The Influence of Gender and Dyadic Relationship Quality on Changes in Depressive Symptoms

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THE INFLUENCE OF GENDER AND DYADIC RELATIONSHIP QUALITY ON CHANGES IN DEPRESSIVE SYMPTOMS

Abstract

Previous research have showed the association between dyadic relationship quality and depression, and the potential moderating influence of gender, mostly in population-based samples and using two time points. Inconsistent results were found with regards to the moderating role of gender, mostly with an effect for women (such that a stronger relationship between dyadic relationship quality and depression is found for women), or no moderating effect. This study investigated the role of gender and dyadic relationship quality in changes in depressive symptoms in a clinical sample, with assessments conducted at four time points. A sample of $N = 129$ patients with depression was recruited from an outpatient mental healthcare clinic. To test the relationships above, regression analyses and a moderation analysis were performed. The results showed that at baseline and 17 till 26 months after assessment, a negative association was found between dyadic relationship quality and depressive symptoms, but not 4 till 8 months and 11 till 15 months after baseline. The moderating role of gender was found for men at baseline and 11 till 15 months after baseline, which was in contrast with previous studies which mostly found a moderating effect for women. Limitations of the current study, suggestions for future research, and implications for clinical practice were discussed.

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1. Introduction

Depression is qualified as one of the primary mental health problem worldwide (Ferrari et al., 2013). By 2030, it is even expected to be the primary contributor to the global burden of disease. In the Netherlands, the lifetime prevalence of a major depressive disorder (MDD) is 19 percent, while the point prevalence is 6 percent according to the criteria of the *Diagnostic and Statistical Manual of Mental Disorders*, fourth edition (DSM-IV; de Graaf, Ten Have, & van Dorsselar, 2010). Mood disorders occur almost twice as often in women than in men. About 1 percent of the Dutch population is treated with specialist healthcare for mood disorders (Verweij & Houben-van Herten, 2013).

Depression is a severe mental disorder and has a significant influence on someone's life. According to the criteria set by the DSM-5 (American Psychiatric Association, 2013), a major depressive episode is characterized by a depressed mood and/or decreased pleasure or interest in usual activities. These symptoms are present almost daily in the last two weeks, and are severe enough to cause clinically significant distress or to affect daily functioning. At least five additional symptoms need to be present, for example loss of energy, decreased ability to think or concentrate and psychomotor agitation or retardation. The biopsychosocial model states that biological, psychological and social factors can contribute to the cause and maintenance of depression (Schotte, Van Den Bossche, De Doncker, Claes, & Cosyns, 2006). Biological factors include heredity and physical diseases, psychological factors comprise personality and coping style, while social factors include major events, work problems and social support. The current study will focus on social support.

Social support refers to "the functions performed for the individual by significant others, such as family members, friends and coworkers" (Thoits, 1995, p. 64). Emotional support is a subtype of social support, which can be defined as the amount of love and care, sympathy and understanding received from an intimate other, such as a partner. According to Bowlby's attachment theory, every child has an innate need for attachment. Bowlby (1951, p.13, in Bretherton, 1992) states that in order to grow up mentally healthy, "the infant and young child should experience a warm, intimate, and continuous relationship with his mother (or permanent mother substitute) in which both find satisfaction and enjoyment". Hazan and Shaver (1987) conclude that the attachment theory is relevant for adults as well, focusing on the affectional bonds between adult lovers. This shows that attachment is import for adults in the light of social support.

Social support and engagement in social activities may positively influence mental health outcomes, whereas social isolation and negative social interactions are associated with increased risks of depression and suicide (Teo, Choi, & Valenstein, 2013). Without the protection of a social network, dysfunctional reactions to stressors might trigger depression (Cohen & Wills, 1985). On the other hand, it is equally possible to experience strain in stead of support from social relationships (Rook, 1990). However, Walen (2002) has found that the degree of support is more strongly associated with well-being as opposed to the degree of strain. The influence of support is stronger for life satisfaction and positive mood, whereas the influence of both support and strain are the same for negative mood.

Previous research has shown the relationship between social support factors and depression. An important factor within these studies is the different types of social support. In a study among 4933 married civilians, the associations between psychiatric disorders and dissatisfaction in different social relationships have been studied (Whisman, Sheldon, & Goering, 2000). The results showed that not getting along with one's spouse was related to six mental disorders, the strongest associations being major depression, generalized anxiety disorder, alcohol problems and panic. A distorted relationship with friends and family was unrelated for mental disorders, when controlling for other social relationships. In a 10-year follow-up study it has been indicated that poor overall quality of relationships with one's spouse and family members significantly increased the risk of depression (Teo et al., 2013). The quality of a romantic relationship is even one of the major factors in the onset and maintenance of depression (Whisman & Baucom, 2012). For this reason, the present study will focus on the quality of the dyadic relationship.

The marital discord model of depression (Beach, Sandeen, & O'Leary, 1990) states that marital dissatisfaction or discord leads to an increased risk of depression, as available resources like spousal support are removed or limited and may result in increasing levels of hostility experienced in a marriage. Many cross-sectional studies have been conducted within the field of depression and dyadic relationship quality. Weissman (1987) found that adults in an unhappy marriage are 25 times more likely to have a major depressive disorder. A meta-analysis with 26 cross-sectional studies about relationship adjustment and depressive symptoms indicated that people who report lower relationship adjustment experience more severe depressive symptoms (Whisman, 2001). Another meta-analysis with 66 cross-sectional studies has found the same association between marital quality and depressive

symptoms (Proulx, Helms, & Buehler, 2007). Whisman (2007) has indicated in a population-based study that marital distress was associated with MDD according to the DSM-IV criteria.

Besides cross-sectional research, longitudinal research also has found the association between marital distress and depressive symptoms. Baseline marital distress predict increases of depressive symptoms over time (Beach, Katz, Kim, & Brody, 2003; Choi & Marks, 2008; Proulx et al., 2007; Whisman & Uebelacker, 2009; Whitton, Stanley, Markman, & Baucom, 2008). Higher levels of marital problems at baseline predicts an increased risk of MDD five years later in a population-based study (Wade & Kendler, 2000). In a follow-up study of 50 inpatients with MDD who were followed one, two and ten years after discharge from the hospital, nearly all patients who were dissatisfied with their marriage had a recurrent depressive episode during follow-up, and suffered three times more than patients with a satisfying marriage (Kronmüller et al., 2011). However, a meta-analysis including 27 longitudinal studies concluded that most longitudinal researches about marital distress and depressive symptoms only used two time points and mostly have focused on community samples in stead of clinical samples (Proulx et al., 2007). Dyadic relationship quality also influences outcomes of depression treatment. Poor pretreatment marital quality is modestly associated with negative outcome following depression treatment, and poor posttreatment marital quality is strongly associated with negative long-term outcomes following treatments for depression (Whisman, 2001b). When looking at the way in which marital quality and depressive symptoms influence each other, research has concluded that both variables influence each other in a bidirectional way (Davila, Karney, Hall, & Bradbury, 2003; Fincham, Beach, Harold, & Osborne, 1997; Whisman & Baucom, 2012). Furthermore, depressive symptoms and marital satisfaction change differently over time (Davila et al., 2003). This study has used eight waves of data, with six months in between, on depressive symptoms and marital satisfaction, consisting of 172 newlywed couples. Besides the negative and significant relationship at most waves and the fact that the strength of the relationship did not change systematically over the waves, it has indicated that the marital satisfaction declines linearly, while depressive symptoms did not significantly change over time. This should be taken into account while doing longitudinal research, by using statistical analyses that can take different models of change into account, to capture a realistic view of the changes in both variables.

A relatively unexplored issue is the degree to which gender moderates the association between dyadic relationship quality and depressive symptoms. Previous research has found

inconsistent results for men and women. Some studies have indicated that gender did not moderate the association between MDD and marital distress (Beach et al., 2003; Uebelacker & Whisman, 2006; Weissman, 1987; Whisman, 2007). Elliott (2001) has not found a difference in gender for the effects of marital conflict on depressive symptoms, while on the other hand this research has found that positive social relationships have more beneficial effects for women than for men. Other studies have indicated that the association between marital dissatisfaction and depressive symptoms is stronger for women than for men (Mead, 2002; Whisman, 2001). Research has showed that a different causal relationship for men and women exist (Fincham et al., 1997; Kiecolt-Glaser & Newton, 2001). For men depressive symptoms lead to marital adjustment, while for women this relationship is the other way around. One meta-analysis has showed that the association between marital quality and personal well-being was stronger for samples of only women than for samples of only men, when controlling for all other potential moderators (Proulx et al., 2007). However, this result is only confirmed in cross-sectional studies and not in longitudinal studies. Because a lot of inconsistency exist in previous research, this study will investigate the influence of gender.

Specifically, the aim of the current study is to shed light on the roles of dyadic relationship quality and gender in changes in depressive symptoms. Firstly, it is expected that higher dyadic relationship quality correlates negatively with the severity of depression at baseline. In addition, it is predicted that a good relationship quality at baseline is associated with a stronger decline of depressive symptoms over time. These associations have been found in previous studies (Beach et al., 2003; Proulx et al., 2007; Whisman & Uebelacker, 2009). However, most of these studies used two time points and a population-based sample (Proulx et al., 2007; Teo et al., 2013). This limits the conclusions that can be drawn from these studies, because the results are hard to generalize to a clinical population, in which more depressive symptoms are present. Therefore, this study will use a clinical sample and not two, but four time points. It is relevant to use more than two time points, as it increases the validity and gives a better insight in the way dyadic relationship quality and depression influence each other. Thirdly, it is expected that gender has an influence on the association between dyadic relationship quality and depression at baseline. A stronger association between dyadic relationship quality and depression at baseline is predicted for women. Finally, it is expected that being a woman will predict a stronger association between relationship quality and decline of depressive symptoms. As noted, there has been discrepancy about gender in the literature before, because some studies did not find an effect

for gender (Kiecolt-Glaser & Newton, 2001; Uebelacker & Whisman, 2006; Whisman, 2001). However, when an effect was found, it was in the direction of women (Mead, 2002; Whisman, 2001). For this reason, this study will expect an effect for women. The different results in previous research make it relevant to do the current research and reduce those discrepancies. Furthermore, this study has implications for clinical practice. If there is more knowledge about the influence of gender, it can be investigated whether relationship therapy should focus on both men and women, or that it is only effective for women. By getting to know the influence of gender, therapists can help patients as effective and efficient as possible.

2. Methods

2.1 Participants

The sample of the current study consisted of 200 participants who were in treatment at Altrecht outpatient clinic, at the department of mood disorders, and underwent the so termed specialized depression assessment (*Gespecialiseerd Depressie Assessment,* GDA). The treatment started between March 2014 and May 2016. Exclusion criteria for participating in the GDA were language barriers and a mental health state which was too severe to participate. For this study the patients without a partner relationship were also excluded, resulting in a sample of 129 participants, including 55 men and 74 women, ranging in age from 23 to 63 years ($M = 41.47$, $SD = 10.03$). The mean age of the male patients was 44.40 years (SD = 9.73, range = $25 - 63$), the mean age of the female patients was 39.28 years ($SD = 9.75$, range = $23 - 60$). The participants had an average score of 44.57 on the IDS-SR-NL, indicating that this clinical population is severely depressed. Based on the reference scores from Rush et al. (2003), 2.33 % of the sample had no depression, 8.53 % had a mild depression, 23.26 % moderate, 18.6 % severe and 47.29 % had a very severe depression. The educational level can be found in Table 1.

Table 1. *Percentage of Highest Level of Education in Sample, Divided by Gender* (*N*=129).

	Men	Women	Total
Primary school	12.7	5.4	8.5
LTS/LBO	21.8	6.8	13.2
MAVO/VMBO	12.7	23.0	18.6
MBO	30.9	40.5	36.4

HAVO/VWO	7.3	2.7	4.7
HBO/University	9.1	21.6	16.3
Other	5.5	0.0	2.3

2.2 Instruments

The GDA consisted of a semi-structured interview and several self-report instruments. To investigate the relationship between dyadic relationship quality and depressive symptoms over time, several questionnaires were used from the GDA. Only the instruments used in the current study will be described below. Sociodemographic characteristics, like age, gender and education, were asked in the Checklist Staging and Profiling, which is a semi-structured interview investigating different characteristics of depression (intern publication, Altrecht GGZ, 2014). The self-report instruments Dyadic Adjustment Scale (DAS-14) and Inventory of Depressive Symptomatology (IDS-SR-NL) were administered to measure dyadic relationship quality and depressive symptoms, respectively.

2.2.1. Dyadic Adjustment Scale-14 (DAS-14)

The Dyadic Adjustment Scale (DAS) was developed by Spanier (1976) and is a widely used self-report instrument which measures relationship quality of both married and unmarried couples (Graham, Liu, & Jeziorski, 2006; Spanier, 1976). The current study used the Dutch version of the Revised Dyadic Adjustment Scale (DAS-14). The DAS-14 is a 14-item shortened version, with a 6-point Likert scale and scores are ranged between 0 and 69. The questionnaire measured relationship satisfaction and can be used to distinguish couples with relationship problems (total item score is ≤ 47) from couples without relationship problems (total item score is ≥ 48) (Crane, Middleton, & Bean, 2000). Examples of questions that are part of the DAS-14 are ''How often do you argue about something?'', ''How often do you nerve each other?'' and ''How often do you work on something together?''. Spanier (1976) found evidence for the construct and criterion validity of the DAS, and found a sufficiently high reliability, with Cronbach's alpha of α = .96 in a sample of 218 married persons and 94 divorced persons. Busby, Christensen, Crane, and Larson (1995) found support for the reliability and criterion and construct validity of the DAS-14.

2.2.2. Inventory of Depressive Symptomatology – Self-report (IDS-SR-NL)

The 30-item Dutch version of the self-report Inventory of Depressive Symptomatology (IDS-SR-NL) was used to measure the severity of depressive symptoms in the past week. The questionnaire was developed by Rush et al. (1986) and covers all criteria stated in the DSM-IV to diagnose a major depressive episode. Examples of questions that are part of the IDS-SR-NL are ''How long does it take to fall asleep?'', ''Do you feel irritable?'' and ''What is the influence of pleasant events on your mood?''. The IDS-SR-NL used a 4-point Likert scale and scores were ranged between 0 and 84, in which a higher score corresponded to higher symptom severity. Rush, Gullion, Basco, Jarrett, and Trivedi (1996) conducted a large study of the psychometric properties, through comparison of the IDS-SR-30 with other instruments that measure depressive symptomatology. The study found correlation coefficients of .88 with the Hamilton Rating Scale for Depression (HRS-D) and .93 with the Beck Depression Inventory (BDI). A sufficient internal consistency was proven, with Cronbach's alpha of $\alpha = .94$ in a sample of 456 patients. Trivedi et al. (2004) also found that the IDS-SR-30 was having highly acceptable psychometric properties.

2.3 Procedure

All patients starting treatment at Altrecht outpatient clinic, at the mood disorders department, were invited for the GDA. After the intake procedure was finished, the researchers contacted the patients to invite patients for participation in the study. The patients were invited to come to the outpatient clinic for a session with the researcher, which took on average one to one and a half hour. Firstly, the aim of current study was briefly explained and patients were asked to sign the written informed consent. Then, a semi-structured interview on depression staging and profiling information was conducted, including sociodemographic data. Finally, the patients were asked to fill in a number of pen-and-paper questionnaires, including the DAS-14 and IDS-SR-NL. After the session a brief report was written in the electronic patient's file, to provide the therapist additional information. The therapists also received an email with the results and further details about the session. Besides the scientific purpose of the GDA, it therefore also served as information for clinical practice. During treatment, every thirteen weeks patients received some online questionnaires about their depressive symptoms in the context of routine outcome monitoring (ROM), including the IDS-SR-NL. After three months the questionnaires were expired and sent as long as the patients were in treatment. These ROM measurements were used as IDS-SR-NL follow-up assessments.

2.4 Statistical analysis

The current study used a longitudinal design. To perform the statistical analysis, SPSS Statistics version 22.0 was used (IBM Corps, 2013). To test the hypotheses about relationship quality and depression, regression analyses were performed. The influence of gender as a moderator on this relationship was tested by using an SPSS add-on procedure named "Process", version 2.16 (Hayes, 2012). The independent variable within this study was the dyadic relationship quality, while the dependent variables were the depressive symptoms on different time points. The moderating variable was gender. Criteria of Cohen (1988) were maintained to evaluate effect sizes. Hereby $R^2 = .01$ was seen as a small effect, $R^2 = .09$ was seen as a moderate effect and $R^2 = .25$ was seen as a large effect. For the found results a significance level of $\alpha < .05$ was assumed.

3. Results

3.1 Data inspection

Prior to testing the hypotheses, assumptions for conducting regression analyses were checked. The scatterplot of standardized residuals showed that linearity, homoscedasticity and independence of errors were not a cause for concern. The assumption of normality was met by looking at Kurtosis and Skewness. The assumption of independence was also met by checking Durbin Watson. Potential outliers were identified by exploring boxplots. Four outliers were found on the DAS-14 that needed to be removed. After deleting the four participants, one more outlier appeared. However, it was decided not to remove this outlier because the data showed a normal distribution.

3.2 Sample characteristics

Descriptive statistics per different time point are presented in Table 2. Time point 0 was at baseline, time point 1 indicated a period of 4 till 8 months after assessment ($M = 6.18$ months, $SD = 1.11$), time point 2 was conducted 11 till 15 months after baseline ($M = 12.13$ months, $SD = 2.28$) and time point 3 was measured 17 till 26 months after assessment ($M = 19.17$ months, $SD = 4.76$). Education did not differ significantly on the different time points. As can be seen in Table 2, the percentage of men and women did not differ significantly on the various time points.

Table 2. *Descriptive Statistics of the Sample, Divided by Gender and Time Point.*

		Men				Women				Total		
Time point	*n*	*M(SD)* age	*M(SD)* DAS-14	*M(SD)* IDS-SR	*n*	*M(SD)* age	*M(SD)* DAS-14	*M(SD)* IDS-SR	*n*	*M(SD)* age	*M(SD)* DAS-14	*M(SD)* IDS-SR
T0	52	44.73 (9.80)	42.27 (9.16)	42.67 (12.31)	73	39.18 (9.77)	40.70 (8.88)	45.42 (14.96)	125	41.49 (10.12)	41.35 (8.99)	44.28 (13.93)
T1	33	35.79 (15.25)	42.39 (7.78)	35.79 (15.25)	47	36.40 (16.77)	42.53 (9.08)	36.40 (16.77)	80	36.15 (16.07)	42.48 (8.51)	36.15 (16.07)
T2	12	38.17 (18.80)	38.08 (9.33)	38.18 (18.80)	25	42.40 (17.49)	40.68 (8.94)	42.40 (17.49)	37	41.03 (17.78)	39.84 (9.02)	41.03 (17.78)
T3	7	42.71 (10.78)	38.71 (7.74)	42.71 (10.78)	16	40.06 (19.06)	42.00 (11.41)	40.06 (19.06)	23	40.87 (16.76)	41.00 (10.37)	40.87 (16.76)

Note. DAS-14 = Dyadic Adjustment Scale-14, IDS-SR = Inventory of Depressive Symptomatology Self Report Dutch version.

3.3 Regression analysis

Statistics of the simple regression models are presented in Table 3. At baseline, the regression model with dependent variable depressive symptoms at baseline and independent variable dyadic relationship quality was significant. At follow-up time point 1, 4 till 8 months after assessment, the regression model was not significant, even similar to follow-up time point 2, 11 till 15 months after baseline. At follow-up time point 3, 17 till 26 months after assessment, the regression model was significant.

Table 3. *Summary of the Simple Regression Models for Variables Predicting Depressive Symptoms at Different Time Points.*

	T0			T1			T2			T3		
Variable	*B*	*SE(B)*	β	*B*	*SE(B)*	β	*B*	*SE(B)*	β	*B*	*SE(B)*	β
DAS-14	-0.34	0.14	-.22*	-0.14	0.21	-.08	-0.59	0.32	-.30	-0.90	0.29	-.56**
R^2		.05			< .01			.09			.31	
F		6.02*			.46			3.40			9.48**	

Note. DAS-14 = Dyadic Adjustment Scale-14, T0 = time point 0, T1 = time point 1, T2 = time point 2, T3 = time point 3.
*p < .05. **p < .01.

3.4 Moderation analysis

Gender had a significant moderating effect on the relationship between depression and dyadic relationship quality at baseline, $b = 0.58$, 95% CI [0.04, 1.12], $t = 2.11$, $p = .037$. The model explained 8.7% of the variance in depressive symptoms. Outcomes indicated that the negative association between dyadic relationship and depressive symptoms at baseline was significant

for men, b = -0.65, 95% CI [-1.06, -0.25], t = -3.17, p = .002, but not for women, b = -0.08, 95% CI [-0.43, 0.28], t = -0.43, p = .667. See Figure 1 for a graphic representation of the interaction effect. At follow-up time point 1, gender had no moderating effect, b = 0.44, 95% CI [-0.46, 1.35], t = 0.98, p = .332. Gender had a significant moderating effect at follow-up time point 2, b = 1.37, 95% CI [0.05, 2.69], t = 2.11, p = .041. The model explained 21.8% of the variance in depressive symptoms. Outcomes indicated that the negative association between dyadic relationship and depressive symptoms 11 till 15 months after baseline was significant for men, b = -1.54, 95% CI [-2.62, -0.46], t = -2.91, p = .007, but not for women, b = -0.17, 95% CI [-0.93, 0.59], t = -0.46, p = .650. See Figure 2 for a graphic representation of the interaction effect. Lastly, at follow-up time point 3 gender had no moderating effect, b = 0.15, 95% CI [-1.65, 1.95], t = 0.18, p = .863.
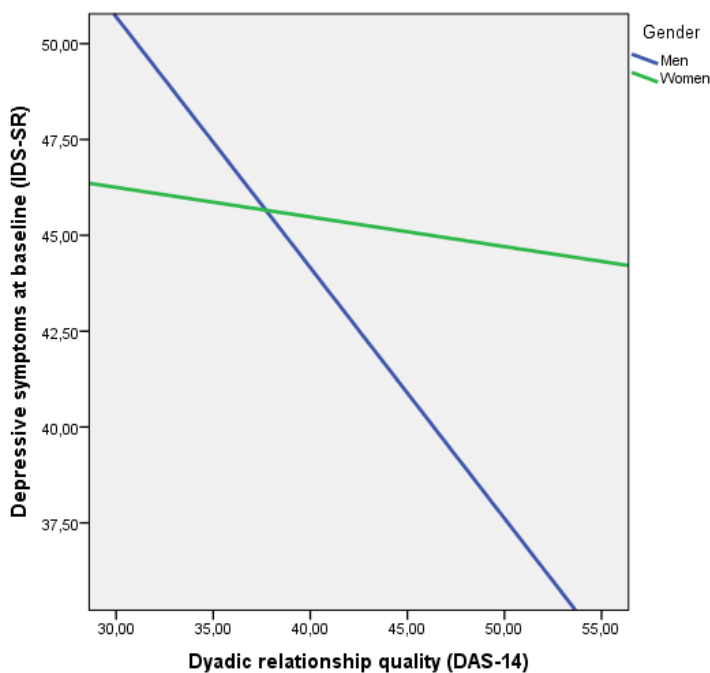

Figure 1. Interaction effect for gender between dyadic relationship quality and depressive symptoms at baseline.
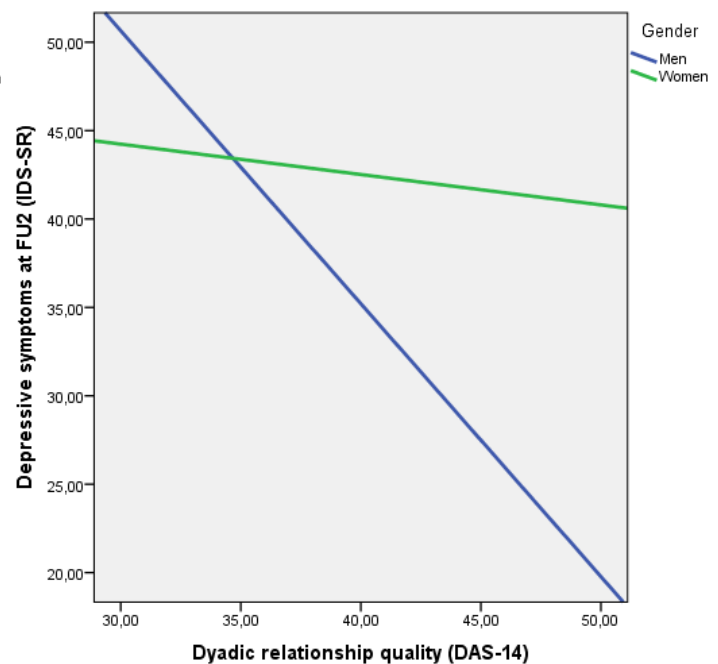
Figure 2. Interaction effect for gender between dyadic relationship quality and depressive symptoms at follow-up time point 2, 11 till 15 months after baseline.

4. Discussion

This study investigated the role of dyadic relationship quality and gender in changes in depressive symptoms. Firstly, it was expected that higher dyadic relationship quality was negatively correlated with the severity of depression at baseline. Moreover, it was predicted that a good relationship quality at baseline was associated with a stronger decline of

depressive symptoms over time. However, current research does not fully support both of these hypotheses. As expected, dyadic relationship quality negatively correlates with the depressive symptoms at baseline. When looking at the depressive symptoms over time, only 17 till 26 months after assessment an association can be found with dyadic relationship quality, but not 4 till 8 months and 11 till 15 months after baseline. This was in contrast with some previous studies (Beach et al., 2003; Proulx et al., 2007; Whisman & Uebelacker, 2009), showing that there is an association with depression and dyadic relationship quality over time. The current study also predicted to observe a stronger association between dyadic relationship quality and depression for women, both at baseline and over time. However, at baseline a stronger association has been found for men instead of women, while over time gender only had a moderating effect 11 till 15 months after baseline. This effect was found for men instead of women.

The current research confirms the relationship between depressive symptoms and dyadic relationship quality at baseline in a clinical sample, while previous research mostly focused on population-based samples (Proulx et al., 2007). However, the influence of dyadic relationship quality remains small to moderate when looking at the criteria of Cohen (1988), and smaller in comparison to the meta-analysis of Whisman (2001) across 26 cross-sectional studies. A possible explanation may be that patients in highly specialized care for MDD, like in the current study, have different characteristics as opposed to patients in regular care, examples being higher depression severity, psychiatric comorbidity and psychosocial impairment (Van Krugten et al., 2017). The present study shows that the sample is severely depressed and in highly specialized care, which can influence the strength of the relationship between dyadic relationship quality and depressive symptoms.

Although previous research provided evidence for an association between dyadic relationship quality and depressive symptoms over time, the present study only found evidence for this relationship 17 till 26 months after baseline. This may be explained by the fact that this research is based on a clinical sample and has four time points, while previous research focused on community samples and used two time points (Proulx et al., 2007). This meta-analysis also expanded the definition of depression to personal well-being, including components like self-esteem, physical health, global happiness and life satisfaction. This may lead to different results. Conradi, Dingemanse, Noordhof, Finkenauer, and Kamphuis (2017) investigated an emotionally focused couples therapy (EFT) in self-referred couples and clinician-referred couples, in which one of the partner was in treatment in the specialized

mental health care for a severe mental disorder. The self-referred couples were recruited through advertising, the EFT website, and private practices in the EFT network. The clinician-referred group showed significantly higher levels of psychological complaints in comparison to the self-referred group. It was found that the self-referred couples improved during treatment on all measures of relationship quality, like relationship satisfaction and security of partner-bond, with a moderate to large effect which was maintained during the 3.5 month follow-up. In contrast, the clinician-referred couples improved moderately during therapy, but this effect was reduced during the follow-up period to a small effect. These results show that dyadic relationship quality in severely depressed patients, like in present study, improved less after couples therapy, in comparison to patients with less depressive symptoms.

In the present study, it is unclear in which direction the dyadic relationship quality and depressive symptoms influence each other. All patients are in treatment for depressive symptoms. The average scores of the IDS-SR-NL are showing a moderate or severe depression at the different time points. Research found that treating individuals for their depressive symptoms does not appear to decrease marital distress (Foley, Rounsaville, Weissman, Sholomaskas, & Chevron, 1989). When looking at the average scores of the DAS-14, it is seen that patients are showing relationship problems at all time points. Previous longitudinal research by Davila and colleagues (2003) indicate that marital satisfaction declines linearly in the first years of the relationship, while depressive symptoms do not significantly change over time. This shows that marital satisfaction declines in the first years, regardless of the presence or severity of depressive symptoms. This may shed a different light on the association between dyadic relationship quality and depressive symptoms at different time points, taking into account that marital satisfaction will decline anyway in the first years.

When looking at stability in marital quality, marital quality is a stable phenomenon over an 8-year period (Johnson, Amoloza, & Booth, 1992). A longitudinal study with older people show that negative interaction in social relationships is relatively stable over the 6-year course of the study, indicating that negative interaction can be seen as a form of chronic strain (Krause & Rook, 2003). It was also found that negative interaction is more persistent among older adults with elevated levels of depressive symptoms. In a 10-year follow-up study with 50 inpatients with MDD, it was found that the quality of marital relationship decreased over the follow-up period (Kronmüller et al., 2011). These findings contribute to

the fact that dyadic relationship quality negatively correlates with depressive symptoms 17 till 26 months after baseline, but not at the earlier follow-up time points.

The current research also investigated the moderating role of gender. Previous studies found mixed results, for example the meta-analysis by Proulx et al. (2007) only found a moderating effect at baseline. When a moderating effect was found, most studies found an effect for women (Mead, 2002; Whisman, 2001). In contrast, the current study found an effect for men when an effect was found. Well-known studies that confirm the moderating role for men in a clinical sample are hard to find. Several reasons might explain why the moderating role is confirmed for men in this study. Belle (1991) found that the source of support of men heavily focuses on one provider, namely the spouse. Men participate in more activity-focused relationships than women, while women have more emotionally intimate relationships than men. Research in an outpatient clinic for depression found that women have a stronger affiliative style than men (more attachments and wider social network), as they require greater social support for the maintenance of their psychological health (Soman, Bhat, Latha, & Praharaj, 2016). This research also found that friends and family served a buffering role more often for women than for men. These results can confirm the moderating role for men in the current study, because men are more dependent on their spouses. When looking at studies with elderly people, older women appear to be less vulnerable for depression than older men when they receive little emotional support and when they lose their partner (Sonnenberg et al., 2013).

A limitation in this study is the fact that only depressive symptoms are measured over time, while dyadic relationship quality is only measured at baseline. It is uncertain to what degree the partner's relationship quality changed, whether the relationship is still present and if the relationship quality increased or decreased. This is relevant because it could influence the depressive symptoms, and thus the found results of the study. In addition, the duration, that is how long patients are in a relationship, was not measured as well. When looking at the study of Davila et al. (2003), this may be problematic because the marital quality declines linearly in the first years of the relationship. Furthermore, it is unclear whether dyadic relationship quality reinforces the depressive symptoms, or the other way around. In the current study this is important to know for the association at baseline, because both variables are measured at the start. Another important limitation is the fact that only a small percentage of the sample was followed after assessment. The sample decreased almost six times 17 till 26 months after baseline, in comparison to the start of the assessment. A small sample size

can result in the fact that no association is detected, while in fact an association is present. Moreover, the sample of men is smaller in comparison to women, which can be problematic because only at two time points an association is found for men, while it is possible that at the other two time points an effect is also present. Another limitation is the fact that four outliers were present at the scores on the DAS-14, which possibly show a distorted image of the reality. To solve this problem, four participants had to be removed from the sample. Lastly, the results could be influenced by the participant sample. Although it is a strength that the sample is recruited in an outpatient clinic, it could also limit the generalizability of the results. Patients mostly suffered from severe depression, and as in most patients with specialized mental healthcare settings, patients suffered from more than one psychiatric disorder. Patients with comorbid disorders were also included in the study, which could lead to the fact that the results are influenced by symptoms from other psychiatric disorders, like anxiety disorders and personality disorders. Therefore, generalization of the results to nonclinical groups or clinical groups not suffering from severe depression or comorbid psychiatric disorders remains questionable.

Future research should measure both dyadic relationship quality and depressive symptoms over time, to get a clear view in which way the variables influence each other. Furthermore, the longitudinal research should be replicated with a larger sample size, to be more persuasive. Finally, the role of gender and possible other moderators needs to be investigated further. This will lead to an increased insight and a clearer image of the influence on the association between dyadic relationship quality and depression.

The current study made a first step to show the longitudinal relationship between dyadic relationship quality, depression and gender in a specialized mental healthcare setting. According to the results it is important to focus on the dyadic relationship quality with men. One possible clinical implication of the current findings is that it may be fruitful to provide couples therapy to male patients suffering from depression. More attention should be focused on this find to treat patients more efficiently and effectively. The severity of depression in the specialized mental healthcare and the high prevalence of depression in society make it important to gain more knowledge about possible factors and moderators in the onset and maintenance of depression. The current study contributed to an increased insight on the role of dyadic relationship quality and gender in depressive symptoms in specialized mental healthcare.

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