The impact of shame and self-judgment on psychopathology in infertile patients

A. Galhardo¹,²,*, J. Pinto-Gouveia³, M. Cunha¹,², and M. Matos³

¹Instituto Superior Miguel Torga, Largo da Cruz de Celas, no. 1, 3000-132 Coimbra, Portugal ²CINEICC—Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra, 3000-132 Coimbra, Portugal ³CINEICC—Faculdade de Psicologia e de Ciências da Educação da Universidade de Coimbra, 3000-802 Coimbra, Portugal

*Correspondence address. Tel: +351-239-488030; Fax: +351-239-488031; E-mail: anagalhardo@ismt.pt

SUBMITTED ON November 9, 2010; resubmitted on May 26, 2011; accepted on June 1, 2011

BACKGROUND: Little is known about psychological processes of infertile couples pursuing medical treatment in comparison with fertile couples and adoption candidates who also suffer from infertility but are not seeking medical help. This study aims to contribute to a better understanding of these individuals in terms of psychological processes (such as external shame, internal shame and self-judgment) and their association with psychopathology, also attending to gender differences.

METHODS: One hundred control couples without known fertility problems [fertile group (FG)], 100 couples with an infertility diagnosis and pursuing medical treatment [infertile group (IG)], and 40 couples with an infertility diagnosis who are applying for adoption [adoption group (AG)] completed the instruments: Beck Depression Inventory, Spielberger State-Trait Anxiety Inventory, Others as Shamer, Experience of Shame Scale and the Self-compassion Scale. One-way analysis of variances were used to compare the three groups demographic and study variables. Pearson correlations and linear multiple regression analysis were performed to investigate the associations between shame, self-judgment, depression and anxiety. To explore gender differences, T-tests were used.

RESULTS: The IG group scored higher than FG and AG in measures of depression, anxiety, external shame, internal shame and self-judgment. In infertile couples, self-judgment, external shame and internal shame emerged as significant predictors of depressive symptomatology. Women with an infertility diagnosis tend to present higher levels of depressive and anxiety symptoms in comparison with fertile controls and adoption candidates.

CONCLUSIONS: This study highlights the importance of emotional regulation processes such as internal and external shame, and self-judgment, to the understanding of psychopathological symptomatology associated with infertility. Our results suggest that these issues should be addressed in a therapeutic context with these couples. Nevertheless, the heterogeneity of the infertile group, in what concerns different stages of medical diagnosis and treatment, might represent a limitation in the interpretation of our findings.

Key words: infertility / shame / self-judgment / depression / anxiety

Introduction

Infertility can be characterized as a disease of the reproductive system defined by the failure to achieve a clinical pregnancy after 12 months or more of regular unprotected sexual intercourse (Zegers-Hochschild et al., 2009).

The inability to conceive a child has been described as an experience that induces stress, in the individual as well as in the couple (e.g. Menning, 1980; Burns and Covington, 2006). Some authors suggest that one of the most difficult emotional consequences of infertility is the loss of control over one’s life, with infertility being a nuclear issue and excluding other important aspects of life (Cousineau and Domar, 2007). Although being presented as a very distressing condition in descriptive literature particularly for women, attempts to explore the psychological consequences of infertility have produced mixed results. According to Greil (1997), the lack of consensus may be due to several methodological problems (e.g. small sample sizes, non-representative samples, failure to study people who are not pursuing treatment and an over-reliance on self-report measures).

In general, studies that look for psychopathology have found no significant differences between infertile people and others (Greil, 1997; Eustfer and Vingerhoets, 1999). In a systematic review, Verhaak et al. (2007) found that women starting IVF were only slightly different from control groups concerning emotions. Emotional distress seems to be experienced by these couples in terms of normal feelings of vulnerability, fear and grief but most of them adjust well emotionally to...
the infertility condition and to unsuccessful treatment (Verhaak et al., 2010).

Other studies, however, show a high prevalence of psychiatric disorders in women receiving medical treatment for infertility. Chen et al. (2004) report that 40.2% have a psychiatric disorder, with generalized anxiety disorder being the most frequent diagnosis (23.2%), followed by major depression (17.0%) and dysthymia disorder (9.8%). Another study states that a psychiatric diagnosis was present in 30.8% of women and in 10.2% of men undergoing IVF treatment. Major depression was the most common mood disorder, prevalent in 10.9% of females and 5.1% of males. An anxiety disorder was encountered in 14.8% of females and 4.9% males (Volgsten et al., 2008). Noteworthy is the fact that anxiety and depression levels in infertile women are equivalent to the ones found in women with heart disease, cancer and those who are HIV positive (Domar et al., 2000).

Although more than half of these couples are able to learn to cope with the infertility problem, a significant percentage cannot adjust to this diagnosis and present inappropriate emotional responses. This emphasizes the importance of psychological interventions (Ramazan-zadeh et al., 2009).

Infertility is doubtless a crisis and an event that causes psychological stress (Leiblum and Greenfield, 1997; Brkovich and Fisher, 1998; Burns and Covington, 2006 cited in Wischmann et al., 2001). Its consequences can be seen especially in terms of personal suffering and social repercussions. Infertility and its treatment are stress-inducing conditions; Cousineau and Domar (2007) also suggest that there is evidence that this suffering may influence medical treatment results. They mention that it can contribute to the decision making of couples as to whether to continue medical treatment (e.g. difficulties in tolerating physical and psychological suffering may lead to the drop out of medical treatment).

Although the emotional consequences of an infertility diagnosis have been addressed in various studies (e.g. Möller and Fällström, 1991; Schmidt, 2006; Cousineau and Domar, 2007), a major research gap is found for the processes that may be involved in psychopathology shown by a subgroup of women and men with fertility problems. Furthermore, authors have suggested the existence of gender differences in response to infertility, with women presenting higher levels of distress than their male partners (Abbey et al., 1991; Schmidt et al., 2005; Wischmann et al., 2001, 2009).

The complex condition of infertility involves a wide range of psychological responses. During childhood and adolescence, social messages about the importance of parenthood are constantly disseminated and especially for women, being a mother is something often central to identity. Thus, a sense of loss of identity and feelings of defectiveness and incompetence are quite often experienced (Deka and Sarma, 2010). In this study, we hypothesize that experiencing infertility may correspond to the idea of being incomplete, flawed, inferior, and not meeting one’s own and others’ expectations, which may therefore lead to shame—either inner or external. In fact, shame has been referred to as an important emotion in the experience of infertility, related to a sense of loss of control over the body, feelings of personal exposure, of being a sexual failure or defective in some way (Petok, 2006). However, the role of shame and self-judgment in infertility has not been empirically studied.

Shame is an emotional experience that seems to be a key component to one’s self-identity being associated with the internal experience of the self as undesirable, defective, worthless and power- less (Gilbert, 1998; Lewis, 1992; Nathanson, 1996). Besides being a powerful emotion frequently seen as self-focused and self-evaluative (Tangney and Dearing, 2002; Tracy and Robins, 2004), shame is fundamentally an experience of the self-linked to how one believes one exists in the mind of the others (Gilbert, 1998, 2002). Shame types can be distinguished in terms of typical thoughts, behavior and atten- tions focus. External shame is focused on the social and external environment, when the individual believes that they exist negatively in the mind of others, as inferior, inadequate or flawed. Shame can also be internalized, emerging as a private feeling related to an individ- ual’s own negative personal judgments of their characteristics, feelings and fantasies (also known as internal shame) (Gilbert, 1998, 2002).

Although several studies have shown that external shame is related to internal shame, they emerge as independent constructs (Allan et al., 1994; Gilbert, 1998, 2002; Goss et al., 1994; Matos and Pinto-Gouveia, 2009). A key component of internal shame is self-devaluation and self-judgment (Gilbert, 2003, 2007) and this may occur particularly when the individual draws some kind of causal effect between infertility and something he/she has done in the past or is doing in the present moment (e.g. previous abortion, sexual be- havior, lifestyle, etc.). Additionally, Tangney and colleagues (Tangney and Dearing, 2002; Tangney and Fischer, 1995) have distinguished between state shame, which refers to the shame feelings one experiences in a certain situation, and shame proneness, which is an innate disposition to experience shame and may arise from early negative rearing experiences.

Recent research on this topic has highlighted the role that shame and shame proneness may play on the onset and course of depression in non-clinical and clinical samples (e.g. Andrews et al., 2002; Matos and Pinto-Gouveia, 2009). The same association has been found between shame and anxiety (e.g. Irons and Gilbert, 2005; Tangney et al., 1992; Pinto-Gouveia and Matos, 2010).

Contrary to self-kindness, self-judgment entails being harshly self-critical in instances of failure or pain, perceiving one’s experiences as separate from the larger human experience and over-identifying with painful thoughts and feelings (Neff, 2003). When confronting suffering, inadequacy or failure, self-judgmental individuals tend to belittle their pain or berate themselves with self-criticism. This concept of self-judgment is distinct from the concept of self-criticism used by Lowyck et al. (2009) and Van den Broeck (2010) in studies with infertile patients, which refers to putting too much emphasis on the develop- ment of a positive definition neglecting interpersonal relatedness.

Due to the lack of research studies on psychological processes such as shame associated with the infertility condition, this study aims to contribute knowledge to the complex nature of this diagnosis and its psychological impact. Specifically, the present study explores indi- vidual psychological processes in couples with infertility and who are pursuing medical treatment and compares these with couples without known infertility problems and couples who, despite having an infertility diagnosis, are not under medical treatment and are apply- ing for adoption.

We hypothesize that these three groups would show differences concerning psychopathology with the infertile group presenting higher levels of depression, anxiety, shame and self-judgment. Another aim of the current study is to explore the relationship between shame and self-judgment with depression and anxiety symptoms. We
expect that in the infertile group, shame and self-judgment would be particularly associated with depressive and anxiety symptoms. Finally, we investigate whether there are gender differences concerning the variables studied in the three groups. We predict that women in the infertile group would present higher levels of shame, self-judgment and psychopathological symptoms than men.

**Materials and Methods**

The sample of this study is constituted by three groups. The first is a control group, collected (as a convenient sample) from the general population, formed by 100 couples in fertile age, with at least one child and without known infertility problems (response rate of 80%). The clinical group consists of 100 couples with an infertility diagnosis that were seeking treatment in infertility public and private clinics and gave their informed consent for their participation. These couples were contacted by their medical doctors and were at various stages of infertility treatment. The study was previously approved by Ethical Committees of public centers, Clinical Directors of private centers and was supported by the Portuguese Fertility Association and the response rate was 20%. The third comparison group is composed of 40 couples who, despite presenting infertility problems, were pursuing adoption and not medical treatment. This last group also gave their informed consent and were recruited through Portuguese social services adoption offices, and presented a response rate of 13%.

A set of self-report instruments were completed by subjects in all three groups. These instruments were selected due to their psychometric characteristics and clinical utility.

**Experience of Shame Scale (ESS; Castilho and Pinto-Gouveia, in press)** is a measure of self-compassion that includes 26 items rated on a 5-point Likert scale. In our study, we used the self-judgment subscale that corresponds to the sum of self-criticism (e.g. ‘I’m disapproving and judgmental about my own flaws and inadequacies’), isolation (e.g. ‘When I think about my inadequacies it tends to make me feel more separate and cut off from the rest of the world’) and over-identification (e.g. ‘When I fail at something important to me I become consumed by feelings of inadequacy’) subscales (Chronbach’s $\alpha = 0.92$). Mean scores obtained in the Portuguese general population are 48.94 (SD = 13.41). In the present study, ESS total showed an excellent internal consistency (Chronbach’s $\alpha = 0.95$). Only the total of the ESS was used in this research.

**Self-Compassion Scale (SELFCS; Neff, 2003, Portuguese version by Pinto-Gouveia, 2010)** is a 27-item scale assessing self-compassion and is rated on a 4-point Likert scale (1–4). Although we used this questionnaire to measure internal shame, it was not designed to specifically measure this construct. Mean scores obtained in the Portuguese general population are 59.8 (SD = 13.9). The present study, SELFCS total showed an excellent internal consistency (Chronbach’s $\alpha = 0.95$). Only the total of the SELFCS was used in this research.

**State Anxiety Inventory Form Y (STAI-Y; Spielberger, 1983, Portuguese version by Daniel and Ponciano-Lopes, 1996)**. This is a well known 20-items self-report measure of state anxiety (current feelings of anxiety). It is rated on a 4-point Likert scale with higher scores indicating higher levels of anxiety. Mean scores obtained in the Portuguese general population are 39.97 (SD = 11.25). A Chronbach alpha of 0.81 was reported in the present study.

**Other as Shamer (OAS; Goss et al., 1994, Portuguese version by Matos and Pinto-Gouveia, 2010)**. This 18 items scale measures external shame (global judgments of how people think others view them). For example, respondents rate on a 5-point Likert scale (0–4) the frequency of their feelings and experiences in items such as ‘I feel other people see me as not quite good enough’ and ‘I think that other people look down on me’. Higher scores on this scale reveal high external shame. Mean scores obtained in the Portuguese general population are 19.76 (SD = 9.32). In this study OAS reported a high internal consistency (Chronbach’s $\alpha = 0.92$).

**Beck Depression Inventory (BDI; Beck et al., 1961; Portuguese version by Vaz-Serra and Pio-Abreu, 1973a)**. This instrument is a self-report measure of depressive symptoms composed by 21 groups of statements that the subjects answer in terms of what best describes what is happening to them. BDI is a widely accepted instrument for assessing depression in clinical samples and detecting depression in normal populations. Normative data from the Portuguese population indicate that scores between 0 and 9 indicate the absence of depression, between 10 and 20 slight depressive states, between 21 and 30 moderate levels of depression and over 30 severe depression (Vaz-Serra and Pio-Abreu, 1973a,b). In our study, the Cronbach alpha was of 0.87.

**Social demographic information about the three groups are presented in Table I. In what concerns age and years of education, infertile patients and fertile controls do not present statistically significant differences. Couples applying for adoption, however, were older and had a lower educational level. They are also married for a longer period of time when compared with normal fertile controls and patients with infertility.**

As significant differences were found between the groups regarding social demographic characteristics, in order to explore whether age, years of education and years of marriage were related to the variables studied, we conducted Pearson product-moment correlations. Age and years of education did not correlate significantly with any variable for any of the groups. Years of marriage showed a low, but significant correlation with depression ($r = 0.17; P < 0.05$) in fertile controls.

In order to explore differences between the three groups in the variables studied, we conducted a series of one-way ANOVAs (Table I).

Regarding psychopathology, results show that the infertile group presented statistically significant higher scores on depressive symptoms than the fertile controls and the control group, in accordance with our hypotheses. We predict that women in the infertile group would present higher levels of shame, self-judgment and psychopathological symptoms than men.
symptoms, external shame and internal shame, whereas fertile controls and adoption candidates did not significantly differ. Infertile patients also showed significantly higher levels of anxiety and self-judgment. As for these two variables, couples applying for adoption were the ones with lower scores.

When compared with normative data of the Portuguese population, even though the infertile group presents higher mean scores than the other two groups, they fall below cut-off values of clinical relevance.

### Depression

In order to explore the relation between depression and shame, and self-judgment, in the three groups, we performed Pearson product-moment correlations (Table III). Overall, infertile individuals showed higher correlations between depressive symptoms and psychological processes variables than fertile controls or couples applying for adoption. In infertile couples depressive symptomatology was positively and moderately associated with external shame, internal shame and self-judgment. As expected, in the three groups, external shame was moderately correlated with depressive symptoms, external shame and internal shame, whereas fertile controls and adoption candidates did not significantly differ. Infertile patients also showed significantly higher levels of anxiety and self-judgment. As for these two variables, couples applying for adoption were the ones with lower scores.

When compared with normative data of the Portuguese population, even though the infertile group presents higher mean scores than the other two groups, they fall below cut-off values of clinical relevance.

#### Anxiety

Similar analysis was conducted to explore the association between external shame, internal shame, and self-judgment and anxiety in the three groups.

In general, couples applying for adoption showed higher correlations between anxiety and psychological processes variables than fertile controls and infertile couples. In couples pursuing adoption, anxiety was positively and moderately associated with external shame, internal shame and self-judgment.

To better understand these results, we conducted a linear multiple regression analysis (standard method) using external shame, internal shame and self-judgment to predict anxiety in the adoption group.

Results showed that the regression model was significant ($R^2 = 0.31; F(3, 76) = 11.40; P < 0.001$), accounting for 31% of the variance in anxiety. From the regression coefficients analysis, we could verify that self-judgment ($\beta = 0.44; P = 0.002$) emerged as the only significant global predictor of anxiety in adoption candidates. Internal shame ($\beta = 0.08; P = 0.541$) and external shame ($\beta = 0.10; P = 0.432$) were not significant predictors.

#### Gender differences

We conducted independent sample T-tests to explore gender differences in the variables studied in the three groups. In the fertile controls, the only statistically significant difference was in depressive symptomatology. Patients in the fertile and adoption groups showed higher depressive symptomatology than patients in the infertile group ($t = 1.94; P = 0.052$), a result that may be explained by the fact that infertile couples undergo a long period of uncertainty and social rejection before seeking fertility treatment. In contrast, adoption candidates who are selected by the social welfare system present themselves as already socially integrated and attractive candidates, thus experiencing less anxiety.

#### Table I Sample social demographic characteristics.

<table>
<thead>
<tr>
<th></th>
<th>Fertile group (n = 200)</th>
<th>Infertile group (n = 200)</th>
<th>Adoption group (n = 80)</th>
<th>F (2 477)</th>
<th>P</th>
<th>Post hoc</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>35.16 (4.39)</td>
<td>34.24 (5.05)</td>
<td>36.64 (6.37)</td>
<td>6.56</td>
<td>0.002</td>
<td>AG &gt; FG; AG &gt; IG</td>
</tr>
<tr>
<td>Years of education</td>
<td>14.40 (3.34)</td>
<td>14.49 (3.44)</td>
<td>11.04 (4.20)</td>
<td>30.92</td>
<td>0.000</td>
<td>AG &lt; FG; AG &lt; IG</td>
</tr>
<tr>
<td>Years of marriage</td>
<td>8.88 (4.15)</td>
<td>6.07 (3.31)</td>
<td>10.61 (5.43)</td>
<td>43.63</td>
<td>0.000</td>
<td>AG &gt; FG &gt; IG</td>
</tr>
</tbody>
</table>

BDI, Beck Depression Inventory; STAI Y1, Spielberger State-Trait Anxiety Inventory; OAS, Others as Shamer; ESS, Experience of Shame Scale and the Self-compassion Scale (SELFCS Judg).
symptoms ($t = -2.74$; $P = 0.007$), with women ($M = 5.97$; $SD = 5.19$) scoring significantly higher than men ($M = 4.11$; $SD = 4.38$). No significant differences were found between men and women in adoption couples. For the infertile couples group, significant differences were found in depression ($t = -5.33$; $P = 0.000$), internal shame ($t = -4.50$; $P = 0.000$) and self-judgment ($t = 5.00$; $P = 0.000$). In comparison with men, women showed more depressive symptoms (women: $M = 11.14$; $SD = 7.27$; men: $M = 5.91$; $SD = 6.59$), more internal shame (women: $M = 54.86$; $SD = 17.08$; men: $M = 44.95$; $SD = 13.92$) and more self-judgment (women: $M = 38.44$; $SD = 9.67$; men: $M = 31.55$; $SD = 9.82$).

**Discussion**

This study set out to investigate some of the processes that might be underlying the higher rates of psychopathology found in people with infertility problems—in particular, shame and self-judgment. Our findings provide more detailed information on the psychological functioning of Portuguese couples with an infertility diagnosis in comparison with two control groups. Gender differences were also explored.

Despite presenting results that are within the normative values found in the Portuguese population, we found that infertile couples pursuing medical treatment presented statistically significant higher scores on depression and anxiety when compared with fertile couples and couples with infertility problems pursuing adoption and not medical treatment. These results corroborate our prediction and are in accordance with previous studies, proposing that the infertility diagnosis is closely related to depression and anxiety symptoms (Chen et al., 2004; Wischmann et al., 2001). We have also found that infertile subjects scored higher on measures of external and internal shame, as well as self-judgment. These findings add to the existing literature by suggesting that these individuals see themselves as existing in the minds of the others as someone with negative characteristics, as unattractive, worthless, defective or inferior. Also, these individuals seem to perceive themselves negatively as inadequate, different, unlovable and unworthy (Gilbert, 1998, 2002). Infertile individuals tend to be harsher (than controls) and more unkind toward themselves and to negatively judge themselves in terms of their perceived inadequacies, failures and pain. Additionally, they tend to become more immersed in their current emotional reactions, identifying themselves with their own pain and suffering and feeling separated and isolated from others (Neff, 2003, 2004).

In infertile subjects, the correlations between depression and the psychological processes studied were higher than those in the other two groups. Results from correlations and regression analysis showed that in these individuals, depression was especially associated with self-judgment, external shame and internal shame. Our study adds to the existing knowledge (Domar et al., 2000; Volgsten et al., 2008) in this area by showing that in infertility, depression seems to be significantly associated with negative emotional processes such as self-judgment and shame. So it seems that infertile couples facing medical treatment tend to feel more shame, be more self-critical, to feel isolated and disconnected from others, as well as tending to over identify with their negative emotional states. These negative psychological processes may contribute to an increased vulnerability to depressive symptoms.

Regarding anxiety, our findings suggest that it is particularly in couples pursuing adoption that these negative psychological processes are associated with it. Regression analysis results revealed that self-judgment was the only significant predictor. It might be that adoption procedures, which involve an important evaluative component, may, in those individuals who tend to be self-critical, induce higher levels of anxiety.

Regarding gender differences, and in accordance with previous studies (Abbey et al., 1991; Schmidt, et al., 2005; Wischmann et al., 2001, 2009), the current study found that women tend to be more

**Table III** Intercorrelations between external shame (OAS), internal shame (ESS), self-judgment (SELFCS_Judg), depression (BDI) and anxiety (STAI Y-1) ($n = 480$).

<table>
<thead>
<tr>
<th></th>
<th>OAS</th>
<th>ESS</th>
<th>SELFCS_Judg</th>
<th>BDI</th>
<th>STAI Y1</th>
</tr>
</thead>
<tbody>
<tr>
<td>OAS</td>
<td>NC</td>
<td>0.58**</td>
<td>0.64**</td>
<td>0.46**</td>
<td>0.49**</td>
</tr>
<tr>
<td></td>
<td>IG</td>
<td>0.65**</td>
<td>0.64**</td>
<td>0.47**</td>
<td>0.50**</td>
</tr>
<tr>
<td></td>
<td>AG</td>
<td>0.55**</td>
<td>0.56**</td>
<td>0.57**</td>
<td>0.58**</td>
</tr>
<tr>
<td>ESS</td>
<td>NC</td>
<td>0.58**</td>
<td>0.66**</td>
<td>0.56**</td>
<td>0.49**</td>
</tr>
<tr>
<td></td>
<td>IG</td>
<td>0.63**</td>
<td>0.66**</td>
<td>0.47**</td>
<td>0.50**</td>
</tr>
<tr>
<td></td>
<td>AG</td>
<td>0.61**</td>
<td>0.65**</td>
<td>0.56**</td>
<td>0.58**</td>
</tr>
<tr>
<td>SELFCS_Judg</td>
<td>NC</td>
<td>0.58**</td>
<td>0.64**</td>
<td>0.47**</td>
<td>0.50**</td>
</tr>
<tr>
<td></td>
<td>IG</td>
<td>0.63**</td>
<td>0.64**</td>
<td>0.47**</td>
<td>0.50**</td>
</tr>
<tr>
<td></td>
<td>AG</td>
<td>0.61**</td>
<td>0.65**</td>
<td>0.55**</td>
<td>0.58**</td>
</tr>
<tr>
<td>BDI</td>
<td>NC</td>
<td>0.40**</td>
<td>0.37**</td>
<td>0.19**</td>
<td>0.18**</td>
</tr>
<tr>
<td></td>
<td>IG</td>
<td>0.56**</td>
<td>0.54**</td>
<td>0.19**</td>
<td>0.17**</td>
</tr>
<tr>
<td></td>
<td>AG</td>
<td>0.49**</td>
<td>0.38**</td>
<td>0.55**</td>
<td>0.56**</td>
</tr>
<tr>
<td>STAI Y1</td>
<td>NC</td>
<td>0.40**</td>
<td>0.42**</td>
<td>0.55**</td>
<td>0.56**</td>
</tr>
<tr>
<td></td>
<td>IG</td>
<td>0.54**</td>
<td>0.69**</td>
<td>0.49**</td>
<td>0.49**</td>
</tr>
<tr>
<td></td>
<td>AG</td>
<td>0.61**</td>
<td>0.65**</td>
<td>0.56**</td>
<td>0.58**</td>
</tr>
</tbody>
</table>

Results are presented in bold for the IG and in italics for the AG.

BDI, Beck Depression Inventory; STAI Y1, Spielberger State-Trait Anxiety Inventory; OAS, Others as Shamer; ESS, Experience of Shame Scale and the Self-compassion Scale (SELFCS_Judg). **$P < 0.01$. 

2412

Galhardo et al.
depressed, to perceive themselves in a more negative way and to be more self-judgmental. This may suggest that in women, more than in men, infertility may induce more shame and negative self-criticism due to cultural factors and gender roles.

In conclusion, infertile individuals may experience a greater pressure due to this diagnosis. They have to deal with the reality of not fulfilling personal, family and cultural expectations of parenthood, as well as the medical treatment itself that can be rather painful and intrusive, especially for women. This may lead these individuals to be more prone to depression, and anxiety, as well as having higher levels of psychological functioning characteristics, such as shame and self-judgment.

Conversely, couples applying for adoption may have already overcome the grief process of not being able to have a biological child and their decision to adopt may have led them to feel less depression, anxiety and shame.

Our results must be interpreted cautiously due to the heterogeneity of infertile patients concerning their infertility cause, medical treatment phase, existence or not of previous unsuccessful cycles. Previous studies have shown that the stage of treatment may exert a major influence upon psychological functioning for infertile couples (e.g. Berg and Wilson, 1991; Yong et al., 2000), with ovum pick-up and embryo transfer as the more stressful phases (Mahajan et al., 2010). According to a systematic review (Verhaak et al., 2007), women starting IVF presented only slightly emotional differences from norm groups but unsuccessful treatment raised their levels of negative emotions. Additionally, the psychological impact of infertility can be related to the etiology of the infertility problem (Lykendirou et al., 2009).

Thus, there are some methodological limitations that should be considered. The cross-sectional design of our study does not allow causal conclusions to be drawn. Besides, as mentioned, it examines a heterogeneous group of infertile couples at different stages of medical diagnosis and treatment that have sought at least brief medical treatment. Furthermore, infertility causes, differences in medical treatment that is being followed and the number of medical treatment cycles they have already gone through were not controlled for. Future studies should address these issues. Moreover, because of the low response rate, there is a possibility that individuals who did not respond are different from the present sample.

Nevertheless, this study is, to our knowledge, the first highlighting the importance of processes such as internal and external shame, and self-judgment, to the understanding of psychopathological symptomatology associated with infertility, particularly depression. Thus, our results suggest that there may be a benefit to the mental health of infertile couples from addressing these processes specifically in counseling or psychotherapy. For example, through the use of Acceptance and Commitment Therapy and Compass Focus Therapy, which are specially designed to target emotion regulation processes (such as shame and self-criticism).

Authors’ roles
A.G. designed the study, developed the main database; collected, analyzed and interpreted the data; and drafted and revised the paper. J.P.-G. and M.C. designed the study, contributed to the interpretation of data and revised it critically. M.M. analyzed and interpreted the data, as well as drafted and revised the paper. All authors gave final approval of the version to be published.

Acknowledgements
We thank all the couples and professionals from the public and private infertility treatment centers and adoption offices, for their participation and cooperation in the data sampling.

Funding
This research has been supported by the first author Ph.D. Grant (SFRH/BD/68392/2010), sponsored by FCT (Portuguese Foundation for Science and Technology).

References


