

# Definite involuntary childlessness: associations between coping, social support and psychological distress

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**BACKGROUND:** Around 4% of all couples remain involuntarily childless. These people often experience insufficient social support, which further aggravates the distress symptoms such as physical health problems, anxiety, depression and complicated grief. This study investigates the association of coping style and the degree of satisfaction regarding social support from primary support groups with distress symptoms of involuntarily childless individuals. **MATERIALS AND METHODS:** Subjects in this cross-sectional study were people who wanted to have children with their partner but were unable to conceive and had acknowledged their involuntary childlessness. The sample consisted of 116 persons (response 88%) with an average age of 39 years (SD = 6.0), with 75% women. The sample group completed a questionnaire consisting of passive and active coping styles from the Utrecht Coping List (UCL), the discrepancy variant of the Social Support List (SSL-D), the short version of the Questionnaire on Experienced Health Complaints (VOEG-21), the Hospital Anxiety and Depression Scale (HADS) and the Inventory of Complicated Grief-Revised (ICG-R), adapted for this study. **RESULTS:** Women especially experienced more health complaints, more anxiety and depression symptoms and more complicated grief than the general population. Regression analysis shows that when controlled for sex and the duration of involuntary childlessness, the concepts passive coping style and dissatisfaction with social support were positively associated with health complaints, depression, anxiety and complicated grief. The concept active coping style was negatively associated with depression, anxiety and complicated grief. Explained variance of the different distress symptoms varied from 30 to 65%. A moderating association of perceived social support is only found between a passive coping style and health complaints. **CONCLUSIONS:** Psychosocial interventions should be continued after the childlessness has become definite. By teaching couples how to cope actively with their childlessness and how to ask for support, the negative consequences of their childlessness may be decreased.

*Key words:* complicated grief/coping/distress/involuntary childlessness/social support

## Introduction

Despite recent developments in infertility treatments, around 4% of all couples who want children remain infertile (Gunnell and Ewings, 1994; Sundby and Schei, 1996; Buckett and Bentick, 1997; Karmaus and Juul, 1999). After a period of many years in which they are hopeful of conceiving a child, these people stay childless and will have to accept that the child they always wanted will not become a reality. They will experience distress because of a sense of loss and as a result will go through a period of bereavement (Daniluk, 2001). Even though there is no actual death apparent, involuntary childless people will still go through a process of mourning for a child which has ceased to be a possible reality (Daniluk, 2001; Verhaak, 2003). These feelings of distress, sometimes combined with an experienced lack of social support, may result in several physiological and psychological symptoms of distress, such as health complaints, depression, anxiety and even

complicated bereavement (Berghuis and Stanton, 2002; van den Akker, 2005; Verhaak *et al.*, 2005b). Research has shown that this experienced distress is greater for women than for men (Jordan and Revenson, 1999). Although the distress declines as the period of involuntary childlessness increases (Daniluk, 2001; Ramezanzadeh *et al.*, 2004), the feelings of loss will probably last a lifetime (Hirsch and Hirsch, 1995; Verhaak, 2003).

The way in which involuntary childless people cope with their loss is expected to influence the distress they experience and the possible symptoms related to this distress, such as health problems, anxiety, depression and bereavement (Berghuis and Stanton, 2002; van den Akker, 2005). In general, two coping styles can be identified in the literature (Folkman and Lazarus, 1988; Holahan *et al.*, 1996; Cramer, 2000; Sarafino, 2006). People can use an active coping style, often intended to solve the underlying problem. With respect to involuntary childlessness,

seeking contact with fellow sufferers and finding a new alternative meaning in life to replace the unfulfilled wish for a child and parenthood are examples of active coping. In contrast, people can use an emotional and passive coping style, often intended to influence the emotions or results that are caused by the problem. With respect to involuntary childlessness, avoidance, withdrawal from external contacts and fixation on children are examples of passive emotional coping. In general, the more active and problem-focused coping styles tend to be more effective in dealing with difficult situations (Holahan *et al.*, 1996). Active coping might have a positive influence on dealing with the distress of childlessness; passive coping, on the contrary, might even worsen the effects of the experienced distress (Stanton *et al.*, 1992). However, because involuntary childlessness is a chronic and uncontrollable condition, the effectiveness of a coping style cannot be determined as straightforwardly as often is suggested. Studies with childless people under treatment for their infertility reveal that certain forms of active and passive coping styles both prove to be functional in dealing with certain aspects of their treatment for infertility (Holahan *et al.*, 1996; Terry and Hynes, 1998; Berghuis and Stanton, 2002; Austenfeld and Stanton, 2004).

Involuntary childless people experience the need to share their loss with others (Abbey *et al.*, 1991; Daniluk, 2001). Getting the social support they need may be an important step in dealing with the given situation of childlessness. Sufficient social support might even counterbalance the negative effects of an ineffective coping style (Verhaak *et al.*, 2005a). However, when these people experience that their grief is not sufficiently acknowledged by their social environment, the social support they get does not fulfil their needs. If getting good social support could protect people from the negative effects of an ineffective coping style, the opposite might also be true. If involuntary childless people are not getting any social support, or if they are unsatisfied with the support given, this may result in even more distress (Abbey *et al.*, 1991; Daniluk, 2001; Mindes *et al.*, 2003).

With respect to childlessness, almost all studies of the relations between coping, social support and distress focus on people who are under treatment for their infertility and therefore have still not come to accept their childlessness as a definite fact. These people still retain hope of a possible conception, and their coping styles and experienced social support might differ substantially from those of people who are not treated for infertility anymore and consider themselves as definitely childless. However, for those who have yet to acknowledge their involuntary childlessness, there is still little insight into the relationships between distress, coping and social support. Therefore, the present article studies these relationships with people who consider themselves as definitely involuntary childless. On the basis of the literature, (Jordan and Revenson, 1999; Ramezanzadeh *et al.*, 2004), it was expected that involuntary childless women would experience more distress than involuntary childless men and that experienced distress would decline over the time period of involuntary childlessness. Furthermore, we expected a positive relationship between passive coping and distress and a negative relationship between active coping and distress (i.e. health complaints,

depression, anxiety and complicated grief). Furthermore, we expected a positive relationship between being unsatisfied with the social support they receive and experienced distress. Finally, it was hypothesized that the relationship between coping styles and distress is influenced by the level of dissatisfaction with the experienced social support.

## Materials and methods

### Subjects and procedure

Subjects for the study consisted of people who wanted to have children with their partner but, either with or without fertility treatments, were unable to conceive and had acknowledged their involuntary childlessness. Subjects were excluded if they had had children from a previous relationship, if they were caregivers for other children (e.g. adoption), if they were still undergoing infertility treatments or if they were still considering such treatments.

The study took place from October 2004 till February 2005. In order to contact subjects from the target group, several patients' organizations and several health care workers were approached to support this study and to act as intermediaries to help approach subjects from the target group. These intermediaries helped by distributing leaflets with information about the study among the target group members and by placing appeals to participate in their association's newsletters or on their websites. Subjects who were interested to participate could request a questionnaire either over phone or by email. The written questionnaires could be sent back by mail and were anonymous.

In total, 132 subjects requested a questionnaire; 93 of these were women, 29 were men and from 10 the gender was unknown. Of these, 119 sent back the questionnaire (response 90%). Three questionnaires were excluded because of too many missing data. Of the 116 remaining subjects (response 88%), 87 were female (75%) and 29 were male (25%). Of the 29 male respondents, 17 had filled in a questionnaire, while their partner had also participated in the study. In these situations where both partners received a questionnaire, the questionnaires were accompanied by an explicit instruction for the partners to fill in the questionnaire independently, without consulting each other and without sharing any of the information. Despite these instructions, the 17 pairs can to some degree be considered as dependent data. However, the sample as a whole was treated as an independent data sample.

The average age of the subjects was 39 years ( $SD = 6.0$ ), and 91% had a spouse. Half of the subjects (50%) had known of their involuntary childlessness for <2 years; on average, the period of involuntary childlessness was 40 months ( $SD = 46.6$ ). Almost half of the subjects (49%) had undergone infertility treatments for 3 years; the average length of fertility treatments was 45 months ( $SD = 34.3$ ).

### Measures

Apart from demographic and background variables (sex, age, period of involuntary childlessness and length of infertility treatments), the central concepts of the study were assessed by using four validated questionnaires and one adaptation of a validated questionnaire.

The coping style that people used was assessed by using two scales from the validated Utrecht Coping List (UCL) (Schreurs *et al.*, 1993). Active coping style was assessed with the scale 'active approach' (seven items;  $\alpha = 0.79$ ; range of scores = 7–28); the passive coping style was assessed with the scale 'passive reaction approach' (seven items;  $\alpha = 0.81$ ; range of scores = 7–28). A higher score reflects more active coping or more passive coping. The items of the two scales are presented in Table I. Norm group scores for the general public are 18.7 for active coping (18.9 for women, 18.4 for men) and 10.7 for passive coping (10.9 for women, 10.6 for men) (Schreurs *et al.*, 1993).

**Table I.** Items from the Utrecht Coping List scales of active coping and passive coping

How often do the following situations apply to you? (hardly ever/never/sometimes/often/very often)

## Active coping

- Direct intervening when there are difficulties
- Seeing problems as a challenge
- Looking at a problem from all angles
- Remaining calm in difficult situations
- Thinking of different solutions to a problem
- Being determined to solve a problem
- Placing all aspects of a problem in perspective

## Passive coping

- Withdrawing yourself completely from others
- Being discouraged by a situation
- Being troubled about the past
- Using tranquilizers in situations of tension or nervousness
- Escaping in fantasies
- Being completely overwhelmed by problems
- Not being able to do anything

Dissatisfaction with received social support from the primary support group [parents(-in-law), brothers(-in-law) and sisters(-in-law)] was assessed by using four scales from the validated Social Support List—Discrepancies questionnaire (SSL-D) (van Sonderen, 1993). This questionnaire assesses the extent to which the received support is in accordance with the needs of the respondent. This study used the items from four scales from this questionnaire: daily emotional support (four items), emotional support with problems (eight items), appreciation of support (six items) and social companionship (four items). The 22 items were recoded into the same direction and placed together in one scale reflecting dissatisfaction with social support ( $\alpha = 0.91$ ; range of scores = 22–66). A high score on the scale reflects more dissatisfaction concerning the experienced social support. Norm group scores for the general public are 30.0 (30.6 for women, 29.5 for men) (van Sonderen, 1993).

Distress was operationalized by four different outcomes: health complaints, depression, anxiety and complicated grief.

Experienced health complaints were assessed by using the short version of the Questionnaire on Experienced Health Complaints (VOEG-21) (Dirken, 1967). The VOEG is a checklist for the presence of physical or psychological health complaints. The VOEG-21 consists of 21 dichotomous items that add up to a total list of health complaints, ranging from 0 to 21 ( $\alpha = 0.83$ ). Norm group scores for the general public are 3.9 (4.5 for women, 3.3 for men) (CBS health monitor, 2006).

Anxiety and depression were assessed by using the validated Hospital Anxiety and Depression Scale (HADS) (Spinhoven *et al.*, 1997). The questionnaire consists of 14 items that can be divided into two scales, anxiety ( $\alpha = 0.82$ ) and depression ( $\alpha = 0.84$ ). Both scales consist of seven items, with a score ranging from 0 to 21. Higher scores

reflect more anxiety and more depression, respectively. Threshold points for clinical levels of anxiety and depression were set at a score  $\geq 11$  (Spinhoven *et al.*, 1997). Norm group scores for the general public are 5.1 for anxiety and 3.4 for depression (no availability of gender-specific norms) (Spinhoven *et al.*, 1997).

Complicated grief was assessed by using a translation of the Inventory of Complicated Grief-Revised (ICG-R) (Prigerson *et al.*, 1995; de Keijser *et al.*, 1998; Prigerson and Jacobs, 2001). The original questionnaire assesses complicated bereavement after a loved one has died. For this study, the questionnaire was adapted to the loss people feel because of the involuntary childlessness. The adapted questionnaire consists of 30 items using five-point Likert scales ( $\alpha = 0.95$ ), with a score ranging from 0 to 120. In line with the original questionnaire, for the adapted questionnaire, the threshold point for complicated grief was set at a score  $>43$  (de Keijser *et al.*, 1998). Individuals with a score  $>43$  are considered to experience complicated grief. Because the ICG-R questionnaire was specially adapted for this study, norm group scores of the general public were not available.

### Statistics

Descriptive statistics were used to describe demographic distributions and background characteristics within the study population. Pearson correlations were calculated between the central variables in the study. Subjects were divided into two equal-sized groups with respect to their duration of definite involuntary childlessness, resulting in a threshold point of 24 months between the shorter and the longer definite involuntary childlessness period. Differences between men and women and between a short and long period of definite involuntary childlessness were tested by means of *t*-tests, based on an independent sample. Regression analyses were carried out to test the associations between coping styles and dissatisfaction with the experienced social support with the different outcomes of distress. To test the hypotheses, for each outcome of distress, we completed separate multiple regressions (method enter), using three steps. In the first step, possible control variables were included. In the second step, coping styles (active and passive) and dissatisfaction with social support were added to the model. In the third step, interactions of dissatisfaction with social support and the coping styles were added. The assumptions of linearity, normal distribution of residuals and consistent variance of residuals were tested and found to be satisfactory for all regression analyses. All analyses were performed using the Statistical Package for the Social Sciences software (SPSS version 13.0 for Windows; SPSS, Chicago, IL, USA), and significance was set at  $P < 0.05$ .

### Results

Table II presents the descriptive measures of the scales (mean, SD and Cronbach's alpha) and the Pearson correlations between the central concepts of the study. Reliability is considered to be

**Table II.** Pearson correlations of the central variables ( $n = 116$ ), with description of mean (M), SD and Cronbach's alpha of the variables

Variables	AC	PC	S	H	A	D	G	M	SD	$\alpha$
Active coping style (AC)	1							18.28	3.49	0.79
Passive coping style (PC)	-0.40**	1						12.73	12.73	0.81
Dissatisfaction social support (S)	-0.35**	0.34**	1					37.16	9.56	0.91
Health complaints (H)	-0.18*	0.44**	0.33**	1				5.26	4.02	0.83
Anxiety (A)	-0.51**	0.65**	0.44**	0.57**	1			7.04	3.98	0.81
Depression (D)	-0.43**	0.54**	0.46**	0.50**	0.71**	1		5.41	3.97	0.84
Complicated grief (G)	-0.40**	0.64**	0.52**	0.50**	0.71**	0.68**	1	41.16	22.59	0.95

\* $P < 0.05$ .

\*\* $P < 0.01$ .

good for all concepts used (Nunnally, 1978). Active coping style was significantly related to all distress concepts; a more active coping style was related to less distress outcomes. Both passive coping and dissatisfaction with the experienced social support were strongly positively related to all distress symptoms; a more passive coping style and more dissatisfaction with the received social support were related to more experienced distress outcomes. The four distress outcomes of health complaints, anxiety, depression and complicated grief were highly intercorrelated.

This study resulted in 23% of the respondents with a clinical level of anxiety and 11% with a clinical level of depression. Of all subjects, 42% experienced complicated grief. Women more often used a passive coping style than men (Table III). They did not differ, however, in active coping or in their dissatisfaction with the social support they experienced. Women, more often than men, experienced health complaints, anxiety, depression and complicated grief (Table III). Comparison with population norm scores shows that women experienced more health complaints (CBS health monitor, 2006), more anxiety and depression symptoms (Spinhoven *et al.*, 1997) and more dissatisfaction with the social support they receive (van Sonderen, 1993), and they had a more passive coping style (Schreurs *et al.*, 1993) than

women in the general population. Men only differed from the general population in that they experienced more dissatisfaction with the social support (van Sonderen, 1993). Because the ICG-R questionnaire was specially adapted for this study, norm group data were not available. However, especially for women, the adapted score on complicated grief can be considered as very high (van den Bout *et al.*, 1998). People who were definitely involuntary childless for <2 years more often experienced complicated bereavement than people who had been definitely involuntary childless for longer ( $t = -2.75$ ,  $df = 104$ ,  $P < 0.01$ ).

Regression analyses were performed to test the associations between coping styles and dissatisfaction with the experienced social support with the different outcomes of distress (Table IV). As the results show, in step 1, sex and period of involuntary childlessness were significant predictors of all distress outcomes, resulting in 11–30% of explained variance. In step 2 when coping styles and dissatisfaction with social support were included, sex remained associated with all distress outcomes, whereas the period of childlessness remained associated only with complicated grief. Passive coping and dissatisfaction were significantly positively related to all distress outcomes; active coping was significantly negatively associated with all distress outcomes, except for health complaints. As was expected, involuntary childless people who had a passive coping style and who were dissatisfied with the experienced social support experienced more distress, whereas people with a more active coping style reported less distress. Explained variance varied from 30% for health complaints to 45% for depression, and 60% and 65% for anxiety and complicated grief, respectively.

In order to test the hypothesis that the association between coping and distress was moderated by the experienced social support, in a third step of the regressions, we included interactions of coping styles with dissatisfaction of social support in the models. Only one interaction effect was found to be significant for the four outcomes of distress. There was a significantly positive interaction effect of dissatisfaction with the experienced social support and having a passive coping style

**Table III.** Differences between men and women with definite involuntary childlessness in distress, coping style and dissatisfaction with social support (women  $n = 87$ ; men  $n = 29$ ;  $df = 114$ )

	Women		Men		<i>t</i> -tests
	Mean	SD	Mean	SD	
Health complaints	6.17	4.01	2.55	2.65	5.54***
Anxiety	7.92	3.97	4.41	2.70	5.32***
Depression	6.01	3.81	3.62	3.99	2.89***
Complicated grief	46.40	21.46	25.41	18.46	4.71***
Active coping style	18.05	3.57	18.97	3.21	-1.23
Passive coping style	13.54	3.57	10.31	3.05	4.37***
Dissatisfaction social support	37.53	9.31	36.03	10.34	0.73

\*\*\* $P < 0.001$ .

**Table IV.** Multiple linear regression analyses of coping style, social support, sex and period of definite involuntary childlessness on the problems related to distress ( $n = 105$ )

	Health complaints			Anxiety			Depression			Complicated grief		
	Step 1 ( $\beta$ )	Step 2 ( $\beta$ )	Step 3 ( $\beta$ )	Step 1 ( $\beta$ )	Step 2 ( $\beta$ )	Step 3 ( $\beta$ )	Step 1 ( $\beta$ )	Step 2 ( $\beta$ )	Step 3 ( $\beta$ )	Step 1 ( $\beta$ )	Step 2 ( $\beta$ )	Step 3 ( $\beta$ )
Sex	-0.37***	-0.27**		-0.37***	-0.16*		-0.24*	-0.07		-0.39***	-0.22***	
Period of definite childlessness	-0.15	-0.06		-0.22*	-0.05		-0.24*	-0.09		-0.38***	-0.23***	
Active coping style (AC)		0.05			-0.27***			-0.23**			-0.13*	
Passive coping style (PC)		0.27*			0.46***			0.33***			0.39***	
Dissatisfaction social support (S)		0.22*			0.15*			0.24**			0.28***	
AC $\times$ S			0.90			-0.21			-0.08			-0.04
PC $\times$ S			1.27*			-0.02			0.14			0.24
Explained variance $R^2$	0.16	0.30		0.19	0.60		0.11	0.45		0.30	0.65	

$\beta$ , standardized regression coefficient.

\* $P < 0.05$ .

\*\* $P < 0.01$ .

\*\*\* $P < 0.001$ .

on the health complaints that people report ( $\beta = 1.27$ ;  $P < 0.05$ ). Subsequently, in additional multiple regression analyses, the association between passive coping and health complaints was analysed for the people with a high ( $\geq 36$ ) and a low level of dissatisfaction ( $< 36$ ) with the experienced social support (Median = 36; SD = 9.24). For people with a high level of dissatisfaction ( $\beta = 0.46$ ;  $P < .001$ ), as well as for people with a low level of dissatisfaction with the experienced social support ( $\beta = 0.35$ ;  $P < 0.01$ ), there was a significantly positive association between passive coping and health complaints. However, for people with a high level of dissatisfaction, this association between passive coping and health complaints was much stronger.

## Discussion

In line with studies on different populations (Lazarus and Folkman, 1984; Stanton, 1991; Holahan *et al.*, 1996; Berghuis and Stanton, 2002; van den Akker, 2005), in this study with involuntary childless people, more passive or less active coping styles were associated with distress. The coping styles and the dissatisfaction with the received social support, together with sex and period of childlessness, could explain 30% of the variance in health complaints, 45% of depression, 60% of anxiety and 65% of the variance of complicated grief. This indicates that there are strong associations between coping styles and social support with distress. Furthermore, these factors can explain a substantial part of the variance, especially in anxiety and complicated grief.

No difference was found between men and women in the extent to which they use an active coping style. However, women used a passive coping style more often than men, which is consistent with previous findings (Jordan and Revenson, 1999). Furthermore, women experienced significantly more distress than men, and they scored much higher on health complaints, anxiety, depression and complicated grief. Previous studies also found that women more often than men experience their childlessness as stressful and as 'the worst thing that has ever happened to them' (van Balen, 1991; Jordan and Revenson, 1999). The difference in passive coping style between men and women may partially explain the differences in experienced distress (Jordan and Revenson, 1999).

When comparing the scores of men and women on coping, experienced support and distress with norm group scores from the general population, some interesting results appeared. While the scores of men did not differ substantially from the norm scores, it seems that the women tended to score differently compared with women in the general population. Women in this study experienced more health complaints (CBS health monitor, 2006), more anxiety and depression symptoms (Spinoven *et al.*, 1997) and more dissatisfaction with the social support they receive (van Sonderen, 1993), and they had a more passive coping style (Schreurs *et al.*, 1993) than women in the general population. Men only differed from the general population in that they experienced more dissatisfaction with the social support (van Sonderen, 1993). Because the ICG-R questionnaire was specially adapted for this study, it was not possible to compare the scores on complicated grief with other

norm groups. However, especially for women, the adapted score on complicated grief can be considered as very high (van den Bout *et al.*, 1998). Overall, it seems that the impact of definite involuntary childlessness on coping, experienced support and experienced distress is primarily an issue for women. Furthermore, the impact of definite involuntary childlessness on the experienced distress of these women seems to be significant and long-lasting, even when the initial period of childlessness has passed. Because the distress is much more evident among women (van Balen, 1991; Jordan and Revenson, 1999), professional help and psychosocial interventions should primarily focus on women, although the men as their partners should also be involved. Future studies should focus on the reasons as to why men seem more able to deal with definite involuntary childlessness than women.

Several studies on people under treatment for infertility suggest that the relation between coping styles and distress is moderated by the social support these people experience. Social support is expected to have a protective effect, resulting in less clinical distress (Silver and Wortman, 1980; Holahan and Moos, 1981; Valentin *et al.*, 1994; Mindes *et al.*, 2003; Verhaak *et al.*, 2005a). This finding was hardly confirmed in this study. The expected moderating effect of satisfaction or dissatisfaction with social support on the association between coping styles and distress was only found for the association between a passive coping style and health complaints. Results indicate that more dissatisfaction with the experienced social support strengthens the association between passive coping and health complaints. However, even with very little dissatisfaction with the received social support, there is still a strong association between passive coping and health complaints. Therefore, the protective effect of social support seems minimal. The results suggest that regarding the degree of satisfaction with social support, the comparison of people who are still under treatment for infertility with people who are definitely involuntary childless is not as clear-cut as expected. It could well be that the same social support is experienced very differently during the phase of treatment in comparison with the phase of definite involuntary childlessness. During treatment, infertile people feel the need for support towards continuing treatment (keeping hope of success, not giving up), whereas after the recognition of involuntary childlessness people will feel a need for support towards accepting this definite loss, and towards finding alternatives in their lives without children (Daniluk, 2001). The protective role of social support with definitely involuntary childless people might be less apparent because of these differences in need for social support. Furthermore, it also might be that the received social support is more apparent during the treatment for infertility in comparison to the phase of involuntary childlessness, because childlessness is very obvious for all people involved during the actual treatments. However, Hirsch and Hirsch (1995) found that people experience more support as their period of childlessness increases. Possibly, in the longer term, involuntary childless people have learnt how to deal with their childlessness and how best to involve their social environment in their situation.

Even though this study was set up as carefully as possible, there are some limitations. Respondents were contacted

through patients' organizations. By using this method, a selective group of involuntary childless people might have been approached and others (those not involved in patients' groups) were not included. People who have accepted their childlessness and experience no more problems may well be underrepresented in our study. Generalization of the results to the whole population of involuntary childless people may be limited. Furthermore, the present study did not distinguish between people who knew of their involuntary childlessness at a very early stage (e.g. diethylstilboestrol daughters, those with infertility as a result of cancer, early menopause, inherited illnesses) and those who remained infertile after long years of treatment. Moreover, the study did not assess whether the cause of infertility lay with the respondent, with the partner of the respondent or with both. It can be expected that these factors could influence the coping styles, the experienced social support and the experienced distress. Future research should include these factors.

The study group consisted of much more women than men, resulting in a heterogeneous sample: 87 women (70 without their partner, 17 with their partner) and 29 men (12 without their partner, 17 with their partner). The fact that women reacted more often to the appeal for the study suggests that women considered the topic to be more relevant. The high scores on distress among the women of this sample seem to acknowledge this difference in experienced relevance of the topic. It is known, and supported in this study, that men experience less distress as a result of fertility problems than women (van Balen, 1991; Jordan and Revenson, 1999). This may have had a negative impact on the results. If the analyses were focused on women only, the results might have been more pronounced.

Depression and anxiety were assessed by using the HADS. This study resulted in 23% of the respondents with a clinical level of anxiety and 11% with a clinical level of depression. On the contrary, a much higher percentage (42%) had a clinical level of complicated grief (van den Bout *et al.*, 1998). These large differences in percentages of clinical or treatment level may be the result of the differences in the function of the questionnaires used. The HADS assesses anxiety and depression in a general sense, whereas the complicated grief questionnaire is very specifically addressed to childlessness-related grief, which may be more recognizable and personally relevant to the respondents. Comparison of the complicated grief results with those of other studies is difficult, because the questionnaire that was based on the ICG-R (Prigerson *et al.*, 1995; Prigerson and Jacobs, 2001) was specially adapted to involuntary childlessness in this study. However, the ICG-R has received some criticism with respect to the discriminating power, where it seems that the questionnaire has a tendency towards over-reporting of pathological grief (Dyregrov *et al.*, 2003).

An important premise of this study was that coping styles and experienced social support can explain the amount of distress people experience. However, owing to the cross-sectional design of the study, it is not possible to determine whether, for example, passive coping is a cause or a result of complicated grief. Longitudinal research is needed to determine how causal relations work between coping, support and distress, and whether these relations remain as strong over time as the present study suggests. Prospective research could also reveal

whether these coping styles, experienced support and levels of distress change to pre-infertility levels as the period of infertility increases. Furthermore, prospective research could also gain insight into where the long-term differences in distress between men and women originate and how these differences evolve over time.

Lazarus and Folkman (1984) suggest that the effectiveness of a coping style cannot be determined as straightforwardly as often is suggested. Involuntary childlessness is a chronic and uncontrollable condition, and both active and passive coping styles may prove to be more or less effective in dealing with specific situations (Folkman and Lazarus, 1988; Stanton *et al.*, 1992; Terry and Hynes, 1998; Austenfeld and Stanton, 2004). The present study expected and found that a more active coping style would reduce distress, whereas a more passive coping style would increase it. This differentiation may be too strict. Studies with infertile people who are still under treatment for their infertility (Holahan *et al.*, 1996; Terry and Hynes, 1998; Berghuis and Stanton, 2002; Austenfeld and Stanton, 2004; Schmidt *et al.*, 2005) reveal that certain forms of active and passive coping styles both prove to be functional in dealing with certain aspects of their treatment for infertility. Future studies on definite involuntary childless people should include more subscales within both active and passive coping in order to reveal their specific influence on experienced distress.

The results from this study reveal that a substantial percentage of involuntary childless people experience depression, anxiety and, most of all, complicated grief. Especially among women, the experienced distress seems alarming. However, professional help is currently mostly concentrated on people during their infertility treatments in hospitals or infertility clinics. On the basis of previous research (Daniluk, 2001; Schmidt *et al.*, 2005; Verhaak *et al.*, 2005b) and the present study results, it is recommended to continue this professional help after infertility treatments have stopped, in order to help people learn to accept their involuntary childlessness. In a recent literature review on the efficacy of interventions aimed at involuntary childless people (Boivin, 2003), it was concluded that psychosocial interventions have the potential to be effective in decreasing depression, anxiety and psychiatric morbidity if they are directed on education and learning skills. These interventions should be continued after the childlessness has become definite. By giving these people insight into the way that factors such as coping style and social support are associated with the distress they experience, and by letting them learn how to cope actively with their childlessness and how to ask for support, the negative consequences of their childlessness may be decreased.

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Submitted on March 23, 2006; resubmitted on June 20, 2006, July 11 2006; accepted on July 17, 2006