Title: Social support mediates the association between benefit finding and quality of life in caregivers

Abstract

The psychosocial pathways underlying associations between benefit finding and quality of life (QoL) are poorly understood. Here we examined associations between benefit finding, social support, optimism and QoL in a sample of 84 caregivers. Results revealed that QoL was predicted by benefit finding, optimism and social support. Moreover, the association between benefit finding and QoL was explained by social support, but not optimism; caregivers who reported greater benefit finding perceived their social support be higher and this, in turn, had a positive effect on their overall QoL. These results underscore the importance of harnessing benefit finding to enhance caregiver QoL.

Keywords: Benefit finding; caregiver; optimism; quality of life; social support

Introduction

Associations between caregiving stress and health have been widely researched (Gallagher and Hannigan, 2014; Lim and Zebrack, 2004; Lovell, Moss, Wetherell, 2012; Pinquart and Sörensen, 2007; Thomas et al., 2006). These effects have been linked to poor mental and physical health problems (Gallagher and Whiteley, 2013; Gallagher and Whitely, 2012; Lovell, et al., 2012; Pinquart and Sörensen, 2007). However, while the negative consequences are well-established some have argued that there is disproportionate emphasis on distress and not enough attention to more positive outcomes (Chen and Greenburg, 2004). In response, subsequent research efforts have now begun to focus on positive caregiver outcomes, in particular benefit finding (Pakenham and Cox, 2008) and its association with quality of life (QoL) (Gloszman, 2004; Mackay and Pakenham, 2011).

Understanding QoL from the perspective of caregiver health is acknowledged as an established marker of biopsychosocial health (Gloszman, 2004). Consequently, QoL is an increasingly used measure of caregiver health (Schrag et al., 2000) with poorer QoL associated with institutionalisation of the care-recipient (Banerjee et al., 2003). Further, to date, the majority of research on caregiver QoL has focused on the negative predictors (e.g. patient problem behaviour) (Lim and Zebrack, 2004) with less attention paid to positive predictors (e.g. benefit finding). Moreover, previous studies on caregiver QoL have tended to rely on non-specific measures of QoL (e.g. WHOQOL-BREF; (Skevington et al., 2004; Thomas et al., 2006) which are less sensitive to caregiver needs (Coons et al., 2000). Thus, in the present study we focus on positive predictors and utilise a relatively recent devised caregiver specific measure, i.e., The Adult Carer Quality of Life scale (AC-QoL; Joseph et al., 2012). In addition, Tamayo et al. (2010) also recognised that addressing the psychosocial needs of caregivers was important in order to enhance the QoL of caregivers which others have suggested can be achieved through fostering benefit finding (Morrison and Bennett, 2012).

Benefit finding is a process by which people perceive positive growth in areas of relationships, spiritual growth and find meaning from stressful and traumatic experiences (Linley and Joseph, 2004). It has been defined in the literature as '…the positive effects that result from a traumatic event.' by Helgeson et al. (2006: 797) who go on to suggest that people who experience a traumatic event may engage in benefit finding as a cognitive strategy for coping with distress in the short term, but that it may also be a reliable measure of actual positive growth in the longer term. It must be acknowledged that benefit finding has similarities with posttraumatic growth, in that both describe a positive outcome; benefit finding however has been discussed in terms of the acquisition of benefit from adversity (Tennen and Afflect, 2002) whereas posttraumatic growth the success with which individuals cope or strengthen their perceptions of self, others and the meaning of events after a trauma Tedechi and Calhoun, 2004). Thus, given that our goal of interest was benefit finding as a coping strategy in caregivers as a way of dealing with caregiver stress it was a likely candidate to explore here. Further, the essence of the phenomenon has been described as when an individual's view of themselves and their place in the world after the traumatic event becomes altered to produce a positive psychological change or transformation (Tedeschi and Calhoun, 2004).

On this view, benefit finding can be seen as a unique adjustment outcome independent from distress with likely unique antecedents and generative processes (Helgeson et al., 2006). The precise quality and temporal nature of trauma which precedes a process of benefit finding is not universally agreed upon. As Bower et al. (2009) highlight, benefit finding can be observed in various populations who experience stress over different time frames, as caregivers do. However, it must be acknowledged that not all studies have found an association between benefit finding and QoL (see Dunn et al., 2011), a likely consequence of using non-specific QoL measures. Although the research on benefit finding is well-established in the area of psycho-oncology (for review see Helgeson et al., 2006), the literature on caregivers has only just begun to grow shoots. For example, Cohen et al. (2002) found over 70% of caregivers in their sample derived positive experiences in the areas of companionship and a sense that being a caregiver was rewarding. This phenomenon is not confined to adults, child caregivers have also been found to report benefit finding in their caring roles and were more resilient as a consequence (Cassidy et al., 2013). Further, increasing benefit finding through intervention by shifting the focus from losses to uplifts and gains in dementia caregivers is the emphasis of a new randomised control trial (Cheng et al., 2012), attesting to the merits of this construct to caregiver outcomes. Moreover, given that benefit finding may drive positive change and adjustment (Tedeschi and Calhoun, 2004) is it a likely candidate to explore in the context of caregiver QoL. Indeed, a number of studies have established direct associations between benefit finding and improved QoL in non-caregiver populations (Harrington et al., 2008; Schwarzer et al., 2006). Similarly, Penedo et al. (2006) demonstrated using a randomised control trial design how group cognitive behavioural therapy (CBT) could improve benefit finding and QoL in other healthcare populations.

A growing body of evidence has demonstrated links between social support and QoL (see Sammarco and Konecny, 2008) where higher levels of social support tend to be associated with better QoL. An observed effect of social support has been on the reduction in the amount of stress reported by caregivers (Cantwell et al., 2014; Chappell and Reid, 2002), and its contribution toward improved QoL. Social support has not only been associated with well-being, both social support received and support satisfaction were found to be predictive of higher levels of benefit and gains (Park et al., 1996) . In the context of psycho-oncology social support has been found to be positively associated with benefit finding (Dunn et al., 2011). In addition, social support was related to positive well-being in bereaved caregivers of HIV/AIDS patients (Cadell et al., 2003), implying that it is a likely candidate to be associated with both benefit finding and QoL. Indeed, positive growth after experiencing head trauma was associated with improved social relationships (Kuenemund et al in press).

While social support has been shown to be related to benefit finding, the process through which social support influences benefit-finding has not been adequately explored and in the context of caregiving is yet to be investigated. Although one qualitative study of female breast cancer survivors found that the women's reports of benefit finding was linked to receiving positive social support from peers (Dunn et al., 2009), implying a mediating effect. Thus, given the associations between social support, benefit finding and QoL, it is possible that these predictors are interacting together and that the process through which benefit finding exerts its influence on caregiver QoL could be through social support. In fact, given that one of the perceived gains associated with benefit finding is improved social relationships, this pathway is highly plausible (Dunn et al., 2009). To our knowledge this is the first study to test these associations.

QoL is also shaped by the influence of individual differences in personality (Swickert et al., 2010). Optimism is a dispositional personality characteristic and is generally thought of as the expectation of positive outcomes in everyday life (Scheier et al., 1994). Optimism has been consistently shown to be correlated to, and predictive of QoL in a variety of populations (see Horney et al., 2011). Further, dispositional optimism has been shown to be strongly linked to better coping and caregiver life satisfaction (Mackay and Pakenham, 2011) and benefit finding (Helgeson et al., 2006), which suggests that it may be influential in this context. In fact, caregivers of children undergoing hematopoietic stem cell transplantation reported improved benefit finding after one year (Rini et al., 2004); but, benefit finding did not predict levels of psychosocial adaptation until optimism was considered as a moderator of this relation. Also, only caregivers high in optimism showed improved benefit finding over time (Rini et al., 2004). Moreover, given that optimism is linked to positive appraisal (Bryant and Cvengros, 2004), this could be one process through which life experiences may be reappraised in a more meaningful way. Finally, optimism has been shown to exert a unique influence on the process of benefit finding in other samples with respect to QoL (Chang and Sanna, 2001; Horney et al., 2011;), but it has yet to be explored in the context of caregiver QoL. Taking these findings into consideration it seems reasonable to suggest that the association between benefit finding and caregiver QoL is most likely to be moderated by caregivers' levels of optimism. Moreover, given that benefit finding interventions are currently being implemented (Cheng et al., 2012) investigations exploring the psychosocial pathways underlying the associations between benefit finding and QoL are timely and clearly warranted.

Thus, based on the above evidence the aim of this study was to examine the positive psychosocial predictors and indirect effects between benefit finding and QoL in a sample of caregivers. It is hypothesised first, that benefit finding, social support and optimism will be positively related with caregiver QoL. Second, that social support will mediate the relationship between benefit finding and caregiver QoL. Third, that any association between benefit finding and QoL will be moderated by optimism.

Method

Participants

Participants were 84 caregivers recruited via word of mouth and carer support groups from a variety of sources in Ireland. The caregivers were a heterogeneous sample; the majority were women (84%) and 52.4 % reported caring for a child and 16.6% caring for a spouse with the remaining caring for siblings and grandparents. In terms of disability type, the majority of care recipients had mental health difficulties (68.4 %) with the remaining having physical health problem. A total of 109 questionnaires were distributed to caregivers over a three month period and 92 questionnaires were returned to the researchers, yielding a response rate of 84%. Eight questionnaires contained too little data for any analysis and a lack of time to complete questionnaires at meetings was given as the reason for those who did not participate. The study was approved by the relevant University Research Ethics Committee and all participants gave informed consent.

Measures

Caregiver characteristics such as gender, marital status, education, employment and ethnicity were obtained. As in previous studies (Gallagher and Whiteley, 2013), socio-economic status was measured using The Registrar General's social classification (Office of Censuses and Surveys, 1972). Participants were asked to specify their occupation or that of the principle breadwinner, which were categorised as professional (e.g. physician), managerial (e.g. director), non-manual/clerical (e.g. secretary), skilled manual (e.g. carpenter), semi-skilled manual (e.g. bus driver), unskilled manual (e.g. labourer). This measure has been used in previous caregiver research (Tennakoon et al., 2000).

Benefit finding

Benefit finding was measured using the Stress Related Growth Scale (SRGS; Park and Fenster, 2004,) which has been used previously in caregivers (Mackay and Pakenham, 2011). The SRGS measures the extent to which the perspectives and behaviour of individuals are positively changed due to traumatic events. Participants rated the degree to which they experienced personal gains from their caregiving role on a three point Likert scale ranging from 1 (*not at all*) to 3 (*a great deal*) across three domains: social support, interpersonal relationships and personal growth. Examples of questions which probed these constructs were 'My friends and family have become more helpful', 'My relationship with my family member has been enriched' and 'I have learned to appreciate the strength of people who face hardship'. This scale has been shown to have a good test retest reliability ($r = .95$) and internal consistency reliability (Cronbach's $\alpha = .94$). In the present study an internal consistency reliability of $\alpha =.93$ was observed.

Social Support

The 19-item Medical Outcome Study social support scale (MOSS; Sherbourne and Stewart, 1991), a well validated measure of social support was used to assess social support. This identifies perceived availability levels of functional support. Sample items include ‘Someone you can count on to listen to you when you need to talk’, and ‘Someone to get together with for relaxation.’ Participants are asked to indicate the frequency that different types of support are available to them on a scale ranging from 1 (*none of the time*) to 5 (*all of the time*). Higher scores indicate higher levels of perceived support by the participant. Previous caregiver research has used the MOSS to measure social support (Grunfeld et al., 2004) and it displays good test-retest reliability (Sherbourne and Stewart, 1991); here we obtained a .96 Cronbach’s alpha.

Optimism

Optimism was assessed using the Life Orientation Test Revised (LOT-R; Scheier, Carver, and Bridges, 1994). The LOT-R measures an individual’s dispositional optimism and has been used in other caregiver studies of this nature (Helgeson et al., 2006; see Mackay and Pakenham, 2011b). Participants were asked to indicate how much they agree or disagree to statements such as ‘In uncertain times, I generally expect the best’ and ‘If something can go wrong for me, it will’ (reverse coded). Responses were scored on a 5-point scale ranging from 0 (s*trongly disagree*) to 4 (s*trongly agree*). Test-retest reliability for this scale has been shown to be acceptable ($r = .79$) with good internal consistency ($\alpha =.78$). Cronbach’s alpha for the LOT-R in the present study was .74.

Quality of Life

QoL was measured using the 40 item Adult Carer Quality of Life Questionnaire (AC-QoL; Joseph et al., 2012). The AC-Qol measures quality of life in eight separate domains: support for caring; caring choice; caring stress; money matters; personal growth; sense of value; ability to care; and carer satisfaction. Participants are asked to indicate the frequency that they feel or experience different aspects of the caregiving role on a 4 point Likert scale ranging from 0 (*never*) to 3 (*always*). Some items are positively worded such as ‘I feel valued by the person I am looking after’ and some are negatively worded e.g., ‘I worry about going into debt’ and negatively worded items are reversed scored. QoL scores can be calculated for a total quality of life using the entire set of items (range 0 – 120) or for each of the subscales individually (range 0 – 15) with higher scores indicating higher perceived quality of life on that subscale. Scores pertaining to two of the eight AC-QoL domains; support for caring as well as personal growth were omitted from all statistical analysis for the purposes of this study. This was to reduce the possibility of multicollinearity effects between these sub-scales and the independent variables: social support and benefit finding due to their possible conceptual closeness. This scale has also been shown to have excellent consistency reliability (Cronbach’s α = .94) with subscales ranging from .78 to 89 (Joseph et al., 2012) and here we obtained a Cronbach’s α = .93 for the total scale.

Statistical Analysis

In order to test the first hypothesis, bivariate correlation analyses was used to determine whether demographic variables, caregiver characteristics, care recipient characteristics, optimism, benefit finding or social support were related to QoL. Indirect effects analysis was conducted using the PROCESS macro created by Preacher and Hayes (2012) in SPSS. The bootstrap procedure (Mallinckrodt et al., 2006) was used to further evaluate the significance of the mediator. We based the estimate of the indirect effect by running 10,000 bootstrap iterations of computed samples as suggested by Mallinckrodt et al. (2006) and used a 95% confidence interval (CI) that is calculated for the point estimate. The mediating effect of social support on the relationship between benefit finding and QoL was analysed using model 4 of the PROCESS module and the moderating effect of optimism on the relationship between benefit finding and QOL was tested using model 1 of the PROCESS module.

Results

Caregiver demographic and descriptive statistics

In terms of socio-demographics, 61% of study participants reported being married or cohabitating, 19% were single, 16% were widowed and 4% were divorced or separated. The overwhelming majority of participants were Caucasian (97%) and a small minority were African American (3%). Most of the caregivers who participated had attended school to secondary level (53%), while some had attended primary school only (18%) and some had attained degrees (15%). 12% of participants held diplomas while a small minority completed masters and PhD courses (2%). Regarding occupational status 13% reported being professional, 17% managerial, 27% skilled non-manual, 13% skilled manual, 8% partly skilled, 18% unskilled and finally 4% reported being in unlisted categories.

Preliminary Analysis

Participants reported caregiver QoL scores above the average for the scale indicating that more often than not, caregivers in the sample had a positive perception of their QoL (*M* = 79.05, *SD* = 19.72). Benefit finding was above the average for the measure (*M* = 2.27, *SD* = 0.39) and close to the reported score by caregivers in previous caregiver research (*M* = 1.19, *SD* = 0.50; (Mackay and Pakenham, 2011). Social support was reported by caregivers as being available more than ‘Some of the time’ (*M* = 3.07, *SD* = 1.00) and optimism levels were above the average for the scale (*M* = 2.82, *SD* = 0.70). Preliminary analyses were conducted in order to determine whether caregiver QoL varied as a function of caregiver demographics, characteristics, or care recipient characteristics. None of the caregiver demographic or care recipient variables were related to QoL (all $p > .05$). We also checked to see whether caregivers attended support groups may also report differences in social support thereby skewing statistical analysis; an independent t-test revealed no significant differences on social support scores between caregivers who reported attending support groups (*M* = 3.01, *SD* = 0.96), and those who did not (*M* = 3.51. *SD* = 1.00).

Correlations between Predictor Variables and Quality of life

Overall, correlations were consistent with predictions. Benefit finding, social support and optimism were positively correlated with caregiver QoL, such that caregivers who scored higher on benefit finding, social support and optimism scales reported greater QoL (See Table 1). Further, the QoL sub-domains of Sense of Value, Ability to Care and Carer Satisfaction were positively related to the benefit finding and social support. Issues relating to money matters, carers ability to care and the sense of value gained from providing care were positively related to levels of optimism. Interestingly, caregivers' sense of social support was positively associated with their levels of optimism. Caregivers who reported higher levels of benefit finding also perceived increased social support, however, no significant relationship was observed between benefit finding and optimism.

[Insert Table 1 About Here]

Mediation and Moderation

In Step 1 of the mediation model, which followed the framework of Baron and Kenny (1986), the regression of benefit finding on caregiver QoL, ignoring the mediator, was significant (*b* = .30, CI95% |0.169, 0.21827|), *t* (84) = 2.53, *p* = .013). Step 2 showed that the regression of benefit finding on the mediator, social support, was also significant (*b* = .90, *t* (84) = 3.39, *p* < .001). Step 3 of the mediation process showed that the mediator (social support), controlling for benefit finding, was significant (*b* = .15, *t* (84) = 3.15, *p* < .001). Step 4 of the analysis revealed that, controlling for the mediator (social support), benefit finding scores were not a significant predictor of caregivers' QoL (*b* = .31, *t* (84) = 2.63, *p* = .10). Thus, this suggests that as caregivers reported an increasing sense of benefit finding their perceptions of social support increased which, in turn, led to greater perceived QoL. Alternative mediation models, i.e. QoL as a predictor of benefit finding with social support mediating the relationship were unsupported. Further, after controlling for gender, time caregiving and optimism the mediation is still significant.

Moderation

To test the hypothesis that optimism moderated the relationship between benefit finding and caregivers' QoL, the predictors were centred to avoid potential problems of high multicollinearity and an interaction term created. A hierarchical multiple regression was conducted and in the first step, benefit finding and optimism accounted for a significant amount of the variance in caregivers' QoL, $R^2 = .280$, $F(2, 81) = 15.72$, $p < 001$). Next, the interaction term between benefit finding and optimism was added but did not account for a significant proportion of the variance in caregivers' QoL, $\Delta R^2 = .006$, $\Delta F(1, 80) = .723$, $p = .398$, $b = .13$, $t(80) = .753$, $p = .454$. This suggests that optimism was not a moderator of the association between benefit finding and caregivers QoL.

Discussion

The present study explored the associations between benefit finding, social support, optimism and QoL. As hypothesised, benefit finding, social support and optimism were all correlated with, and predictive of caregiver QoL. Additionally, this study is the first to show that social support mediates the relationship between benefit finding and caregiver QoL. It suggests that caregivers who derive and find benefit from their caregiving role perceived their social support to be better, which in turn increased their sense of QoL. It is important to note that perceived social support is a better predictor of health outcomes than actual social support (McDowell and Newell, 1996). However, contrary to expectations optimism did not exert any influence on the benefit finding caregiver QoL association.

The positive association found between benefit finding and caregiver QoL is consistent with other cross-sectional studies and longitudinal research. For example, Mackay and Pakenham (2011) also observed positive associations between benefit finding and life satisfaction in an Australian caregiver sample, such that caregivers who can derive benefit from their caring role, even as they face difficult circumstances appear to perceive their QoL as improving. The strong positive correlation of benefit finding to caregiver QoL that emerged in the present study is also reinforced by observations from other studies (Harrington et al., 2008). Also, while this correlation is contrary to results from Helgeson et al. (2006), who failed to find any relationship between benefit finding and QoL, it is compatible with their assertion that suitably refined QoL measures are required. Further, our data also support the utility of benefit finding as an intervention target for caregiver health (Cheng et al., 2012).

As evidenced in recent studies, social support and QoL have emerged as being related but distinct constructs (Harrington et al., 2008), and in the present study social support emerged as being strongly related to QoL. As previously stated, social support as a sub-domain of the AC-QoL measure used in the present study was removed prior to analysis to ensure reliability and validity of the QoL measurement. Hence, the correlation found here is congruent with past caregiver health research which showed that the perceived availability of practical support, e.g. having someone to talk to about caregiving and receiving close emotional support, also serves to promote better QoL (Chronister and Chan, 2006). In fact, social support has been considered central as a factor in reduced caregiver stress (Glozman, 2004), an outcome which has been consistently shown to predict improved caregiver QoL (see Lim and Zebrack, 2004). The mediating effect of social support on the benefit finding and QoL relationship suggests that benefit finding has an enhancing effect on caregivers' perception of social support, and this has the effect of improving their QoL. In terms of pathways involved, some have argued benefit finding can lead to feelings of distress due to more active engagement with distressing and intrusive thoughts and that distress is necessary in a search for finding benefit (Helgeson et al., 2006). It could be that caregivers while searching for meaning are increasingly accessing means of social support in order to cope. However, the complete causal pathway indicates that the overall effect is an improved sense of QoL at the end of the difficult cognitive processes associated with benefit finding. Further, our results are consistent with qualitative studies showing that benefit finding is associated with receiving positive social support from peers (Dunn et al., 2009), implying a mediating effect of benefiting finding – adjustment relationships.

All predictor variables were associated to one another with the exception of benefit finding and optimism. While the association between optimism and QoL is consistent with other studies (see Horney et al., 2011) our lack of moderation on benefit finding was not as predicted. In fact, this lack of association between optimism and benefit finding is not always evident (Mackay and Pakenham, 2011). While the refinement of the LOT-R scale (used in our study) sought to strengthen its discriminatory power, the lack of association between benefit finding and optimism may be due to a residual weakness in the scale to effectively separate the optimism and pessimism constructs and thus lead to some confounding effects.

It must be acknowledged that the study has certain limitations. First, it is important not to overemphasise the findings of cross-sectional studies such as the present study which have limitations on the generalisability of findings. Also, because of the cross-sectional design, causality remains ambiguous with regard to the direction of relations between the predictor variables and QoL and future studies should incorporate a longitudinal design. Although it is worth noting that the alternative mediation model of caregiver QoL-social support-benefit finding was not significant. Second, a large proportion of our sample were recruited from caregiver support groups. While this was controlled for in this study, caregivers who do not attend such groups may differ from those who do and therefore the findings contained herein may not be generalisable to a wider carer population. Third, the sample used in the present study comprised of caregivers' providing care to people experiencing a range of mental and physical difficulties. It could be that caring for people experiencing bi-polar type problems has a very different effect on caregivers' sense of benefit finding or social support than problems more related to dementia or physical disabilities. Finally, there was the possibility of a certain amount of conceptual overlap between the *social support* sub-domain of the SRGS and the MOSS. However, that the SRGS was predicted by social support satisfaction in Park and Fenster (2004) and not the availability social support, which is what the MOSS measures, would appear to introduce an acceptable level of control for an amount of covariance between these predictors.

To conclude, this study has advanced knowledge in the field of caregiver health by providing further evidence of the importance of positive psychological resources in improving the lives of caregivers. Understanding that the co-occurrence of benefit finding, social support and dispositional optimism was related to and predictive of improved QoL can assist clinicians to understand and alleviate symptoms in caregivers who may be prone to overwhelm, excessive burden and lack of social support. Furthermore, this is the first study to help clarify conceptual issues surrounding the benefit finding - Caregiver QoL relationships by showing how benefit finding exerts influence on perceptions of social support to help improve caregiver QoL. Here we found that for caregivers who engaged in the cognitive process of benefit finding, it emerged as having an enhancing effect on social support and this enhancement ultimately explained the increase in their perception of better QoL. Finally, an additional clinical implication arising from this study is the indirect effect of social support on QoL, hence interventions aimed at increasing benefit finding in order to also enhance social support for the caregiver population should be investigated (see Penedo et al., 2006 for more). Lastly, this study has succeeded in establishing the concomitant positive affect of benefit finding and social support on caregivers' QoL.

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Table Caption

Table 1

Correlations between AC-QOL, AC-QOL subscales, benefit finding, optimism and social support

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Correlations between AC-QOL, AC-QOL subscales, benefit finding, optimism and social support

Variable	*N*	QOL	Benefit finding	Social support	Optimism
AC-QOL	84	-	.39**	.42**	.40**
AC-Qol sub-domain	84				
Caring choice	84		.10	.31**	.21
Caring stress	84		.04	.21	.11
Money matters	84		.00	.15	.35**
Sense of Value	84		.39**	.31**	.24*
Ability to care	84		.34**	.26*	.33**
Carer satisfaction	84		.42**	.35**	.15
Benefit finding	84		-	.35**	.12
Social support	84			-	.33*
Optimism	84				-

* $p < .01$. ** $p < .001$