Personality and intrapersonal and interpersonal functioning of women starting their first IVF treatment

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BACKGROUND: IVF treatment involves a reassessment of issues concerning autonomy and relatedness. This study aims to extend prior studies on the psychological impact of IVF/ICSI by studying the association between the personality dimensions of Self-Criticism and Dependency with the psychological well-being and quality of the couple relationship for women starting their first IVF treatment.

METHODS: This is a cross-sectional study of 68 women starting their first IVF treatment at the Leuven University Fertility Centre of the University of Leuven, Belgium. All women were administered validated self-report measures assessing Self-Criticism and Dependency, negative life events, psychological well-being, relationship satisfaction, and relationship and sexual concerns. Pearson’s correlation coefficients were calculated between all study variables, followed by four separate hierarchical multiple regression analyses for psychological well-being, relationship satisfaction, and relationship and sexual concerns.

RESULTS: High Self-Criticism was negatively associated with psychological well-being ($r = -0.63, P < 0.001$) and relationship satisfaction ($r = -0.29, P < 0.05$), and positively associated with relationship ($r = 0.39, P < 0.01$) and sexual ($r = 0.37, P < 0.01$) concerns. High Dependency was negatively associated with psychological well-being ($r = -0.30, P < 0.05$), not significantly associated with relationship satisfaction and relationship concerns, and positively related to sexual concerns ($r = 0.31, P < 0.05$).

CONCLUSIONS: This cross-sectional study suggests that the personality dimensions of Self-Criticism and Dependency may enhance our understanding of the psychological well-being and quality of the couple relationship of women starting their first IVF treatment. However, further prospective research on this topic is needed.

Key words: fertility problems / IVF / psychological well-being / Self-Criticism / Dependency

Introduction

Many studies have demonstrated that having fertility problems as well as planning and following a medical treatment for these problems, such as IVF, may affect different aspects of the psychological functioning of the individuals involved (Benazon et al., 1992; Edelmann et al., 1994; Slade et al., 1997; Demyttenaere et al., 1998; Amir et al., 1999; Verhaak et al., 2001; Berghuis and Stanton, 2002; Lord and Robertson, 2005; Peterson et al., 2006; Schmidt, 2006).

In this context, several authors have pointed out that dealing with fertility issues is a challenging period, especially for women, bringing issues of identity, autonomy, competence and control on the one hand, as well as relationships with significant others and one’s own body on the other hand, to the fore (Greil, 1997). In other words, dealing with fertility issues may require a reassessment of both one’s own identity and feelings of autonomy, and one’s relationship with one’s own body and with significant others (Besser and Priel, 2003; Raphael-Leff, 2003).

These issues of both self-definition and relatedness are central in the theoretical framework formulated by Blatt (see Blatt and Blass, 1996; Blatt, 2004). According to Blatt (Blatt and Blass, 1996; Blatt, 2004), normal personality organization involves a complex and interactive dialectical process between two developmental lines: (i) the self-definition line, which refers to the development of increasingly differentiated, integrated and an essentially positive sense of self, and (ii) the relatedness line, which normally leads to the capacity to form mature, complex and satisfying interpersonal relationships. Blatt coined the notions of Self-Criticism and Dependency to refer to maladaptive expressions of self-definition and relatedness, respectively (Blatt and Blass, 1996; Blatt, 2004). Self-Criticism involves excessive self-evaluative concerns combined with a strong emphasis on high
personal standards at the expense of interpersonal relationships. Dependency is characterized by preoccupation with interpersonal relationships and concerns about obtaining reassurance and love, at the expense of developing a clear and stable self-concept (Blatt and Zuroff, 1992; Blatt, 2004). Hence, as going through IVF treatment involves a reassessment of issues concerning both autonomy and relatedness, Blatt’s theoretical framework provides a clear theory-driven approach to study women’s need to reassess these issues, particularly women characterized by high levels of Self-Criticism and Dependency.

The more so because Blatt and Blass (1996) have situated the development of self-definition and relatedness within the psychosocial developmental model of Erikson (1963), who described development as involving a linear series of eight hierarchical stages. Of special interest to our study are the adult stages of intimacy and generativity. Intimacy refers to the task of committing oneself to a close, intimate, long-term relationship with another person and is usually situated in early adulthood (Snarey, 1993). This stage of intimacy leads into and thus is followed by the subsequent stage of generativity (Erikson, 1963; Snarey, 1993), which includes biological generativity (i.e., being procreative) and parental generativity (i.e., care for offspring). According to Blatt and Blass (1996), in normal development, the stages of intimacy and generativity are characterized by an integration of, and balance between, self-definition and relatedness. Maladaptive development, in contrast, would be characterized by an overemphasis on one of these developmental lines to the neglect of the other.

A large number of studies in clinical and non-clinical populations have consistently shown that both Self-Criticism and Dependency are negatively related to psychological well-being (Blatt, 2004). Further, research has shown that high Self-Criticism generally is negatively associated with couple functioning, while Dependency incorporates both positive (e.g., showing more affective behaviour) and negative (e.g., having a claiming relational style) aspects for the couple relationship and is therefore often unrelated to relationship satisfaction because these positive and negative consequences cancel each other out (Mongrain et al., 1998; Vettese and Mongrain, 2000; Luyten et al., 2005).

In addition, similarly, a growing number of studies have investigated the role of Self-Criticism and Dependency within the domain of the transition to parenthood, showing that Self-Criticism has a negative impact on both intrapersonal and interpersonal functioning in the transition to parenthood, whereas Dependency seems to incorporate both aspects of resilience and vulnerability in early parenthood (Besser and Priel, 2003; Vliegen et al., 2006; Besser et al., 2007).

Following this line of reasoning, we therefore wanted to investigate the role of the personality factors of Self-Criticism and Dependency for women dealing with fertility issues and starting their first IVF/ICSI treatment. This approach could not only substantially further our understanding of how women deal with fertility problems and their treatment, but also widen the psychological perspective on fertility problems and IVF treatment, by situating these in a broader model of adult psychological development across the life span (Snarey, 1993; Blatt and Blass, 1996; Blatt, 2004).

Therefore, the primary aim of this study was to investigate how the personality dimensions of Self-Criticism and Dependency can further our understanding of the psychological well-being and the quality of the couple relationship of women starting their first IVF/ICSI treatment. In addition, we also wanted to overcome several methodological limitations of previous studies in this domain (Benazon et al., 1992; Peterson et al., 2006; Schmidt, 2006). First, we measured the quality of the couple relationship in a multi-dimensional way, using a measure of general relationship satisfaction as well as capturing the specific relationship and sexual concerns of women starting their first IVF/ICSI treatment. Second, we investigated whether personality was related to psychological well-being and relationship functioning over and above possible covariates, such as duration of fertility problems and number of prior treatments. In addition, we also controlled for other negative life stressors experienced in the previous 6 months (e.g., death of a family member) that may affect psychological well-being and the quality of the couple relationship (Schneider and Forthofer, 2005).

The hypotheses of our study were the following.

(i) Both Self-Criticism and Dependency were expected to be negatively associated with the psychological well-being of women starting their first IVF/ICSI treatment, even when controlling for demographical variables, fertility-related factors and other negative life events.

(ii) In line with previous studies in other samples, Self-Criticism was expected to be negatively related and Dependency to be unrelated to general relationship satisfaction.

(iii) Both Self-Criticism and Dependency were expected to be positively associated with relationship and sexual concerns.

Materials and Methods

Participants

Women were eligible for the study if (i) they were married or living together with their partner for at least 2 years, (ii) there was no oocyte or sperm donation involved and (iii) they were about to begin their first trial of IVF or ICSI treatment at the Leuven University Fertility Centre (Belgium). Sixty-eight of the 123 women who met the inclusion criteria agreed to participate (response rate = 55%). All women returned their questionnaires. Only three women were additionally contacted by phone by the main investigator (B.L.) and subsequently returned their questionnaires.

Women had a mean age of 32 years (SD = 3.98). Most of these women (74%) had obtained a degree of higher education or university and had a job at the time of the study (96%). On average, women had been together with their partners for 8 years (SD = 4.1) and 71% were married.

Procedure

This study was approved by the ethical committee of the University of Leuven (Belgium). Participation was voluntarily and anonymity was guaranteed. All participants that were eligible for the study were sent a letter with information about the study prior to their visit to the hospital. While in the hospital, women who were willing to participate met with the main researcher and were provided more detailed information about the study. After signing the informed consent, they were given a set of questionnaires and were asked to return these to the main researcher in a closed and pre-paid envelope within 2 weeks. Data were collected in a 2-year time period (2004–2006).

Measurements

The depressive experiences questionnaire (DEQ; Blatt et al., 1976) consists of 66 items, scored on a 7-point Likert-type scale, ranging from 1 to 7. The quality of the couple relationship was assessed with the short version of the relationship and sexual concerns scale (Graig and Figley, 1995). The psychological well-being of participants was measured with the depressive experiences questionnaire (DEQ; Blatt et al., 1976). The general relationship satisfaction was assessed with the relationship satisfaction scale (Sprecher and Regan, 1985). Finally, demographic and treatment information were obtained with self-report questionnaires and nurses’ reports.
('I don't agree') to 7 ('I totally agree') and measures the personality factors Self-Criticism and Dependency. The Dutch version of the DEQ has good internal consistency and validity, similar to the original DEQ (Luyten et al., 1997; Luyten et al., 2007).

The dyadic adjustment scale (DAS; Spanier, 1976) is a 32-item scale, which yields a total score reflecting a general sense of relationship satisfaction, as well as four subscales: cohesion, consensus, satisfaction and affectional expression. Because of the high association between the subscales and the total score (correlations ranging between $r = 0.64$ and $r = 0.90$), only the total score was used in this study. The internal consistency (Cronbach’s $\alpha$) of the total scale was 0.91. The DAS has shown good reliability and validity in various studies on adults in a long-term relationship (Haring et al., 2003).

The Amsterdam scale of well-being (ASWB; van Dierendonck, 2004) is based on the six dimensions of psychological well-being as described in Ryff’s psychological well-being scale (Ryff and Keyes, 1995) and also includes two additional scales referring to spiritual well-being (van Dierendonck, 2004). In this study, only the six subscales (39 items) as originally described and validated by Ryff (e.g. Ryff, 1989; Ryff and Keyes, 1995; van Dierendonck, 2004) were included, i.e. positive relations (e.g. ‘I feel like I am getting a lot out of my friendships’), autonomy (e.g. ‘I don’t feel afraid to voice my opinions, even when they are in opposition to the opinions of most people’), self-acceptance (e.g. ‘When I look at the story of my life at this moment, I am pleased with how things have turned out’ idem), environmental mastery (e.g. ‘I feel I am in charge of the situation in which I am living’), purpose in life (e.g. ‘I feel I have a sense of direction and purpose in my life’) and personal growth (e.g. ‘I think it is important to have new experiences that challenge how you think about yourself and the world’ idem). All items are scored on 6-point Likert scale, ranging from 1 (‘I don’t agree’) to 6 (‘I totally agree’). A total scale reflects the sum of the six subscales. The internal consistency (Cronbach’s $\alpha$) for this total scale was 0.92 and studies suggest that the ASWB is a reliable and valid instrument (van Dierendonck, 2004).

The fertility problem inventory (FPI; Newton et al., 1999) is a 46-item questionnaire measuring levels of infertility stress. All items are scored using a 6-point Likert scale ranging from 1 (‘I don’t agree’) to 6 (‘I totally agree’). In this study, only the subscales referring to the quality of the couple relationship, i.e. the subscale of sexual (8 items) and relationship stress (10 items) were used. Sexual concerns indicate diminished sexual enjoyment or sexual self-esteem and difficulties with scheduled sexual relations, while relationship concerns indicate difficulties talking about infertility with one’s partner, and concerns about the impact of infertility on the relationship. The FPI was translated to Dutch according to guidelines of the International Test Commission (Hambleton, 1994). The FPI demonstrates good discriminant and convergent validity (Newton et al., 1999). The internal consistency (Cronbach’s $\alpha$) for the subscales sexual concern and relationship concern in this study were .81 and .72, respectively.

The Psychiatric Epidemiological Research Interview (PERI; Dohrenwend et al., 1978) is a widely used instrument, covering life events in the domain of employment, partner relationships, family, housing, crime, money, friends and health. In this study, the PERI was used to measure 34 negative life events, other than fertility problems, experienced during the previous 6 months. A total score of all experienced negative life events was calculated. Studies have shown that the PERI is a valid and reliable instrument to measure negative life events and that its intracategory variability is low (Dohrenwend, 2006).

Data analysis

First, Pearson’s correlation coefficients were calculated between all study variables. Second, four separate hierarchical multiple regression analyses (HMRA) were performed, for the following criterion variables: (i) psychological well-being, (ii) relationship satisfaction, (iii) relationship concerns and (iv) sexual concerns. The four steps included in each HMRA were: (i) demographical variables (age, level of education and length of the relationship), (ii) fertility-related factors (duration of the fertility problems and number of prior treatments), (iii) negative life events and (iv) the personality dimensions of Self-Criticism and Dependency. A $P < 0.05$ value was considered significant.

Results

Descriptive data

Women had been dealing with fertility problems for 2 years on average ($SD = 1.10$). Prior to starting their first IVF/ICSI treatment, 19% of the women had undergone surgery for fertility-related problems (e.g. endometriosis) and 43% had unsuccessfully undergone artificial insemination. Thirty-one per cent of the women reported that the primary cause for the fertility problems was located in the woman, 37% reported that the primary cause was located in the man, 11% said that the primary cause was located both in the men and women and 21% of the women reported that the primary cause for the fertility problems was unknown. Univariate analysis of variance showed no significant effects of the localization of the cause of the fertility problems (i.e. women, men, both partners and unknown) on any of the study variables. Therefore, we did not control for this variable in further analyses.

Zero-order correlations

Zero-order correlations between the study variables are presented in Table I. Self-Criticism and Dependency were not significantly correlated. Self-Criticism was negatively correlated with psychological well-being ($r = -0.63, P < 0.001$) and relationship satisfaction ($r = -0.29, P < 0.05$), and positively with sexual ($r = 0.37, P < 0.01$) and relationship concerns ($r = 0.39, P < 0.01$). Dependency was negatively associated with psychological well-being ($r = -0.30, P < 0.05$), and positively with sexual concerns ($r = 0.31, P < 0.05$). Further, a positive relationship was found between psychological well-being and relationship satisfaction ($r = 0.47, P < 0.001$), and relationship satisfaction was negatively associated with sexual concerns ($r = -0.32, P < 0.01$) and relationship concerns ($r = -0.44, P < 0.01$). Sexual concerns were negatively associated with psychological well-being ($r = -0.49, P < 0.001$), and positively associated with relationship concerns ($r = 0.53, P < 0.001$). Finally, no significant relationships were found between any of the study variables and negative life events experienced in the last 6 months other than fertility problems.

Hierarchical multiple regression analyses

Demographic variables, fertility characteristics and negative life events did not significantly contribute to the variance in each of the different criterion variables (Table II). Self-Criticism and Dependency significantly added 40% to the explained variance in psychological well-being [$F(8, 52) = 7.84, P < 0.001$; $F$-change $= 23.00, P < 0.001$], with both Self-Criticism ($\beta = -0.58, P < 0.001$) and Dependency ($\beta = -0.23, P < .05$) negatively predicting psychological well-being.
Next, the personality dimensions of Self-Criticism and Dependency added 10% to the explained variance ($F(8, 55) = 1.56$, ns; $F$-change $= 3.19$, $P < 0.05$) in relationship satisfaction. More specifically, Self-Criticism was negatively associated with relationship satisfaction ($\beta = -0.30$, $P < 0.05$), while no significant effect was found for Dependency. Self-Criticism and Dependency added a significant 13% to the explained variance ($F(8, 51) = 2.70$, $P < 0.01$, $F$-change $= 4.50$, $P < 0.05$) in relationship concerns. More specifically, Self-Criticism ($\beta = 0.35$, $P < 0.01$) was a positive predictor of relationship concerns, while no significant effect was found for Dependency. Finally, entering Self-Criticism and Dependency in the equation added 19% to the explained variance in sexual concerns ($F(8, 56) = 3.80$, $F$-change $= 8.27$, $P < 0.001$), with both Self-Criticism ($\beta = 0.32$, $P < 0.01$) and Dependency ($\beta = 0.27$, $P < 0.05$) positively predicting sexual concerns.

**Discussion**

Results of this study clearly demonstrate that the personality dimensions of Self-Criticism and Dependency were significantly associated with psychological well-being and the quality of the couple relationship of women starting their first IVF/ICSI treatment. Importantly, these relationships remained significant even after controlling for demographic variables, fertility characteristics and negative life events experienced in the previous 6 months. More specifically, as expected, Self-Criticism was negatively associated with both psychological well-being and the quality of the couple relationship. This negative effect of Self-Criticism was found for general relationship satisfaction, as well as for specific relationship concerns (e.g. ‘My partner does not understand how the fertility problems affect me’) and sexual concerns and distress (e.g. ‘I lost my pleasure in the sexual intercourse with my...’).
partner because of the fertility problems’). Together, these findings suggest that self-critical women, i.e. women who are typically highly concerned with their self-concept, self-worth and self-identity and who have a high need for control and autonomy, experience more distress and more relationship difficulties when they receive treatment for fertility problems. Situating these findings within Blatt’s elaboration of Erikson’s model of psychosocial development, because of their tendency to achieve, these women may experience their inability for biological generativity (Erikson, 1963; Snarey, 1993) as a personal failure, which in turn may lead to feelings of frustration and the feeling that important goals and wishes are being thwarted. In addition, congruent with other studies, it can be hypothesized that these women may even enhance distress and relationship difficulties because of their tendency to generate stress in their relationships (Luyten et al., 2005). Further research, however, is needed to investigate these speculations.

Findings concerning Dependency were more complex. Congruent with theoretical expectations, Dependency was negatively related to psychological well-being, positively associated with sexual concerns and distress and not associated with general relationship satisfaction. In contrast to our expectations, however, Dependency was not significantly associated with relationship concerns. In other words, these results suggested that women who strongly emphasize their relationships with others are more vulnerable for general and sexual distress when undergoing treatment for fertility problems. However, this preoccupation with relationships does not seem to negatively impact the relationship with their partner.

There are two possible explanations for this latter finding. First, dependent women undergoing IVF/ICSI treatment, because of their fears for abandonment, may want to minimize conflict in their relationships, for instance by showing more positive behaviours towards their partner (Mongrain et al., 1998; Vetteese and Mongrain, 2000). However, studies have shown that partners of dependent women may not always perceive these behaviours as positive and may even become severely frustrated and irritated by these often excessive attempts to keep the relationship positive (Luyten et al., 2005). As such, the positive and negative effects of Dependency on the quality of the couple relationship may cancel each other out (Bornstein, 1998). However, it is also possible that, because of their fear of being alone, dependent women may suppress or deny the negative aspects and concerns they may have in their partner relationship. Indeed, studies have shown that dependent individuals tend to show a positive perceptual bias in relationships (Mongrain et al., 1998; Luyten et al., 2005). Importantly, these two interpretations are not mutually exclusive (Mongrain et al., 1998) and thus dependent women, because of their focus on relatedness, may show more positive behaviours towards their partner in order to keep their relationship positive and may deny at the same time possible relationship problems and conflicts. Further research is clearly needed to investigate these hypotheses.

This study may have important implications for counselling with women starting treatment for fertility problems. More specifically, while counselling self-critical women, more attention is needed with respect to worries and conflicts concerning self-worth, self-identity, achievement and failure, and how these may give rise to feelings of distress and difficulties in the partner relationship, such as low relationship satisfaction and difficulties in communication. These latter issues are especially interesting as studies have shown that patients dealing with fertility problems rely primarily on their spouse when distressed (Boivin et al., 1999) and that difficulties in partner communication predict high fertility-related stress (Schmidt et al., 2005). For dependent women, more attention may need to be given to the value they attach to relationships with significant others, as well as their need to care for and to be taken care of. In both instances, the ultimate goal of the counselling sessions should be to achieve a better balance between needs and wishes for relatedness and self-definition.

Results of this study need to be interpreted within the light of some limitations. These include the fact that we only investigated women in this study, as well as the fact that the design of the study was cross-sectional, which does not allow drawing conclusions concerning possible causal relationships between personality and outcomes investigated. In addition, with regard to the observed associations between Self-Criticism and outcome, and psychological well-being in particular, one could argue that these associations are due to content and/or item overlap between scales. Yet, first, longitudinal studies have clearly shown that the DEQ taps into broad and stable personality dimensions that demonstrate remarkable stability over time, even when persons are confronted with challenging periods (Cox and Enns, 2003; Shahar et al., 2004), while the ASWB is more state sensitive, i.e. shows considerable change in response to significant life challenges, such as dealing with fertility issues (Ryff and Keyes, 1995; Kling et al., 1997; Ruini et al., 2003; van Dierendonck, 2004; Luyten et al., 2005). Second, numerous prospective studies demonstrate that the DEQ measures trait features that predict a wide variety of variables, other than psychological well-being, including depressive feelings (Zuroff et al., 1995; Mongrain et al., 2004), feelings of anger (Mongrain and Zuroff, 1994), and various aspects of interpersonal functioning (Luyten et al., 2005). Finally, if our results were merely due to item overlap, one would expect this overlap to be the greatest between Self-Criticism and the Self-Acceptance and Autonomy scales of the ASWB. However, Self-Criticism is not only negatively correlated with Self-Acceptance ($r = -0.61$, $P < 0.001$) and Autonomy ($r = -0.46$, $P < 0.001$), but also with Environmental Mastery ($r = -0.58$, $P < 0.001$), Purpose in Life ($r = -0.43$, $P < 0.001$) and Positive Relations ($r = -0.50$, $P < 0.001$), scales that show no content overlap with the DEQ Self-Criticism subscale. Hence, correlations with other dimensions are as high, or even higher, than with scales that show potential item overlap. However, future studies also using other validated instruments to measure psychological well-being are needed to further address this issue. Finally, although IVF is considered to be one of the most demanding and stressful artificial reproduction treatments (Boivin and Takefman, 1996; Eugster and Vingerhoets, 1999), being able to start this procedure may have increased the hope of these women to be able to have their own child. Therefore, future research on this topic should use a prospective multi-wave design, i.e. following women across different cycles of an IVF procedure and investigating both partners simultaneously.

References


Submitted on September 24, 2007; resubmitted on August 2, 2008; accepted on September 19, 2008.