ORIGINAL ARTICLE

Cognitive coping and depressive symptoms in the elderly: a longitudinal study

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Abstract

The objective of the present longitudinal study was to examine the relationship between cognitive coping strategies and depressive symptoms at old age. At the two and a half year follow-up study, a community sample of 99 people aged 67 years and older filled out a self-report questionnaire comprising the Geriatric Depression Scale, the Cognitive Emotion Regulation Questionnaire and a negative life events checklist. Cognitive coping strategies seemed to play an important role in relation to depressive symptoms in late life. Elderly persons with more depressive symptoms reported to use acceptance, rumination and catastrophizing to a significantly higher extent and positive reappraisal to a significantly lower extent than those with lower depression scores. After controlling for negative life events and prior depressive symptoms, acceptance and positive reappraisal retained their significant relationship with current depressive symptoms. It is suggested that intervention programs should pay attention to these aspects by challenging the 'maladaptive' strategies, and by supplying the more 'adaptive' strategies. This could be linked to the well-established cognitive therapies.

Introduction

Several studies have indicated that, compared to younger people, older people experience fewer negative life events overall, however, they experience more loss events, including those associated with declining health, loss of the work role, and loss of friends and loved ones (Folkman et al., 1987). Elderly people who have experienced negative events such as death of loved ones, physical illnesses, abuse or relational problems have consistently been found to suffer from more depressive symptoms than elderly people who did not experience these events (Katon, 1993; Kraaij, 2000; Orrell & Davies, 1994). The accumulation of negative life events has been found to be strongly related to depression in the elderly (Kraaij et al., 2001; Kraaij & de Wilde, 2001).

However, not all elderly people who have experienced stressful events develop emotional problems. Whether people can handle stressful experiences successfully depends largely on his or her ability to cope adequately with stressful and frightening events (Lazarus, 1993; 1998). Several studies have suggested that there are age differences in coping (Folkman et al., 1987), others however revealed no consistent age-related differences in the use of coping mechanisms (Strack & Peirce, 1996). In general, strategies focusing on dealing with the problem that is causing the distress have been found to be more beneficial for well-being than strategies focusing on distressing emotions (Kraaij et al., 2002; Thoits, 1995; Zeidner & Sahlowske, 1996). More specifically, recent studies in adolescent and adult samples have shown that cognitive coping strategies such as self-blame, catastrophizing and rumination have a positive relationship with maladjustment, while positive reappraisal has a negative relationship with maladjustment (Garnefski et al., in press a; Garnefski et al., 2001; Garnefski et al., in press b). Whether these cognitive coping strategies are also relevant for elderly people has not been studied yet. It would be of interest to know which specific cognitive coping strategies are related to well-being at old age since cognitive therapies have been found to be effective in treating elderly depression (Engels & Vermey, 1997; Scogin & McElreath, 1994; Woods, 1993). If certain cognitive coping strategies can be proven to be more or less effective in dealing with stressful events, these strategies could be promoted or challenged in treatment. These aspects could be well integrated in cognitive therapies.

It has been argued that a history of depression might explain, either in whole or in part, the relationship between earlier stressful events and...
current depression (Kessler, 1997; Kessler & Magee, 1994). A history of depression might influence several risk factors, such as cognitive coping strategies and negative life events, in which case failure to control for a history of depression would lead to an overestimation of their effects on later depression. In addition it has been found that prior depression is the largest predictor of later depression (Wallace & O’Hara, 1992). Therefore, when studying stress-coping processes, one should control for prior depression and examine whether the coping strategies retain their predictive power after controlling for prior depression.

In the present study we will first examine the relationship between cognitive coping strategies and depressive symptoms at old age, as they may provide valuable tools for prevention and intervention efforts. Next, we will examine whether these relationships will retain when including other predictors, such as negative life events and prior depression.

**Methods**

**Sample**

The sample consisted of 99 elderly people from the general community. The mean age of the respondents was 77.2 years (SD 6.12, range 67–97) and 52% were male. Fifty-two percent were married or living together, 42% were widowed and 6% were either divorced or had never married. The majority (92%) lived independently, the others lived in sheltered accommodation (3%), nursing homes (3%) or in other situations (2%).

**Procedure**

The present study is a follow-up of an earlier study (for a full description see Kraaij, 2000; Kraaij & de Wilde, 2001; Kraaij & Garnefski, 2002; Kraaij et al., 2002). In this earlier study, subjects aged 65 and over were randomly selected from the community register of a medium-sized city in the Netherlands. A total of 194 elderly people were interviewed at their homes. Of this sample 152 (78%) respondents had signed an informed consent form that gave permission to be approached for a follow-up study. These subjects were approached on average two and a half years (SD 4 months) after the initial interview. They were sent a letter that described the nature of the follow-up study. A telephone call was made a week after the mailing and respondents who were willing to participate were sent a questionnaire with a return envelope. Those people who did not answer their telephone on several occasions were sent the questionnaire with an accompanying letter. Two people had difficulty reading and writing and received support filling in the questionnaire at home. A total of 99 (65%) of those who gave permission for follow-up approach elderly people participated in the follow-up study. The main reason for dropout was that the subjects could not be included because they had died (40%) or moved and were unable to trace (11%). Another 25% was not interested in participation in the study, 15% reported physical or mental reasons for non-participation, and 9% agreed participation but did not return the questionnaire.

**Measures**

The data used in this article were collected at two measurements: the initial interview (T1) and the follow-up (T2). Depressive symptoms were measured at both times, cognitive coping strategies were measured at follow-up, and negative life events were measured at both times covering different time periods.

**Depressive symptoms (T1 & T2).** Depressive symptoms were measured using the Geriatric Depression Scale (GDS; Brink et al., 1982), consisting of 30 dichotomous questions. Scores range from zero to 30, with a high score indicating more depressive symptoms. The GDS excludes items that are confounded with normal aging and diseases associated with old age, but assesses primarily psychological components of depression. Therefore, it is very suitable for assessing depression in the elderly. The GDS has been demonstrated as having a high reliability (Cronbach’s alpha coefficient: 0.94), good validity, and high levels of sensitivity and specificity using a cut-off score of 11 (Kok, 1994; Olin et al., 1992; Yesavage et al., 1983). In the present sample an alpha-reliability of 0.83 was found at the initial interview (for the total group) and an alpha-reliability of 0.91 was found at follow-up.

**Cognitive coping strategies (T2).** Cognitive coping strategies were measured by the Cognitive Emotion Regulation Questionnaire (CERQ; Garnefski et al., 2001). Cognitive coping strategies are defined here as the cognitive way of managing the intake of emotionally arousing information, involving thoughts or cognitions that help to manage or regulate our emotions (see also Thompson, 1991). More specifically, the CERQ assesses what people think after the experience of threatening or stressful life events. The CERQ consists of 36 items and nine conceptually different subscales. Each subscale consists of four items. Each of the items has a five-point Likert scale (‘never’ to ‘always’). A subscale score can be obtained by adding up the four items (with a range from zero to 16), indicating the extent to which a certain cognitive coping strategy is used. The nine subscales are:
self-blame, acceptance, rumination, positive refo-
cusing, refocus on planning, positive reappraisal,
putting into perspective, being a catastrophist, and
other-blame. It has been shown that the alpha-relia-
bilities of the subscales range from 0.68 to 0.83, with
five of the alphas 0.80 or higher (Garnefski et al.,
2001). In the present sample the alpha-reliabilities
ranged from 0.76 to 0.82, with five of the alphas 0.80
or higher.

Negative life events. Earlier negative life events (T1).
Negative life events experienced before the initial
interview were measured by the Negative Life
Events Questionnaire. This questionnaire is an
adaptation of the Life Events Questionnaire, an
instrument used in the WHO multicentre study on
parasuicide (Kerkhof et al., 1994). Among others,
the adapted version is extended with negative life
events specific to elderly people (e.g. dementia of a
partner and wartime related events). The Negative
Life Events Questionnaire contains 107 dichoto-
ous items on negative life events concerning self
or significant others. The questionnaire is a life-
time instrument questioning the occurrence of all
events for different developmental periods, ranging
from childhood to the year prior to the interview.
Questions are formulated in a detailed way in
order to minimize judgmental and subjective esti-
mates (e.g., with regard to physical abuse one of
the questions is not ‘were you ever physically
abused?’ but instead, ‘were you ever severely
beaten, kicked, or deliberately wounded by [one
of] your parents’). In the present study adding all
the negative events experienced produced a sum
score.

Negative life events. Recent negative life events (T2).
Negative life events experienced between the initial
interview and the follow-up were measured by a
short checklist, with a yes/no response format. The
date of the initial interview was given and the
respondent was asked whether he/she had experi-
enced a severe illness of self or significant other, the
death of a significant other and a serious argument
or fight with a significant other since this date. In
the present study adding these events produced a sum
score.

Statistical analyses
First the Pearson correlations among the variables
used in the present study were examined. Because
the sample size was not large enough for a multivar-
iate analysis including all predictor variables, the
variables that had a significant bivariate correlation
with depressive symptoms at follow-up were selected
for inclusion in the multivariate analyses. To study
the multivariate relationship between cognitive
coping strategies and current depressive symptoms,
multiple regression analysis was performed. Next, it
was examined whether the multivariate relationship
between the cognitive coping strategies and depres-
sive symptoms retained after controlling for prior
depressive symptoms and negative life events by
performing hierarchical regression analysis.

Results
Pearson correlations between cognitive coping strategies,
negative life events, prior depressive symptoms, and
current depression scores
Pearson correlations among the variables were
computed (Table 1). Several cognitive coping strate-
gies appeared to have a significant bivariate
relationship with current depressive symptoms.
Reporting the use of more acceptance, more rumina-
tion or more catastrophizing, was significantly related
to more depressive symptoms. Reporting the use of
more positive reappraisal was significantly related to
less depressive symptoms. The extent to which
elderly persons used self-blame, positive refo-
cusing, refocus on planning, putting into perspective or
other-blame was not significantly related to depres-
sion scores. Both earlier and recent negative life
events were significantly related to depressive symp-
toms. The experience of more events was signifi-
cantly related to higher depression scores.
Finally, prior and current depression scores were
strongly correlated. Elderly persons, who reported
more depressive symptoms at the earlier measure-
ment, also reported significantly more current
depressive symptoms. The variables, which had a
significant relationship with current depression
scores, were included in the multivariate analyses.
Although, as expected, there were a number of signifi-
cant correlations among the nine cognitive coping
strategies, there was no evidence of multicollinearity
(see Tabachnick & Fidell, 1996).

Multivariate relationship between cognitive coping strat-
egies and current depressive symptoms
To study the multivariate relationship between the
four ‘significant’ cognitive coping strategies and
current depressive symptoms, multiple regression
analysis was performed (Table 2). In the multivar-
iate analysis, all four strategies appeared to be
significantly related to depressive symptoms. Posi-
tive reappraisal had the strongest relationship with
the depression score. Elderly persons, who used
more positive reappraisal, reported less depressive
symptoms. Elderly persons who used acceptance,
rumination, and catastrophizing to a higher extent,
reported more depressive symptoms. In total 43% of
the variance was explained.
Table 1. Pearson correlations between all variables

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<td>0.185</td>
<td>0.280**</td>
<td>0.275**</td>
<td>0.167</td>
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Due to missing values, n ranged from 88 to 96; *p < 0.05, **p < 0.01, ***p < 0.001.

Table 2. Regression analyses with bivariate significant variables

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<td>Earlier life events</td>
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<td>Recent life events</td>
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<tr>
<td>Acceptance</td>
<td>0.288**</td>
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<tr>
<td>Ruminations</td>
<td>0.313**</td>
<td>0.137</td>
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<td>Positive reappraisal</td>
<td>-0.475***</td>
<td>-0.337***</td>
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<tr>
<td>Catastrophizing</td>
<td>0.221*</td>
<td>0.114</td>
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<td>F (df); F</td>
<td>0.429 (4,82); 15.40***</td>
<td>0.585 (7,78); 15.72***</td>
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</table>

**βs from final step are presented; *p < 0.05, **p < 0.01, ***p < 0.001.

Multivariate relationship between cognitive coping strategies and current depressive symptoms after controlling for prior depression scores and negative life events

To examine whether the relationship between the cognitive coping strategies and current depressive symptoms remained after controlling for prior depressive symptoms and negative life events, hierarchical regression analysis was performed. In the first step prior depressive symptoms was entered, in the second step negative life events were entered, and in the third step the four cognitive coping strategies were entered. In the first step, earlier depressive symptoms were significantly related with current depressive symptoms (β = 0.67, p < 0.001). In total 44% of the variance was explained in the first step (F [1, 84] = 66.91; p < 0.001). In the second step, the negative life events were entered (additional explained variance 2%; F change [2, 82] = 1.36; ns). Both earlier and recent negative life events were no longer significantly related to depressive symptoms (respectively, β = -0.03 and β = 0.14). Prior depressive symptoms retained significant (β = 0.63, p < 0.001). In total 46% of the variance was explained in the second step (F [3, 82] = 23.40; p < 0.001). In the third step, the cognitive coping strategies were entered (additional explained variance 12%; F change [4, 78] = 5.82; p < 0.001). Of the four cognitive coping strategies, acceptance and positive reappraisal retained their significant relationship with depressive symptoms (Table 2). After controlling for prior depressive symptoms and negative life events, rumination and catastrophizing were not longer significantly related to depressive symptoms. In total 59% of the variance was explained.

Discussion

Although cognitive coping strategies have been conceptualised as an important factor influencing vulnerability to stressful events, there has been very little research focusing on elderly persons in this respect. The aim of the present study was to study
the relationship between cognitive coping strategies and depressive symptoms, also after controlling for prior depressive symptoms and negative life events, in a sample of 99 people aged 67 years and older.

In line with earlier studies which focused on adolescent and adult samples (Garnefski et al., 2001; Garnefski et al., in press; Kraaij et al., in press), elderly persons with more depressive symptoms reported to use rumination and catastrophizing to a significantly higher extent and positive reappraisal to a significantly lower extent than those with lower depression scores. It may be concluded that thinking about the feelings and thoughts associated with negative events and explicitly emphasizing the terror of experiences seems not to be an effective way to handle stress. On the other hand, attaching a positive meaning to the events in terms of personal growth seems to be a good way to conquer stressful experiences. In contrast to those earlier studies, elderly persons who used acceptance to a higher extent also reported significantly more depressive symptoms. Possibly, elderly persons who have thoughts of accepting what has happened to them and who resign themselves to what has happened are no longer combative to make the best of their lives and give up. May be they have no hope for a positive future anymore. This would fit within Seligman's learned helplessness model, which predicts that depression results when an individual believes that he/she cannot control elements of life that bring well-being (Seligman, 1975). This same mechanism may not work for younger people, who envisage a longer future ahead. The findings suggest that cognitive coping strategies play an important role in determining whether elderly persons develop emotional problems after the experience of stressful events.

After controlling for prior depressive symptoms and negative life events experienced over the life cycle, acceptance and positive reappraisal retained their significant relationship with current depressive symptoms. This suggests that even though prior depression has been found to be the largest predictor of later depression (Kessler, 1997; Kessler & Magee, 1994; Wallace & O'Hara, 1992), on top of that, these cognitive coping strategies seem to be important predictors of current depressive symptoms.

As the present study suggests that several cognitive coping strategies are related to depressive symptoms, even after controlling for prior depressive symptoms, intervention programs should pay attention to these aspects. This could be done by challenging the 'maladaptive' strategies, with a special emphasis on acceptance, and by supplying the more 'adaptive' strategies, with a special emphasis on positive reappraisal. This approach could be linked to the well-established cognitive therapies (e.g., Beck, 1976; Ellis, 1962), which focus on changing dysfunctional and irrational cognitions. The present study gives important clues about which cognitive coping strategies should be challenged or promoted in treatment of elderly people.

Some methodological considerations have to be taken into account. A first issue of concern is how representative the group studied was. Of the initial group, 78% had given permission to be approached for a follow-up study. Of these elderly persons, 65% could be included in the follow-up interview. The main reason for dropout was death or movement of the elderly. Furthermore, it could be argued that people who suffered from more depressive symptoms were more inclined not to participate in order to avoid stimuli reminding them of stressful experiences. However, there is no indication that people who were more depressed were less willing to participate: 17% of the sample were considered to be depressed according to the cutoff score of the GDS, which is in accordance with rates identified in other studies (Cole et al., 1999; Lépine & Bouchez, 1998).

Another limitation of the design was that depressive symptoms and cognitive coping strategies were measured by self-report instruments, which may have caused some bias. It is important for future studies to also use other forms of data-collections, such as interviews, expert judgments, or experiments. Further, the study measured cognitive coping strategies and current depressive symptoms at the same time. Therefore, no conclusions can be drawn regarding the causality or temporal order of these variables. In order to solve these cause and effect issues, these aspects should be studied longitudinally. Finally, the study had a rather low power and larger samples should be obtained in the future.

The present study also has some important strengths. It has been argued that it is important to control for a history of depression (Kessler, 1997; Kessler & Magee, 1994). As the study was a follow-up study, data was available on earlier depressive symptoms. Therefore, we could control for earlier depressive symptoms in the present study. Another strength of the present study was that the whole life span was taken into account with regard to the measurement of negative life events. Studies have shown that especially the accumulation of negative life events is related to depression in the elderly (Kraaij et al., 2001; Kraaij & de Wilde, 2001). The present study takes both earlier and recent negative life events into account. Finally, using the CERQ in the present study has the advantage over other coping questionnaires in that only cognitive coping strategies were measured, while excluding the dimension of behavioral coping strategies (for a full discussion, see Garnefski et al., 2001).

The present study focused on how elderly people cope with stressful events. It has been argued however, that coping effectiveness depends
importantly on the type of stressful situation that an individual experiences (Thoits, 1995; Zeidner & Saklofske, 1996). Therefore, future studies on the effectiveness of cognitive coping strategies should also focus on properties of stressors (such as chronic versus acute, or controllable versus uncontrollable), and on specific subtypes of stressors (such as death of a loved one, or war events). Furthermore, other outcome measures, such as anxiety and post-traumatic stress disorder, should also be studied, to unravel the relationship between life stress, cognitive coping strategies and well-being at old age.

Since all people face multiple stressful events throughout life, they are at risk of developing emotional problems. However, one's cognitive coping strategies influence one's vulnerability to develop emotional problems in response to stress. The results of the present study clearly show that cognitive coping strategies play an important role in relation to depression in late life. If the findings of the present study can be confirmed, they carry important implications for the focus and content of intervention programs for elderly persons.

References


