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Personality and Individual Differences 40 (2006) 1659–1669

PERSONALITY AND
INDIVIDUAL DIFFERENCESwww.elsevier.com/locate/paid

Relationships between cognitive emotion regulation strategies and depressive symptoms: A comparative study of five specific samples

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Available online 6 March 2006

Abstract

Aim of this study was to study relationships between cognitive emotion regulation strategies and depressive symptoms. Five specific samples (ranging from adolescents to elderly) were compared on their reported use of cognitive emotion regulation strategies (Rumination, Catastrophizing, Self-blame, Other-blame, Acceptance, Positive Reappraisal, Putting into Perspective, Positive Refocusing, Planning) and on the relationships between these strategies and symptoms of depression. Although remarkable differences were found in reported strategies, relationships between cognitive emotion regulation strategies and symptoms of depression were shown to be similar between the five groups.

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Keywords: Cognitive-emotion-regulation; Self-regulation; Cognitive-coping; Depression

1. Theoretical background

The concept of cognitive emotion regulation can be understood as the cognitive way of managing the intake of emotionally arousing information (Thompson, 1991) and refers to the

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cognitive part of coping (see Garnefski, Kraaij, & Spinhoven, 2001). The regulation of emotions through thoughts or cognitions is inextricably associated with human life and helps people to manage their emotions after the experience of stressful events (Garnefski et al., 2001). Although the capacity of cognitive emotion regulation is universal, individual differences exist in the specific thoughts or cognitions by means of which people regulate their emotions in response to life experiences. Cognitive emotion regulation is therefore widely assumed to be an important issue with regard to mental health.

In the literature nine conceptually different cognitive emotion regulation strategies were distinguished: Self-blame, Other-blame, Rumination, Catastrophizing, Putting into Perspective, Positive Refocusing, Positive Reappraisal, Acceptance and Planning (e.g. Garnefski et al., 2001). A number of recent studies have confirmed the existence of strong relationships between the use of these strategies and emotional problems (Garnefski, Boon, & Kraaij, 2003; Garnefski et al., 2001, 2002a; Garnefski, Legerstee, Kraaij, Van den Kommer, & Teerds, 2002; Garnefski, Teerds, Kraaij, Legerstee, & Van den Kommer, 2004; Kraaij et al., 2003; Kraaij, Pruyboom, & Garnefski, 2002). In general, the results suggest that by using cognitive styles such as Rumination, Catastrophizing and Self-blame people may be more vulnerable to emotional problems than others, while other outcomes suggest that by using other styles, such as Positive Reappraisal people may be less vulnerable.

These results indicate that important targets for intervention might be found on the basis of cognitive emotion regulation research. Thus far, however, studies have been limited to single, specific samples, making it unclear to what extent the findings are generalizable to different populations and/or age groups. Against this background, there is a clear need for multiple-sample-comparison studies focusing on (a) differences between subgroups in the use of specific cognitive emotion regulation strategies and (b) the consistency of relationships between cognitive emotion regulation strategies and symptoms of psychopathology across samples. By studying subgroup differences in reported use, a more solid basis would be obtained to draw conclusions on the identification of subgroups of people at risk for the development of psychopathology. By including samples of different ages, insight might also be gained into how the use of cognitive emotion regulation strategies unfolds during the life span. By studying the consistency of relationships between strategies and psychopathology across samples, a more solid basis might be found for drawing conclusions on the extent to which certain cognitive emotion regulation strategies might be considered adaptive or maladaptive. This, in turn, would carry important opportunities for a more targeted tailoring of treatment and preventive measures.

One of the purposes of the present study is to compare five specific samples (i.e. early adolescent, late adolescent, adult, elderly and psychiatric samples) on their reported use of cognitive emotion regulation strategies. Although some of these samples were included in separate publications of Garnefski, Kraaij and co-authors before, they were never analyzed together in one and the same study before. The first hypothesis is that reported use of cognitive emotion regulation strategies will be lower in adolescents than in adults, as it is generally assumed that the period of adolescence is the period in which the more advanced cognitive abilities are being mastered. The second hypothesis is that reported use of more unadaptive cognitive strategies will be highest in psychiatric adults, while reported use of more adaptive strategies will be lowest.

Another purpose of the study is to present research results concerning the relationships between cognitive emotion regulation strategies and symptoms of depression in the five different samples.

Issues will be addressed such as whether relationships hold across different age groups (life span perspective) and across general population and psychiatric samples. The third hypothesis of the study is that although subgroups might differ in their reported use of certain strategies, the type of the relationships between specific cognitive emotion regulation strategies and depressive symptoms remains stable across samples.

2. Method

2.1. Samples and procedures

2.1.1. Sample 1: early adolescents

The early-adolescent sample consisted of 597 adolescents aged between 12 and 15 years, of whom 43% were boys. The mean age was 13 years and 11 months ($SD = 0.74$). The educational levels were as follows: 4% of the pupils had lower vocational education, 18% lower secondary general education, 39% higher general secondary education and 39% of the pupils attended pre-university education. The research was carried out in three different state schools by means of a written questionnaire that students filled out during school hours (about 25 min in total), under the supervision of a teacher and two graduate psychology students. The sample consisted of second and third grade pupils. The students were guaranteed anonymity in relation to their parents, teachers and fellow students.

2.1.2. Sample 2: late adolescents

The late-adolescent sample consisted of 1164 adolescents in the age group 16–18 years, of whom 47% were boys. The mean age was 16 years and 11 months ($SD = 0.77$). All participants were first-year students of a large school for intermediate vocational education in the south-east of the Netherlands. Questionnaires were completed at school, under the supervision of a researcher and two psychology students, while anonymity was guaranteed.

2.1.3. Sample 3: adult general population

The adult-general-population sample comes from a random selection of the directory of a general practitioner's office in a medium-sized town in the west of the Netherlands. Following a written mailing in January 2000, 611 people aged between 18 and 65 years participated in the study on an individual basis. Forty percent of them were male. The mean age was 41 years and 11 months ($SD = 11.51$). Of the respondents 63% indicated they were married, engaged or living together. Thirty five percent were either single or divorced. Educational level ranged from primary school (4%), lower vocational or lower general secondary education (20%), intermediate vocational education (16%), higher general secondary and pre-university education (11%), to higher vocational and university education (48%).

2.1.4. Sample 4: elderly people

The elderly group comes from a random sample of people aged over 65 years from the municipal directory of a medium-sized town in the west of the Netherlands. Following a written mailing and a telephone call, 89 people aged 66–97 years participated individually in the survey. Forty

eight percent of them were male. The mean age was 77 years, 2 months ($SD = 6.12$). Of the respondents 52% indicated they were married or living together, 42% had been widowed, and 6% were divorced or had never married. The majority (92%) lived on their own, the others lived in an old people's home (3%), sheltered accommodation (3%) or in different conditions (2%).

2.1.5. *Sample 5: psychiatric patients*

The data of this group were collected among outpatients of a psychiatric institution in the west of the Netherlands. In this group, completing the CERQ was part of a larger set of questionnaires that they had to fill out before the intake interview on admission to this clinic. Three hundred and one people aged 18–65 years participated, of whom 40.3% were male. The mean age was 35 years, 5 months ($SD = 11.25$). Of the respondents 53% indicated they were married, engaged or living together, 47% were widowed, single or divorced. The educational level ranged from primary school (16%), lower vocational or lower general secondary education (32%), intermediate vocational education (10%), higher general secondary and pre-university education (22%), to higher vocational and university education (18%).

3. Instruments

3.1. *The cognitive emotion regulation questionnaire (CERQ)*

To measure the specific cognitive emotion regulation strategies participants used in response to the experience of threatening or stressful life events, the Cognitive Emotion Regulation Questionnaire (CERQ) was used (Garnefski, Kraaij, & Spinhoven, 2002b). The CERQ was developed in 1999 both on theoretical and empirical bases and was the first questionnaire explicitly measuring the self-regulating, conscious cognitive components of emotion regulation.

The CERQ is a 36-item questionnaire, consisting of the following nine conceptually distinct subscales, each consisting of four items and each referring to what someone thinks after the experience of threatening or stressful events: *Self-blame*, referring to thoughts of putting the blame of what you have experienced on yourself; *Other-blame*, referring to thoughts of putting the blame of what you have experienced on the environment or another person; *Rumination or focus on thought*, referring to thinking about the feelings and thoughts associated with the negative event; *Catastrophizing*, referring to thoughts of explicitly emphasizing the terror of what you have experienced; *Putting into Perspective*, referring to thoughts of brushing aside the seriousness of the event/emphasizing the relativity when comparing it to other events; *Positive Refocusing*, referring to thinking about joyful and pleasant issues instead of thinking about the actual event; *Positive Reappraisal*, referring to thoughts of creating a positive meaning to the event in terms of personal growth; *Acceptance*, referring to thoughts of accepting what you have experienced and resigning yourself to what has happened and *Refocus on Planning*, referring to thinking about what steps to take and how to handle the negative event.

Cognitive emotion regulation strategies were measured on a 5-point Likert scale ranging from 1 ((almost) never) to 5 ((almost) always). Individual subscale scores were obtained by summing the scores belonging to the particular subscale or cognitive emotion regulation strategy (ranging from 4 to 20). The higher the subscale score, the more the specific cognitive strategy is used.

Research on cognitive emotion regulation strategies has shown that all subscales have good internal consistencies (Garnefski, Kraaij, et al., 2002b). As regards the five samples of the present study: in the early adolescent sample alpha reliabilities ranged from .68 to .83. In the late adolescent sample alpha reliabilities .68–.79 were found. In the adults general population sample the lowest alpha was .75 and the highest alpha was .86. In the elderly alpha's ranged from .76 to .82. In the psychiatric sample alphas between .72 and .85 were found.

3.2. Depressive symptomatology

In four of the five samples (except for the Elderly) depressive symptomatology was measured by the depression subscale of the Symptom Checklist (SCL-90; Derogatis, 1977; Dutch translation and adaptation by Arrindell & Ettema, 1986). This subscale consists of 16 items, assessing whether and to what extent individuals report symptoms of depression. Depressive symptomatology was measured using a 5-point Likert scale, ranging from 1 (not at all) to 5 (very much). Individual scale scores were obtained by summing the items belonging to the subscale. In the adolescent groups one item, concerning loss of sexual interest was dropped, because of the age of the students. Therefore, scores ranged from 15 to 75 for the adolescent groups and from 16 to 80 for the adult groups.

Previous studies reported α -coefficients ranging from .82 to .93 for the depression subscale (Arrindell & Ettema, 1986). In the present samples, α -coefficients were .87 (early adolescents), .90 (late adolescents), .94 (adult general population sample) and .92 (psychiatric sample).

In the Elderly sample depressive symptoms were measured by the Geriatric Depression Scale (GDS; Brink, Yesavage, Heersema, Adey, & Rose, 1982), The GDS consists of 30 dichotomous items. A scale score was obtained by summing the items and ranged from zero to 30, with a high score indicating more depressive symptoms. The GDS was used in this specific sample, because it excludes items that are confounded with normal aging and diseases associated with old age and therefore is very suitable for assessing depression in the elderly. The GDS has been demonstrated to have high reliability (Olin, Schneider, Eaton, Zemansky, & Pollock, 1992). In the present geriatric sample an alpha reliability of .91 was found.

3.3. Data analysis

To study overall differences in the reporting of cognitive strategies between the specific samples, Multivariate Analysis of Variance (MANOVA) was performed, with 'type of sample' as independent variable and the nine cognitive emotion regulation strategies as dependent variables. To study gender effects and the interaction effects between gender and type of sample, gender was included as independent variable. The multivariate main effect of 'sample type' was tested by means of Wilks' λ . Univariate differences were tested by means of oneway Analysis of Variance (ANOVA). Multiple comparisons were performed by Post-hoc Tukey tests to locate the significant group-by-group differences. To study the relationships between the nine cognitive strategies and depressive symptomatology across the five samples, Pearson correlations were calculated. Subsequently, in each of the five samples Multiple Regression Analysis (MRA) was performed with depressive symptomatology as the dependent variable and the nine cognitive strategies as

the independent variables. To be able to control for the influence of gender, gender was included as independent variable in these analyses.

4. Results

4.1. Multivariate and univariate differences between the five specific samples

The results of MANOVA showed that there was a significant main effect for ‘type of sample’, indicating an overall difference in the reporting of cognitive strategies between the five separate samples (Wilks’ $\lambda = .71$; $F(36, 10108) = 26.98$; $p = .000$). Univariate ANOVA results showed that the significant differences referred to all the nine cognitive strategies. Significant main gender effects and interaction effects between sample and gender were found as well. In most strategies however the variance explained by gender main or interaction effects was less than 1% (see Table 1).

The mean cognitive strategy scores and standard deviations of the separate samples are presented in Table 2. Post-hoc Tukey tests revealed that without exception the significantly highest scores for Self-blame, Rumination, Catastrophizing and Other-blame were found in the adult psychiatric sample. The highest scores for Acceptance, Positive Refocusing and Putting into Perspective were found in the elderly sample. Post-hoc Tukey tests showed that this was a significant difference in all cases, but one. The Elderly did not significantly differ in their Acceptance scores from the Adult Psychiatric sample. The significantly highest Planning and Positive Reappraisal scores were found in the adult general population sample, with the exception that the mean

Table 1
Results MANOVA: effects of sample, gender and sample by gender

Cognitive strategies	Manova effects					
	Sample		Gender		Sample by gender	
	$F(4, 2705)$	η^2	$F(1, 2705)$	η^2	$F(4, 2705)$	η^2
Self-blame	57.82***	.08	1.19	.00	3.45**	.01
Acceptance	37.58***	.05	11.99**	.00	2.28	.00
Rumination	78.52***	.10	58.03***	.02	2.60*	.00
Positive Refocusing	19.80***	.03	11.50	.00	2.08	.00
Planning	61.39***	.08	2.06	.00	3.29*	.01
Positive Reappraisal	69.20***	.09	2.63	.00	0.72	.00
Putting into Perspective	29.83***	.04	7.21**	.00	0.90	.00
Catastrophizing	44.82***	.06	6.56*	.00	3.09*	.01
Other-blame	14.90***	.02	0.24	.00	2.59*	.00
Wilks λ	$\lambda = .71$; $F(36, 10108) = 26.98$ *** $\eta^2 = .08$		$\lambda = .97$; $F(9, 2697) = 10.99$ *** $\eta^2 = .04$		$\lambda = .97$; $F(36, 10108) = 2.55$ *** $\eta^2 = .01$	

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 2
Comparison of groups: means and standard deviations

Cognitive strategies	Samples				
	Early adolescents (<i>N</i> = 592)	Late adolescents (<i>N</i> = 1143)	Adults general population (<i>N</i> = 620)	Elderly (<i>N</i> = 89)	Adults psychiatric sample (<i>N</i> = 301)
	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)	<i>M</i> (SD)
Self-blame	7.28 (2.92)	7.82 (2.92)	8.28 (3.06)	7.55 (3.25)	10.58 (4.24)
Acceptance	8.98 (3.36)	9.72 (3.70)	10.66 (3.64)	2.31 (4.56)	11.49 (3.69)
Rumination	8.15 (3.37)	9.11 (3.74)	10.24 (3.81)	9.45 (3.50)	12.61 (4.07)
Positive Refocusing	9.22 (3.40)	10.44 (3.91)	9.86 (3.64)	11.40 (4.04)	8.94 (3.26)
Planning	9.71 (3.44)	10.76 (3.81)	12.79 (3.88)	11.77 (3.82)	12.28 (3.98)
Positive Reappraisal	8.56 (2.99)	10.46 (3.87)	12.20 (4.07)	11.19 (4.11)	10.10 (3.94)
Putting into Perspective	9.23 (3.35)	10.26 (3.82)	11.44 (3.86)	11.88 (3.81)	10.22 (3.80)
Catastrophizing	5.81 (2.82)	6.80 (2.94)	6.23 (2.80)	6.99 (3.37)	8.48 (3.77)
Other-blame	5.98 (2.05)	6.58 (2.65)	6.40 (2.77)	6.04 (2.87)	7.42 (3.42)

Planning score of the Psychiatric sample did not differ significantly from the Planning score of the Adults. In all cases the early adolescent sample had significantly lower mean scores on the cognitive emotion regulation strategies than the late adolescents, while in most cases the late adolescent sample had lower scores than the adults. For Positive Refocusing, however, significantly higher scores were found in adults than in late adolescents.

As regards the mean gender differences (not in table): significant gender differences in all cases referred to the fact that females scored higher than males. In all cases, however, the relative order of the heights of the mean values was equal for males and females. For example, gender results regarding Rumination showed that the female participants of respectively the early adolescent, late adolescent, adult, elderly and psychiatric samples had the following mean scores: 8.92, 10.15, 10.77, 10.21 and 13.05. The mean scores of the male participants were respectively 7.16, 7.90, 9.45, 8.81 and 12.02.

4.2. Relationships between cognitive emotion regulation strategies and depressive symptoms

In each of the samples Pearson correlations between cognitive emotion regulation strategies and depressive symptoms were calculated. Acceptance, Rumination and Catastrophizing showed significant (positive) correlations in all the samples. Both Self-blame and Other-blame had (positive) significant correlations with depressive symptoms in all samples but the elderly. For Positive Refocusing, Planning, Positive Reappraisal and Putting into Perspective a more varied picture was visible, being (positively or negatively) significant in some cases and nonsignificant in other (Table 3).

Subsequently, Multiple Regression Analyses were performed on the five separate samples. Gender was included as control variable. The results showed that in all samples considerable amounts of the variance were explained. The influence of gender ranged from very small and nonsignificant to moderately significant ($\beta = .13$; $p < .01$ in the adult psychiatric sample). The results showed the unique relationships between the cognitive emotion regulation strategies and depressive symptoms after controlling for gender and all the other strategies.

Table 3
Pearson correlations with depressive symptoms

	Samples				
	Early adolescents <i>r</i>	Late adolescents <i>r</i>	Adults general population <i>r</i>	Elderly <i>r</i>	Adults psychiatric sample <i>r</i>
Gender	.20***	.18***	.11**	.23*	.15*
Self-blame	.48***	.40***	.26***	.01	.39***
Acceptance	.29***	.25***	.18***	.27*	.20**
Rumination	.55***	.43***	.44***	.42***	.42***
Positive Refocusing	.07	−.03	−.06	−.15	−.15*
Planning	.28***	.15***	.02	−.01	−.09
Positive Reappraisal	.14***	.02	−.14**	−.27*	−.15*
Putting into Perspective	.22***	.07*	−.08*	.07	−.02
Catastrophizing	.35***	.43***	.57***	.46***	.46***
Other-blame	.17***	.24***	.34***	−.03	.28***

* $p < .05$.

** $p < .01$.

*** $p < .001$.

In all samples, significant relationships between depressive symptoms and the cognitive emotion regulation strategies of Rumination, Catastrophizing and Positive Reappraisal were found. Whereas Rumination and Catastrophizing were positively related (the more the strategy was used, the more symptomatology), Positive Reappraisal was negatively related. In addition, Self-blame showed significant positive effects in all samples but the Elderly. None of the samples showed significant relationships between depressive symptoms and Other-blame.

Table 4
Results regression analysis (method = stepwise) with depressive symptoms as dependent variable and gender and cognitive strategies as independent variables

	Samples				
	Early adolescents β	Late adolescents β	Adults general population β	Elderly β	Adults psychiatric sample β
Gender	.07	.09**	.02	.10	.13**
Self-blame	.30***	.23***	.16***	Ns	.33***
Acceptance	Ns	Ns	.08*	.24*	Ns
Rumination	.41***	.29***	.26***	.26***	.21***
Positive Refocusing	−.08*	−.10**	Ns	Ns	Ns
Planning	Ns	Ns	Ns	Ns	−.16*
Positive Reappraisal	−.14**	−.20***	−.31***	−.64***	−.11*
Putting into Perspective	Ns	Ns	Ns	.30**	Ns
Catastrophizing	.08*	.22***	.37***	.22*	.31***
Other-blame	Ns	Ns	Ns	Ns	Ns
R^2 (adjusted)	37.91%	32.1%	42.6%	44.4%	39.2%

* $p < .05$.

** $p < .01$.

*** $p < .001$.

As regards the other cognitive emotion regulation strategies, more sample-specific results were found. Acceptance only showed significant (positive) relationships with depressive symptoms in the general adult sample and in the Elderly. Positive Refocusing only had significant (negative) relationships with depressive symptoms in the two adolescent samples. Planning was significantly (negative) related to depressive symptoms in the psychiatric sample only, while Putting into Perspective was only significant in the Elderly (Table 4).

5. Discussion

The present study focused on the comparability of adolescent, adult, elderly and psychiatric samples in the reporting of cognitive emotion regulation strategies and their relationships to symptoms of depression. Remarkable and significant differences were found between the five samples in the reporting of specific cognitive emotion regulation strategies.

The first hypothesis of the study was that reported use of cognitive emotion regulation strategies would be lower in adolescents than in adults. The results showed that in most cases indeed adolescents had lower scores on the specific cognitive emotion regulation strategies than the adult samples. In fact, all nine cognitive strategies were reported significantly less often by Early adolescents than by Late Adolescents or Adults. Late adolescents had lower scores than Adults on six of the nine strategies. This suggests that although all cognitive strategies characterising adults are also used by adolescents, the extent of which shows an increase from adolescence to adulthood. This seems especially true for the cognitive emotion regulation strategy positive reappraisal. In general it is assumed that adolescence refers to the period in which the more advanced cognitive abilities are being mastered (Aldwin, 1994). On the basis of the present study it might be added that the mastering or refinement of (new) cognitive emotion regulation abilities continues beyond this period. This might be explained by the fact that the number of emotion-eliciting stressful encounters usually grows as the individual grows older. It seems reasonable to assume that the cognitive emotion regulation process continues to unfold in response to newly experienced stressors, just as is assumed in general coping processes (Lazarus, 1999).

The second hypothesis was that reported use of more unadaptive cognitive strategies would be highest in psychiatric adults, while reported use of more adaptive strategies would be lowest. The results showed that members of the clinical sample indeed scored significantly higher on Self-blame, Rumination and Catastrophizing than the other samples, confirming the expectations of the present study as well as previous research results (e.g. McGee, Wolfe, & Olson, 2001; Nolen-Hoeksema, McBride, & Larson, 1997; Sullivan, Bishop, & Pivik, 1995). The clinical sample also showed higher scores on Other-blame, which was not in line with the expectations, but concurred with theories stating that both kinds of blame, i.e. a continuing focus on blaming oneself or another, may form an obstacle to adaptation to negative life events or trauma (Tedeschi, 1999).

The highest Acceptance scores were found in the Elderly. In addition, Acceptance appeared to be positively related to depression scores in this group. Also adults from the psychiatric sample had relatively high scores on Acceptance. An explanation for these results may be found in the theory that a distinction can be made between Acceptance as an active process of self-affirmation and Acceptance as a passive form of resignation to negative experiences (Wilson, 1996). It might

be argued that the present study rather refers to the latter form of Acceptance, which has typically been identified as a negative adjustment style associated with poor outcomes (Wilson, 1996).

Also the third hypothesis of the study, i.e. that the type of relationships between specific cognitive emotion regulation strategies and depressive symptoms would remain stable across samples, was confirmed. It was shown that in all five groups a considerable percentage of the variance in symptoms of depression could be explained by the use of cognitive emotion regulation strategies. Although the samples differed in relative strength of some relationships, in all groups the same picture arose: the cognitive strategies Rumination, Catastrophizing, lack of Positive Reappraisal and—in all groups but the Elderly—also Self-blame were shown to play the most important role in the reporting of symptoms of psychopathology. These results fit in with the findings of earlier studies showing relationships between adult psychopathology and the apparently less adaptive styles of Rumination (Nolen-Hoeksema, Parker, & Larson, 1994), Catastrophizing (Sullivan et al., 1995) and Self-blame (Anderson, Miller, Riger, Dill, & Sedikides, 1994). Also in earlier studies ‘Positive Reappraisal’ was shown to be negatively related to measures of psychopathology (Carver, Scheier, & Weintraub, 1989). On basis of the present study the conclusion can be added that the relationships between Rumination, Self-blaming, Catastrophizing, lack of Positive Reappraisal and symptoms of depression hold in early and late adolescents as well.

A limitation of the design was that the detection of depression symptoms as well as the assessment of cognitive emotion regulation strategies had to be made on the basis of self-reported evaluations. The cross-sectional nature of the study will also not allow us to draw conclusions about any directions of influence. Theoretically, it would be just as likely that certain cognitive emotion regulation strategies lead to depression, as the other way around. Furthermore, it is important to acknowledge that in the present design the reporting of certain cognitive emotion regulation strategies may be confounded with the reporting of depression. In addition, our study comprised five different samples, all of which had their own limitations. As a consequence, we cannot definitely conclude that it is the aging that makes the difference or merely the fact that the samples were drawn from different populations.

Despite these limitations, two strong conclusions may be drawn from the results of the present study. One conclusion is that it has clearly been shown that the use of cognitive emotion regulation strategies and depressive symptoms are *related* issues. Second conclusion is that, generally speaking, the same cognitive mechanisms appear to be at work in the reporting of psychopathology in adolescents and adults. Relationships between cognitive emotion regulation strategies and depressive symptoms were shown to be similar, *in multiple samples ranging from young to elderly*.

References

- Aldwin, C. M. (1994). *Stress, coping and development*. New York: The Guilford Press.
- Anderson, C. A., Miller, R. S., Riger, A. L., Dill, J. C., & Sedikides, C. (1994). Behavioural and characterological styles as predictors of depression and loneliness: review, refinement, and test. *Journal of Personality and Social Psychology*, 66, 549–558.
- Arrindell, W. A., & Ettema, J. H. M. (1986). *SCL-90. Handleiding bij een multidimensionele psychopathologie-indicator (Manual for a multidimensional psychopathology-indicator/Dutch translation and adaptation)*. Lisse, The Netherlands: Swets & Zeitlinger BV.

- Brink, T. L., Yesavage, J. A., Heersema, P. H., Adey, M., & Rose, T. L. (1982). Screening tests for geriatric depression. *Clinical Gerontologist*, *1*, 37–43.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: a theoretically based approach. *Journal of Personality and Social Psychology*, *56*, 267–283.
- Derogatis, L. R. (1977). *SCL-90: Administration, scoring and procedures manual-I for the r(evised) version*. Baltimore: John Hopkins University School of Medicine Clinical Psychometrics Research Unit.
- Garnefski, N., Boon, S., & Kraaij, V. (2003). Relationships between cognitive strategies of adolescents and depressive symptomatology across different types of life events. *Journal of Youth and Adolescence*, *32*, 401–408.
- Garnefski, N., Kraaij, V., & Spinhoven, Ph. (2001). Negative life events, cognitive emotion regulation and depression. *Personality and Individual Differences*, *30*, 1311–1327.
- Garnefski, N., Legerstee, J., Kraaij, V., Van den Kommer, T., & Teerds, J. (2002). Cognitive coping strategies and symptoms of depression and anxiety: a comparison between adolescents and adults. *Journal of Adolescence*, *25*, 603–611.
- Garnefski, N., van den Kommer, T., Kraaij, V., Teerds, J., Legerstee, J., & Onstein, E. (2002a). The relationship between cognitive emotion regulation strategies and emotional problems. *European Journal of Personality*, *16*, 403–420.
- Garnefski, N., Kraaij, V., & Spinhoven, Ph. (2002b). *Manual for the use of the cognitive emotion regulation questionnaire*. Leiderdorp, The Netherlands: DATEC.
- Garnefski, N., Teerds, J., Kraaij, V., Legerstee, J., & Van den Kommer, T. (2004). Cognitive emotion regulation strategies and depressive symptoms: differences between males and females. *Personality and Individual Differences*, *36*, 267–276.
- Kraaij, V., Garnefski, N., de Wilde, E. J., Dijkstra, A., Gebhardt, W., Maes, S., & ter Doest, L. (2003). Negative life events and depressive symptoms in late adolescence: bonding and cognitive coping as vulnerability factors? *Journal of Youth and Adolescence*, *32*, 185–193.
- Kraaij, V., Pruymboom, E., & Garnefski, N. (2002). Cognitive coping and depressive symptoms in the elderly: a longitudinal study. *Aging and Mental Health*, *6*, 275–281.
- Lazarus, R. S. (1999). *Stress and emotion: A new synthesis*. New York: Springer Publishing Company.
- McGee, R., Wolfe, D., & Olson, J. (2001). Multiple maltreatment, attribution of blame, and adjustment among adolescents. *Development and Psychopathology*, *13*, 827–846.
- Nolen-Hoeksema, S., McBride, A., & Larson, J. (1997). Rumination and psychological distress among bereaved partners. *Journal of Personality and Social Psychology*, *72*, 855–862.
- Nolen-Hoeksema, S., Parker, L. E., & Larson, J. (1994). Ruminative coping with depressed mood following loss. *Journal of Personality and Social Psychology*, *67*, 92–104.
- Olin, J. T., Schneider, L. S., Eaton, E. M., Zemansky, M. F., & Pollock, V. E. (1992). The geriatric depression scale and the beck depression inventory as screening instruments in an older adult outpatient population. *Psychological Assessment*, *4*, 190–192.
- Sullivan, M. J. L., Bishop, S. R., & Pivik, J. (1995). The pain catastrophizing scale: development and validation. *Psychological Assessment*, *7*, 524–532.
- Tedeschi, R. G. (1999). Violence transformed: posttraumatic growth in survivors and their societies. *Aggression and Violent Behavior*, *4*, 319–341.
- Thompson, R. A. (1991). Emotional regulation and emotional development. *Educational Psychology Review*, *3*, 269–307.
- Wilson, G. T. (1996). Acceptance and change in the treatment of eating disorders and obesity. *Behavior Therapy*, *27*, 417–439.