sociodemographics and health characteristics by caregiver groups.

	Non-Carer (N = 1606)	Carer (N = 673)	Test of difference
Age (mean, SD)	16.79 (1.03)	6.75 (1.04)	F (1, 2,277) = 0.82, $p = .38$
Never married %	99.3	99.7	χ^2 (1) = 2.00 $p = .16$
Gender (girls) %	44.9	52.0	χ^2 (1) = 9.91 $p = .002$
Ethnicity % (no)	92.8	91.9	χ^2 (1) = 0.55, $p = .47$
Income % (>41k)	58.9	50.1	χ^2 (1) = 8.02, $p = .005$
Education % (Lower Secondary)	63.1	58.8	χ^2 (3) 5.71, $p = .16$
Social Participation % (much more than most)	3.4	8.7	χ^2 (4) 39.38, $p < .001$
Life satisfaction	7.85 (1.69)	7.90 (1.73)	F (1, 2,277) = 0.39, $p = .52$
Depression (mean, SD)	3.51 (3.60)	4.36 (3.97)	F (1, 2,277) = 24.85, $p < .001$

We selected seven demographic variables previously shown to be associated with depression: age (in years), gender (males; females), marital status (married, in a civil union, or cohabiting; divorced or separated; widowed; single) and given the age of the sample we collapsed this into single/never married vs other, education (less than secondary; lower secondary; post-secondary; college degree), and household income (deciles collapsed into two categories: 1st–5th = 1 and 6th–10th = 2, with the latter above €41,000. Table 1 has sociodemographics and health characteristics for each group.

Depression symptoms

Symptoms of Depression were measured using the eight-item Center for Epidemiologic Studies Depression scale (CESD; Radloff, 1977). This scale evaluates the frequency of depressive symptoms experienced over the preceding week. Each item is scored on a 4-point scale (0, = ‘rarely or none of the time’ to 3 = ‘most or all of the time’), and a global score is calculated, with scores ranging from 0 to 24. Cronbach’s $\alpha = .75$ for our young person subsample.

Participants were also asked to indicate if you are ‘Hampered in daily activities by illness/disability/infirmity/mental problem’ with responses ranging from 1 = yes a lot, 2 = to some extent, 3 = no.

Social participation and life satisfaction

Frequency of social participation was assessed by the item how often do you ‘Take part in social activities compared to others of same age’ and responses ranged from 1 = much less than most, 2 = less than most, 3 = about the same, and 4 = more than most, to 5 = much more than most”. This direct measure of social participation has been referred to as the comparative judgment of social participation or CJSP (Guillen et al., 2011). Based on evaluations conducted using the Survey Quality Predictor, the explained variance in the perceived variable by the variable of interest is between .6 and .76, established from research conducted across three European countries (Saris & Gallhofer, 2007).

Satisfaction with life was captured by asking ‘How satisfied are you with life as a whole’ with an 11-point responses format going from 0 = completely dissatisfied to 10 = completely satisfied. This single scale using similar wording has been used to assess life satisfaction in other caregiver studies (Baumann & Bucki, 2013). Across several studies single item scales have been found to be very reliable predictors of health outcomes (Lucas & Donnellan, 2012).

Statistical analysis

Analysis was done using SPSS. Prior to analysis, the sample was weighted by design and then our initial analyses (tests of differences) focused on comparing young carers to those young people who do not provide care. This was followed by a within carer hierarchical linear regressions where potential covariates (e.g. gender, annual income and country) were entered in Step 1, and followed by each of our predictor variables (e.g. social participation and life satisfaction together in Step 2. Follow-up moderation analysis were conducted using Model 1 in Process with the social participation as our moderator, life satisfaction as our predictor and depressive symptoms as out outcome. In this analysis, we also controlled for the same covariates as above. Partial eta squared (η_p^2) and R-squared are our effect sizes.

Results

Descriptives

As can be seen in Table 1, the groups did not differ by age or relationship status. However, young girls were more likely to be providing care compared to young boys. There was also no difference between the groups on their reporting of being an ethnic minority in their home countries or on their level of education. However, a lower percentage of young carers compared to non-caring youths had family incomes greater than €41,000. Unexpectedly, a higher percentage of young carers endorsed 'much more than most' on the social participation with friends their own age question. Ten percent of carers reported caring for just an hour a week with 77% reporting caring for 1–10 hours a week and the remaining doing over ten hours a week. In case age was a factor in hours caring per week, i.e. older carers perhaps are caring more hours per week, we checked to see if these both age and hours caring were correlated; this was not evident here, $r = -.009$. Moreover, age was not associated with social participation, $r = -.03$ and there was no differences on hours caring and social participation, $\chi^2(4) = 0.65$, $p = .957$. In terms of other key variables, there was no difference on life satisfaction between the groups but young carers reported higher depressive symptoms ($\eta_p^2 = .011$).

Associations between social participation and life satisfaction with depressive symptoms in young carers

As can be seen in Table 2, in Step 1, age, gender and income were all associated with depressive symptoms in young carers. Those older had higher symptoms and boys and those who lived in families with greater than €41,000 annually had less depressive symptoms. Together these explained

Table 2. Hierarchical linear regression with sociodemographics, social engagement and life satisfaction predicting depressive symptoms in young carers.

Variables	β	t	p	95%CI Lower	95%CI Upper
Step 1					
Age	.17	3.25	.001	0.24	0.97
Gender	.16	3.06	.002	0.44	2.02
Ethnicity	-.02	-.12	.90	-1.68	1.48
Income	-.16	-3.09	.002	-2.01	-.45
Hours caring	.08	1.05	.13	-.007	0.49
Country	-.01	-.014	.94	-1.64	1.52
Step 2					
Social engagement	.06	1.37	.17	-.10	0.61
Life satisfaction	-.40	-8.60	.001	-1.12	-0.70

8% of the variance in depression symptoms in young carers. After controlling for these, social participation was not a predictor of depression symptoms but life satisfaction was and this model explained an additional 16% (Δ) of the variance in depressive symptoms.

In post-hoc analyses, we examined whether countries with a greater awareness (advanced/intermediate/preliminary or emerging) of young carers (Leu & Becker, 2017) had any effect young carers reporting of depressive symptomology. Those with greater awareness based on this categorization included Austria, Belgium, Germany, Ireland, Italy, Netherlands, Norway, Switzerland, Sweden and the United Kingdom, whereas the remaining countries were categorized as low awareness. There were no differences across this criterion. Further, it could be argued that those caring those caring for more than 1-hour a week (an index of higher carer burden) are more burdened than those caring for less than 1-hour per week (Teahan et al., 2021), thus we re-examined the above regressions including the co-variables for these two groups separately. For those caring less than 1-hour a week, the results remained the same, life satisfaction was negatively associated with depression, $\beta = -.43$, $t = -2.57$, $p = .016$, and social participation was unrelated, $\beta = .31$, $t = -1.54$, $p = .13$. An analogous picture emerged for those caring for more than 1 hour per week, life satisfaction was negatively associated with depressive symptoms $\beta = -.29$, $t = -5.06$, $p < .001$; and social participation unrelated, $\beta = .07$, $t = 1.24$, $p = .21$.

Moderation of life satisfaction and depression symptoms through social participation

After controlling for confounding (age, gender, income), the association between life satisfaction and depressive symptoms was moderated by social participation, R^2 change = .018, $F = 6.46$, $p = .01$. Those who reported higher life satisfaction and who also reported higher levels of social participation had reduced depressive symptoms compared to those with lower engagement. Further, analysis of conditional effects indicated that the effect of life satisfaction on depressive symptoms was only significant for young carers endorsing social participation with people the same age as 'about the same', $\beta = -.65$, 95% CI $[-.96, -.33]$, $t = -4.08$, $p < .001$, 'more than most', $\beta = -.93$, 95% CI $[-1.18, -.68]$, $t = -7.42$, $p < .001$, and 'much more than most', $\beta = -1.22$, 95% CI $[-1.57, -.87]$, $t = -6.86$, $p < .001$. It was not evident for those with 'much less than most' ($p = .28$) and 'less than most' ($p = .16$) social participation.

Discussion

Summary of results

This study found, as expected that young carers living in Europe have higher depressive symptoms relative to youths in Europe who do not care. There were no group differences on satisfaction with life but a higher percentage of young carers reported a higher level of social participation with people their own age. Further, within our young carer sample, we found that high life satisfaction predicted lower depressive symptoms and that this association was moderated by social participation with peers. The protective effect of high life satisfaction on depression symptoms became much stronger at higher levels of social participation. To our knowledge this is the first study to test the interactive and protective effect of social participation on the life satisfaction-depressive symptoms association in young caregivers. Moreover, given the importance for life satisfaction and social participation for health (Koivumaa-Honkanen et al., 2004; Lee & Singh, 2020), their interactive nature for the mental health of young carers is underscored by these findings.

Discussion of results

The negative effect on the mental health, i.e. higher depressive symptoms, in young carers is consistent with other studies in the field (Joseph et al., 2020; Pakenham et al., 2006b), albeit this study was a Europe wide survey. This particular finding highlights the need to address the health and well-being of young carers which has been strongly advocated in a recent report (Joseph et al., 2020). In fact, a small but important body of social research examines this phenomenon and establishes that caregiving by children and young people internationally is associated with adverse educational and health outcomes and poor transitions into adulthood (Brimblecombe et al., 2020; Leu et al., 2021). Interestingly, while previous studies have found that young caregivers report lower social support (Pakenham et al., 2007), here we find evidence of higher social participation relative to non-caregiving youths; a higher percentage of young carers were more likely to participate 'much more than most' in social activities compared to their peers relative to those non-caring youths. While the dataset does not have details of what these activities are it does conflict with research demonstrating that young carers have lower social support, albeit this was also not measured in this study. This discrepancy between social participation and support is likely due to measurement differences, those previous studies assessed perceived social support (Pakenham et al., 2006b) which is distinct from social participation (Holt-Lunstad & Uchino, 2015). Moreover, social participation is also thought to facilitate social relationships (Holt-Lunstad & Uchino, 2015), perhaps through increased social connection and a sense of belonging; and while social support was not captured here we do find a health protective benefit of this participation on depressive symptoms of the young carers. This pattern is consistent with the broader literature on the health protective effects of social relationships on health in carers and non-carers (Gallagher & Whiteley, 2012; Holt-Lunstad & Uchino, 2015; Lu et al., 2018). Nonetheless, it also suggests that further research is needed to examine different aspects of social relationship and participation levels in young carers.

Implications

While we do not have details on the types of social participation these young carers were involved in one cannot underestimate the indirect benefits of it for health in this cohort. Further, participation was also not influenced by hours caring, albeit, it could be that hours caring could influence other aspects of social participation such as the type of event (e.g. online vs face-to-face), whether they are done alone or in groups, all of which are likely to be associated with different levels of health protective processes (e.g. increased social connections, opportunity for bonding, sense of belonging, self-esteem or self-concept). For example, these events could be individual, in groups or teams, be online or face-to-face or perhaps involve volunteering or skills or educational development. In terms of research on physical activity for example, team sport participation is associated with better mental health outcomes compared to individual participation (Guddal et al., 2019). Other research has found that young people who engage in volunteering report better well-being (Lawton et al., 2021), and these benefits are working via increased social connections (Creaven et al., 2017). While these may involve face-to-face interaction, it is worth mentioning that youth workers have also been promoting social participation of young people in photography, gaming, social media and film making in the digital space (Harvey, 2016). Importantly, while the digital space provides an alternative avenue for social participation for young carers who may be more restricted by time or caring duties. In fact, caregivers found themselves more severely restricted socially during the COVID-19 pandemic (Carers Trust, 2020; Gallagher & Wetherell, 2020), which is still ongoing, as increased use of digital technologies was evident as a way of supporting them but also creating space to participate socially with other carers (Masterson-Algar et al., 2021).

Strengths and limitations

Although our groups did not differ on life satisfaction, our finding that life satisfaction correlates with symptoms of depression in young carers is consistent with that found in other caregiver groups (Athay, 2012; Sadowska et al., 2020). More interestingly we also found that this association was moderated by social participation, with the buffering effect of life satisfaction on depressive symptoms being more protective in those who had higher levels of social engagement. This finding is also consistent with the stress buffering effect proposed by (Cohen, 2004), showing the benefits of social factors for health. Ergh et al. (2003) found that increased social relationship positively affected the life satisfaction of carers of brain injury patients. Correspondingly, Lu et al. (2018) noted the moderating effects of social relationships on life satisfaction in parental caregivers. Thus, our findings extend on these findings to show that the effects of social relationships for life satisfaction confer synergistic health benefits for the mental health of young carers. In addition, given that research has found that social participation increases life satisfaction for caregivers (Lu et al., 2018), our results underscore the importance of facilitating greater social participation for young carers as this may be one way to enhance their life satisfaction, which in turn can improve their mental well-being.

Whilst this study draws on a robust sample, a key limitation is the use of cross sectional data which prevents us from determining causality. In fact when we tested the alternative model from depression symptoms to life satisfaction and moderation by social participation we found the model to be significant also. As such future research studies employing a longitudinal and/or other study designs (e.g. randomized controlled trials) are necessary to establish causality. Another limitation is the age range used in categorizing young carers. In this study we defined young carers as being aged between 14 and 18 years. However other studies have included different age ranges (e.g. 16–24 years; Becker & Becker, 2008b) and given that aspects of life satisfaction and social relationships vary significantly with age our findings may not be comparable. It is also worth mentioning that duration of caring was not assessed and this would indicate the more chronic nature of the caring role, something that is likely to impact on our outcomes of interest. Another limitation is the measure of social participation as a proxy for social support. This study utilized a single item measure to assess social participation and found that both caring and non-caring groups had similar levels of participation. It is likely that other studies, which found that young carers report lower levels of social support than their non-caring peers, employed a more comprehensive measure of social support and may be more sensitive to perceived and actual support. Nevertheless our study provides valuable information on the potential protective value of social participation against depressive symptoms for young carers. Finally, given the nature of this survey, there were no details on the type of caring these young carers were doing. For example, whether they were caring inside or outside the home, or what type of illness or disability the person they were caring for had. These are factors known to be associated with mental health in carers. Thus, our findings should be considered in light of these limitations.

Conclusion

This study, using a European wide survey, found that young carers report higher levels of depressive symptoms relative to non-caring youths. These young carers also reported higher levels of social participation. More importantly, the association between life satisfaction and depressive symptoms was moderated by social participation such that those the protective effect of life satisfaction was only evident for those who had relative higher social participation compared to those with minimal social participation. These findings add to the burgeoning literature on young carers (Kavanaugh & Stamatopoulos, 2021) and it demonstrates the importance of social participation activities for young carers.

Data availability

The data for this project is freely available from <https://www.europeansocialsurvey.org/>

Disclosure statement

No potential conflict of interest was reported by the author(s).

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