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Giulia Casu

University of Bologna, Italy

Victor Zaia

Faculdade de Medicina do ABC, Brazil

Maria do Carmo Fernandes Martins

Methodist University of São Paulo, Brazil

Caio Parente Barbosa

Instituto Ideia Fértil, Brazil

Faculdade de Medicina do ABC, Brazil

Paola Gremigni

University of Bologna, Italy

Author Note

Giulia Casu, Department of Psychology, University of Bologna, Italy, E-mail: giulia.casu3@unibo.it. Victor Zaia, Faculdade de Medicina do ABC, São Paulo, Brazil, E-mail: victorzaia@gmail.com. Maria do Carmo Fernandes Martins, School of Health Psychology, Methodist University of São Paulo, Brazil, E-mail: mcf.martins@uol.com.br. Caio Parente Barbosa, Instituto Ideia Fértil, Santo André, São Paulo, Brazil, Faculdade de Medicina do ABC, São Paulo, Brazil, E-mail: caiopb@uol.com.br. Paola Gremigni, Department of Psychology, University of Bologna, Italy, E-mail: paola.gremigni2@unibo.it.

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Correspondence concerning this article should be addressed to Prof. Paola Gremigni, Department of Psychology, University of Bologna, viale Berti Pichat 5, 40127, Bologna, Italy. E-mail: paola.gremigni2@unibo.it. Phone number: +39 051 2091338.

Abstract

This study adopted a dyadic approach to explore the associations between social support and stress as mediated by coping among infertile couples. All these variables were infertility-specific. A total of 201 couples starting their first assisted reproductive technology (ART) treatment completed self-reports of infertility-specific support from spouse and from social network, infertility-related coping with four strategies (active-avoidance, active-confronting, passive-avoidance, and meaning-based), and infertility stress. The actor-partner interdependence model was applied. Results indicated that dyadic associations between support and stress were either direct or mediated by individual or partner coping, with differences based on gender, source of support, and coping strategy. For both genders, greater support from spouse was associated with lower individual and partner stress directly and indirectly, through lower partner's use of active-avoidance coping. In men, the relationship between support from spouse and stress was also mediated by individual/partner avoidance coping strategies. As for support from social network, greater levels were directly associated with a lower partner stress in women and with higher individual stress in men. For both genders, the relationship between support from social network and stress was also mediated by active-confronting coping, which was associated with higher individual and partner stress. The findings suggest a potential protective role of support from spouse and an adverse effect of that from people outside the dyad. Interventions for couples starting ART treatment should focus on promoting infertility-related communication and support within the couple, which might help to reduce the use of infertility-specific maladaptive coping strategies.

Keywords: actor-partner interdependence mediation model, couples, dyadic approach, social support, coping, infertility stress, infertility

Experiencing infertility is physically and psychologically demanding in all cultures and societies and is reported by couples as one of the most stressful events in their lives (Greil, Slauson-Blevins, & McQuillan, 2010). Stress is traditionally intended as a relationship between the individuals and their environment that is appraised by them as exceeding their resources and threatening their well-being (Lazarus & Folkman, 1984). Both the loss of plans to have children and fertility treatment are important sources of stress, and infertile individuals show higher levels of stress than the fertile population (Rooney & Domar, 2016). The concept of infertility stress refers to the burden that the inability to conceive places on personal, marital, and social life domains for both members of the infertile couple (Schmidt, Holstein, Christensen, & Boivin, 2005). It has been proposed as distinct from and nonoverlapping with the construct of general stress (Sexton, Byrd, O'Donohue, & Jacobs, 2010), as supported by a moderate correlation (r = .46) recently found with it (Cesta et al., 2018). Infertility stress has adverse effects on the couples' quality of life (Kim, Shin, & Yun, 2018; Slade, O'Neill, Simpson, & Lashen, 2007) and was seen as a barrier to achieving pregnancy in couples undergoing assisted reproductive technology (ART) treatment (Sominsky et al., 2017). Focusing on infertility-related, rather than general, stress is considered critical to better describe the experience of infertile couples and capture variations in their levels of stress and distress (Greil, Shreffler, Schmidt, & McQuillan, 2011).

If infertility is a relevant source of stress, it is important to identify factors that may help couples to deal with it, and clinicians to design interventions to promote adjustment to infertility and its treatment (Gourounti, Anagnostopoulos, & Vaslamatzis, 2010). A range of psychosocial variables have been considered as either risk or protective factors for infertility stress, such as personality characteristics, cognitions, social support, coping skills, and perceived control (for a review see Gourounti et al., 2010). Regarding protective factors, several studies reported that

79 greater perceived social support from spouse and from social network was associated with lower
80 infertility stress (Gourounti et al., 2010). In both fertile and infertile individuals, the greater the
81 support they receive from their spouses, the greater their marital satisfaction (Abbey, Andrews, &
82 Halman, 1995). Thus, marital satisfaction has been also used as an indicator of support from spouse
83 that may protect against general and infertility-related stress in the infertile population (Chochovski,
84 Moss, & Charman, 2013; Gourounti et al. 2010). In the infertility literature, most studies have
85 addressed general social support (e.g., Gourounti et al., 2010; Martins, Peterson, Almeida, & Costa,
86 2011; Martins, Peterson, Almeida, Mesquita-Guimarães, & Costa, 2014); however, Martins et al.
87 (2014) suggested to consider social support specific to infertility problems and treatments, namely
88 infertility-specific support. A few studies have addressed infertility-specific support (e.g., Sexton &
89 Byrd, 2015; Vassard, Rikke, Pinborg, Boivin, & Schmidt, 2012; Ying, Wu, & Loke, 2015) and
90 showed that this type of support from the spouse was linked to lower infertility stress for both
91 women and men (Sexton & Byrd, 2015; Ying et al., 2015). As for support from the social network,
92 a quantitative study of women (Sexton & Bird, 2015) showed its association with lower infertility
93 stress, while a qualitative study of couples (Ying et al., 2015) indicated that for some of them, the
94 support from parents contributed to reducing their infertility stress, but for some others, it was an
95 additional stressor as they felt guilty about adding to their parents' burden. In addition, some
96 couples described the support from friends and colleagues as potentially negative, due, for example,
97 to useless or unintentionally unfavorable comments. No study, to our knowledge, has addressed the
98 relationship between general social support and social support specific to infertility, or their
99 differential impact on infertility stress. However, evidence was provided that infertility-specific
100 support from the partner (for men) and from the family (for women) was more closely related to the
101 decision to terminate fertility treatment than was general social support (Vassard et al., 2012).

102 **A Path from Social Support to Infertility Stress through Coping Strategies**

103 According to the transactional theory of stress (Lazarus & Folkman, 1984), the most critical
104 elements in the process of adjusting to stressful life events are cognitive appraisals and coping.

Cognitive appraisals refer to a person's perception and interpretation of the stressor in terms of whether it may cause harm and loss or personal growth and development, and what personal and environmental resources are available to cope with it. Coping represents the cognitive and behavioral efforts employed by an individual to manage a stressful situation (problem-focused coping) and/or to regulate the emotions that the situation generates (emotion-focused coping). Problem-focused coping includes strategies such as taking control, information seeking, or generating alternative solutions, while emotion-focused coping includes strategies such as avoidance, minimization, or positive reappraisal. In the infertile population, problem-focused strategies have been linked to better adjustment, while emotion-focused strategies involving avoidance have been consistently associated with worse adjustment (Gourounti et al., 2010; Rockliff et al., 2014). Specific strategies commonly used to cope with infertility as a source of stress include active- and passive-avoidance, active-confronting, and meaning-based coping (Schmidt, Christensen, & Holstein, 2005). Active- and passive avoidance include coping strategies aimed at distancing from the stressor through active or passive behaviors (e.g., avoiding being with pregnant women or children, or hoping for a miracle, respectively). Active-confronting involves problem-focused strategies such as information seeking, as well as emotion-focused strategies such as letting feelings out. Meaning-based coping involves both problem-focused strategies like finding other life goals, and emotion-focused strategies such as positive reappraisal. Across studies considering infertility-related coping, the strategies most commonly used by infertile women and men were meaning-based and passive-avoidance coping, while active-avoidance was the least used strategy (Martins et al., 2011; Peterson, Pirritano, Christensen, & Schmidt, 2008; Schmidt, Christensen, et al., 2005; Schmidt, Holstein, et al., 2005). Some evidence was found that active- and passive-avoidance had an adverse effect on infertility stress, while active-confronting and meaning-based coping had a protective role (Martins et al., 2011; Schmidt, Holstein, et al., 2005).

Gourounti et al. (2010) proposed a theoretical path model from social support to infertility stress, which had its roots in the transactional theory of stress and was both direct and indirect,

either through cognitive appraisals or coping strategies. Indeed, social support is one of the environmental resources that precede and influence the cognitive appraisal of a stressful event and the coping strategies that a person adopts to deal with it (Lazarus & Folkman, 1984). Specifically, receiving social support may encourage the use of problem-focused coping and reduce the use of avoidant emotion-focused coping, which in turn have been associated with higher positive and negative affect, respectively (Ben-Zur, 2002). The path model by Gourounti et al. (2010) was tested, although not explicitly, in a study of women seeking fertility treatment (Martins et al., 2011). A direct relationship was found between perceived general social support and lower infertility stress that was also mediated by active-avoidance, active-confronting, and meaning-based, but not by passive-avoidance coping.

A Dyadic Approach

The path model proposed by Gourounti et al. (2010) focuses on an individual's (i.e., women's) reactions to infertility, without considering those of the other partner. As a shared stressor, infertility triggers coping efforts of both partners and affects both individual and couple outcomes (Pasch & Sullivan, 2017; Peterson et al., 2008), thus a dyadic perspective needs to be adopted when investigating infertility stress (Martins et al., 2014). Studies that investigated the predictors of infertility stress at the couple level have shown that perceived general support from spouse or social network and specific coping strategies have different effects on infertile women and men or on their partners' self-evaluations. For example, in couples seeking fertility treatment, support from spouse alleviated individual symptoms of stress for both women and men and reduced the partner's stress (i.e., the partners' evaluation of their own stress) among women, while support from family decreased individual and partner infertility stress for women but not for men (Martins et al., 2014). However, the role of infertility-specific social support has not been explored from a dyadic perspective.

Regarding the impact of each partner's coping on individual and partner infertility stress, for both women and men, active- and passive-avoidance coping were both associated with increased

individual infertility stress, and active-avoidance was also related to increased partner infertility stress. Active-confronting was associated with increased individual infertility stress in both genders, and with greater partner infertility stress among women. Finally, at both the individual and partner levels, meaning-based coping was associated with lower infertility stress among women, but with greater infertility stress among men (Peterson et al., 2008). Thus, when considering the couple as the unit of analysis, the role of meaning-based coping differed across gender, while an adverse effect of active-confronting coping emerged for both women and men, which is in contrast with the findings of studies using individuals as the unit of analysis (Martins et al., 2011; Schmidt, Holstein, et al., 2005).

In summary, among studies using a dyadic approach, none has investigated the association of infertility-specific support with infertility stress also considering infertility-related coping strategies as potential mediators.

The Actor-Partner Interdependence Model

The actor-partner interdependence model (APIM; Kenny, Cashy, & Cook, 2006) uses the couple as the unit of analysis and simultaneously estimates individual and partner associations. Individual associations refer to those between a person's own independent variable and her or his own outcome. Partner associations refer to those between the partner's independent variable and the other person's outcome and represent the interdependence that exists between the dyad members (Kenny et al., 2006). Besides modeling the interdependent nature of close relationships, the APIM allows also to test if the individual and partner associations are different for the two dyad members (Garcia, Kenny, & Ledermann, 2015). The actor-partner interdependence mediation model (APIMeM; Ledermann, Macho, & Kenny, 2011) is an extension of the APIM that incorporates mediation. The APIMeM examines whether the individual- and partner-level links between the independent and outcome variables are mediated by each partner's mediator variable.

The Present Study

The current study was designed to extend prior research by examining how self-evaluated infertility-specific social support and infertility stress are associated in couples starting ART treatment, considering the mediating role of self-evaluated infertility-related coping from a dyadic perspective using the APIMeM. Our general hypotheses were that: (1) greater perceived support would be directly associated with lower stress at both the individual and partner levels; (2) individual coping would mediate both the individual- and the partner-level direct associations between social support and stress. Specifically, greater perceived support would be associated with lower stress through a lower use of active- and passive-avoidance coping, and with higher stress through a greater use of active-confronting coping, while the mediating role of meaning-based coping was expected to be gender-specific. However, we could expect that the indirect paths from social support to stress would differ depending on the source of perceived support (i.e., from spouse or social network).

Method

Participants and Procedure

Participants were infertile couples starting ART treatment at a private fertility clinic in Santo André, State of São Paulo, Brazil. The inclusion criteria were 18 years or older, reporting infertility as the inability to conceive after at least one year of regular unprotected sexual intercourse, starting a first ART treatment, and having disclosed their infertility status to their social network (i.e., family, friends, and colleagues). Between September 2016 and April 2017 the couples scheduled for their first consultation for ART were approached by the second author in the waiting room, before the consultation, and were briefly explained the scope of the study. Participation was voluntary, and each participant signed an informed consent form, prior to completing the study questionnaire separately from the partner. During questionnaire completion, the researcher remained in the waiting room and was available to answer any questions. The study complied with the Declaration of Helsinki and was approved by the University Research Ethics Committee (CAAE-FMABC: 57365516.0.0000.0082).

Of the 491 consecutively approached couples, 256 (52.14%) met all inclusion criteria and were invited to participate in the study, while 235 (47.86%) were deemed ineligible because they did not meet one or more of the inclusion criteria. Fifty-five couples declined participation due to lack of interest in the research; thus, the study sample consisted of 402 participants (78.5% participation rate), 201 women and 201 men, who completed the study questionnaire with an item nonresponse rate of 1.3%. Omitted items were replaced with the respondent's scale mean. Mean age was 36.22 years (*SD* = 4.33; range 24-52 years) for women and 38.32 years (*SD* = 6.66; range 23-63 years) for men. All women except one (aged 52) were of reproductive age (< 45 years)[1]. Sixty-seven percent of women (*n* = 135) and 53.7% of men (*n* = 108) had tertiary education. Couples were married or living together for approximately eight years (*M* = 7.56, *SD* = 4.57, range 1-30 years).

Measures

Information on infertility history (length of time trying to have a child, other medically assisted reproduction treatments prior to ART, and infertility counseling) was collected using a questionnaire. Type of infertility (i.e., primary or secondary, and if secondary, having had spontaneous abortions or live births from previous spontaneous conceptions or fertility treatments other than ART) and infertility cause were based on medical records. Based on the international glossary of infertility and fertility care (Zegers-Hochschild et al., 2017), primary infertility was defined as a situation in which the couple has never conceived despite at least 12 months of attempting conception. Secondary infertility was defined as a situation in which the couple has had at least one prior conception but is subsequently unable to conceive after at least 12 months of attempting conception. Infertility cause was categorized as female factors, male factors, mixed factors (i.e., both female and male factors present), or unexplained infertility. Infertility counseling

[1] Sensitivity analyses were run excluding the couple in which the woman was older than 44 years. The patterns and significance of the associations in the simple APIM and in the APIMeMs remained the same as when all 201 couples were included.

was defined as having received individual or couple infertility-related counseling by a mental health professional before the first consultation for ART.

Self-reports measured infertility stress, infertility-specific support, and infertility-related coping strategies. To ensure adaptation to the Brazilian Portuguese language, and after permission from the authors, the scales were translated and back-translated by two independent bilingual psychologists according to standard procedures (van de Vijver & Hambleton, 1996).

Stress. The Infertility-Related Stress Scale (Casu & Gremigni, 2016) was used to assess infertility stress. This 12-item self-report measures the impact of infertility in both the intrapersonal and the interpersonal domains of life (e.g., "How much stress the infertility problem placed on your physical well-being" and "How much stress the fertility problem placed on relationships with friends"). For each item, respondents were asked to rate their perceived amount of stress on a 7-point scale (1 = none at all to 7 = a great deal). The global infertility stress score was used in the present study, which showed a Cronbach's alpha of .94 for women and .95 for men.

Support from spouse and social network. Six items were used to assess infertility-specific social support from spouse and social network. Two items referred to the partner (i.e., "Do you get support and understanding from your partner in relation to your difficulty in having children?", and "Do you find it difficult to talk to your partner about your difficulty in having children?"), and four items referred to different social roles such as family, family-in-law, friends, and colleagues (i.e., "Do you get support and understanding from some people in relation to your difficulty in having children?"). Respondents were asked to rate each item on a 5-point scale (1 = never to 5 = always). These items were based on a previous work by Vassard et al. (2012), who developed and used them as single predictors of dropout from fertility treatment but did not report reliability. As evidence of validity, they found that low support from spouse and family predicted treatment termination after 1 year. In the present study, the Spearman-Brown reliability coefficient (Eisinga, Te Grotenhuis, & Pelzer, 2013) for the two items of support from spouse was .65 for women and .63 for men. Cronbach's alpha for the support from social network scale was .84 for women and .89 for men.

Coping. The Copenhagen Multi-Centre Psychosocial Infertility (COMPI) research program Coping Strategy Scales (Schmidt, Christensen, et al., 2005) were used to assess the strategies specifically adopted to cope with infertility. This 19-item tool has four subscales: active-avoidance (4 items; e.g., "I leave, when people are talking about pregnancies and children"), active-confronting (7 items; e.g., "I read or watch television about childlessness"), passive-avoidance (3 items; e.g., "I have fantasies and wishes about how things might turn"), and meaning-based (5 items; e.g., "I have grown as a person in a good way") coping. Items were rated on a 4-point scale (1 = not used to 4 = used a great deal). The COMPI coping model was supported by confirmatory factor analyses and significant associations with infertility stress (Martins et al., 2011; Peterson et al., 2008, 2009; Schmidt, Holstein, et al., 2005). In this study, Cronbach's alpha for active-avoidance was .72 for women and .73 for men, for active-confronting was .75 for women and .81 for men, for passive-avoidance was .62 for women and .65 for men, and for meaning-based was .72 for women and .65 for men. Exploratory factor analyses were run separately for women and men and yielded a 4-factor solution in both cases, with all items loading highly (above .40; Matsunaga, 2010) on the expected factors.

Data Analyses

A series of preliminary analyses were conducted, including bivariate correlations between study variables separately for women and men and within couples to test for interdependence within dyads. Differences between dyad members in each of the study variables were tested using repeated measures ANOVA. To test for the need to include covariates or confounding variables in the APIMeMs, women's and men's stress and coping were correlated (Pearson's correlation) with age, length of the relationship, and duration of infertility, and also compared (ANOVA) among groups based on previous fertility treatments (i.e., yes or no), infertility counseling (i.e., yes or no), infertility type (i.e., primary or secondary), and infertility cause (i.e., female factors, male factors, mixed, or unexplained). In addition, among the couples with secondary infertility, coping and stress were compared between groups based on previous abortions or live births. Variables that were

correlated with the mediator or outcome at $r \geq .30$ (Frigon & Laurencelle, 1993) or had a significant association with these variables for either women or men were included in the models.

Using structural equation modeling (Lederman & Kenny, 2017), a simple APIM (Kenny et al., 2006) was preliminarily applied to investigate the direct associations of women's and men's support from spouse and social network with both individual and partner stress. To test for the role of each coping strategy in mediating these associations, four APIMeMs (Ledermann et al., 2011) were then estimated. If significant direct associations emerged in the simple APIM, they were maintained in the APIMeMs. Prior to dyadic analyses, the study variables were standardized using the means and standard deviations computed across the entire sample (Kenny et al., 2006). Empirical distinguishability of dyad members by gender was preliminarily tested using the omnibus test of distinguishability (Kenny et al., 2006), following the steps outlined by Ackerman, Donnellan, and Kashy (2011). A model was first tested in which the means, variances, and intrapersonal and interpersonal correlations were constrained to be equal across dyad members. In case of a significant omnibus test, the model was re-estimated by constraining only the correlations. If this second omnibus test was also significant, we tested whether associations differed across dyad members by constraining each path as equal and testing each constraint individually (Garcia et al., 2015; Ledermann et al., 2011). For each equality constraint, a χ^2 difference test ($\Delta\chi^2$) was conducted to determine if holding that association equal across dyad members would cause a significant decrease in model fit. In case of a nonsignificant $\Delta\chi^2$, the path was held equal across dyad members for model parsimony. All models were tested using maximum likelihood estimation. Goodness of fit was evaluated using the following criteria: root mean square error of approximation (RMSEA) < .06, standardized root mean-square residual (SRMR) < .08, and comparative fit index (CFI) ≥ .95 (Hu & Bentler, 1999). A bootstrapping procedure (Preacher & Hayes, 2008) was used to estimate and test the indirect associations in the APIMeMs. We inferred consistent mediation if the indirect association and the corresponding direct association were of the same sign, and inconsistent mediation if these had opposite signs (MacKinnon, Krull, & Lockwood, 2000).

The sample size was established a priori as to meet the recommended ratio of at least five observations per each estimated parameter in structural modeling and to reach enough power (.80) to detect a mediated effect assuming small-to-medium sizes of the paths (Fritz & MacKinnon, 2007). Interpretation of results was based on statistical significance ($p < .05$ and bootstrapped 95% confidence intervals not including zero for indirect associations) and measures of effect size for the preliminary analyses. Pearson's *r* of .10 was considered small, .30 medium, and .50 large; Cohen's *d* of 0.20, 0.50, and 0.80 were considered small, medium and large, respectively (Cohen, 1988). APIM and APIMeMs were estimated using path analysis in Mplus 6.1 (Muthén & Muthén, 1998-2010) and all other analyses were conducted with IBM SPSS 23.

Results

Infertility-Related Characteristics

Most couples (n = 129, 64.2%) were trying to have a child for over two years (M = 2.94, SD = 1.27, range 1-5 years) and 68.2% were primary infertile (n = 137). Among secondary infertile couples (n = 64), 70.3% had spontaneous abortions (n = 45), 29.7% live births (n = 19) from previous spontaneous conceptions, and none reported conceptions from previous fertility treatment. As to the diagnosed causes, infertility was due to female factors in 37.8% (n = 76), to male factors in 27.4% (n = 55), to mixed factors in 17.4% (n = 35), and was unexplained in 17.4% of couples (n = 35). Prior to ART, 28.4% of couples (n = 57) had undergone ovarian stimulation plus timed intercourse or intrauterine insemination. In 12.9% of couples (n = 26), the woman had received infertility counseling.

Preliminary Analyses

Correlations among same variables in the dyads were all positive, indicating that the higher score in stress, support, and coping a dyad member reported, the higher the partner's score. Between-partner correlations were significant for all variables except meaning-based coping (Table S1 in the online supplementary material). Results of repeated measures ANOVAs indicated that women reported slightly higher stress than men, $F(1,176) = 7.34$, $p = .007$, $d = 0.30$. Women and

men did not differ in support from spouse, $F(1,176) = 3.06$, $p = .08$, $d = 0.01$, and from social network, $F(1,176) = 1.47$, $p = .23$, $d = 0.16$, nor in the use of meaning-based coping, $F(1,176) = 0.13$, $p = .72$, $d = 0.17$. Women reported moderately greater use of active-avoidance, $F(1,176) = 8.07$, $p = .005$, $d = 0.44$, active-confronting, $F(1,176) = 5.24$, $p = .023$, $d = 0.55$, and passive-avoidance coping, $F(1,176) = 11.38$, $p = .001$, $d = 0.60$, than men, $F(1,176) = 7.34$, $p = .007$, $d = 0.30$ (Table S2 in the online supplementary material). The correlations of age, length of relationship, and duration of infertility with stress and coping were small, ranging from -.21 to .14 for women, and from -.14 to .15 for men, and thus were not included in the APIMeMs (Table S1 in the online supplementary material). Interaction and main effects in ANOVAs were nonsignificant, thus mean scores in stress and coping did not vary depending on fertility treatment prior to ART (i.e., yes or no), or infertility type (i.e., primary or secondary) and cause (i.e., female factors, male factors, mixed, or unexplained) in either women or men (Table S2 in the online supplementary material). The only exception was a significant association of infertility counseling (i.e., yes or no) with women's meaning-based coping. Therefore, this variable was entered in the APIMeM that included meaning-based coping. In secondary infertile couples, having had spontaneous abortions or live births from previous spontaneous conceptions was unrelated to coping and stress for both women and men (Table S2 in the online supplementary material).

Simple APIM

Empirical distinguishability. The omnibus test constraining means, variances and correlations, $\chi^2(10) = 34.69$, $p < .001$, and that constraining only the correlations, $\chi^2(4) = 12.05$, $p = .02$, both indicated distinguishability by gender. Subsequent tests constraining each association as equal among dyad members indicated that there were significant gender differences in the direct associations of support from social network with both individual, $\Delta\chi^2(1) = 8.35$, $p = .004$, and partner stress, $\Delta\chi^2(1) = 9.10$, $p = .003$. These paths were thus allowed to be freely estimated across gender. The model fit was excellent, $\chi^2(2) = 2.43$, $p = .30$, RMSEA = .03, SRMR = .02, CFI = .99.

Direct associations. There was a direct inverse association of women's and men's support from spouse with both individual, b = -.23, SE = .05, z = -4.75, $p < .001$, and partner stress, b = -.12, SE = .05, z = -2.36, p = .02. The direct association of support from social network with individual stress was nonsignificant for women, b = -.06, SE = .08, z = -.77, p = .44, but positive and significant for men, b = .22, SE = .07, z = 3.16, p = .002. The direct association of support from social network with partner stress was negative and significant for women, b = -.25, SE = .08, z = -3.16, p = .001, but nonsignificant for men, b = .06, SE = .08, z = 0.81, p = .42 (Figure S1 in the online supplementary material). Thus, women's support from social network was unrelated to their own stress but was directly associated with lower stress in their partners. In contrast, men's support from social network was directly associated with their own higher stress but was unrelated to that of their partners.

APIMeMs

Indirect associations in the APIMeMs are reported in Table 1, where those with confidence intervals that do not include zero are considered significant. Path estimates are shown in Figures 1 to 4. Results are presented below separately for each coping strategy.

Active-avoidance coping.

Empirical distinguishability. The omnibus test constraining means, variances and correlations $\chi^2(18) = 61.50$, $p < .001$, and that constraining only the correlations, $\chi^2(11) = 20.29$, p = .04, both indicated distinguishability by gender. Subsequent tests constraining each individual path as equal among dyad members indicated that there was a significant gender difference in the association of support from spouse with individual active-avoidance coping, $\Delta\chi^2(1) = 6.02$, p =.01. This path was thus allowed to be freely estimated across gender. The model showed an excellent fit (see Figure 1).

Indirect associations. Active-avoidance coping consistently mediated the relationships between support from spouse and individual and partner stress (see Table 1). The association of support from spouse with individual active-avoidance coping was nonsignificant for women, b = -.12, SE = .07, z = -1.58, p = .12, but negative and significant for men (see Figure 1). In men only,

lower support from spouse was related to greater individual use of active-avoidance coping, and thus to higher stress in both themselves and their partners. For both women and men, lower support from spouse was associated with greater use of active-avoidance coping in their partners, and thus with higher stress in both themselves and their partners. After the inclusion of the mediator, the direct association of women's and men's support from spouse with their partners' stress was no longer significant, as it was in the simple APIM. Active-avoidance coping was not a mediator in the relationship between support from social network and stress as it was not significantly associated with support from social network.

Active-confronting coping.

Empirical distinguishability. The omnibus test constraining means, variances and correlations was significant, $\chi^2(18) = 58.70$, $p < .001$. However, the omnibus test constraining only the correlations was nonsignificant, $\chi^2(10) = 13.43$, $p = .20$, indicating that although there were mean-level differences, dyad members were not distinguishable in the intrapersonal and interpersonal correlations. All paths were thus set equal across gender. The model fit was adequate (see Figure 2).

Indirect associations. Active-confronting coping did not mediate the relationship between support from spouse and stress, as it was unrelated to support from spouse. This strategy instead consistently mediated the relationship between women's and men's support from social network and their own stress. It also inconsistently and consistently mediated, respectively, the relationship between women's and men's support from social network and their partners' stress (see Table 1). For both women and men, greater support from social network was linked to greater individual use of active-confronting coping, and thus to higher individual and partner stress (see Figure 2). The direct association of women's support from social network with lower partners' stress was suppressed by women's support from social network being related to greater active-confronting coping.

Passive-avoidance coping.

410 ***Empirical distinguishability.*** The omnibus test constraining means, variances and correlations,
411 $\chi^2(18) = 76.72$, $p < .001$, and that constraining only the correlations, $\chi^2(10) = 21.28$, $p = .02$, both
412 indicated that dyad members were distinguishable by gender. Subsequent tests constraining each
413 individual path as equal among dyad members indicated that there were significant gender
414 differences in the associations of support from spouse with individual, $\Delta\chi^2(1) = 10.01$, $p =. 002$, and
415 partner passive-avoidance coping, $\Delta\chi^2(1) = 7.44$, $p = .006$, and of support from social network with
416 individual passive-avoidance coping, $\Delta\chi^2(1) = 6.37$, $p = .01$. These paths were thus allowed to be
417 freely estimated across gender. The model showed an excellent fit (see Figure 3).

418 ***Indirect associations.*** Passive-avoidance coping consistently mediated the relationship between
419 men's support from spouse and their own stress (see Table 1). The association of support from
420 spouse with individual passive-avoidance coping was nonsignificant for women, $b = .04$, $SE = .07$, z
421 $= 0.55$, $p = .58$, but negative and significant for men (see Figure 3). Lower men's support from
422 spouse was linked to a greater individual use of passive-avoidance coping, and thus to higher
423 individual stress. Passive-avoidance coping consistently mediated also the relationship between
424 men's support from spouse and their partners' stress (see Table 1). The association of support from
425 spouse with partner passive-avoidance coping was nonsignificant for women, $b = .01$, $SE = .08$, $z =$
426 0.13, $p = .90$, but negative and significant for men (see Figure 3). Lower men's support from spouse
427 was related to greater use of passive-avoidance coping in their partners, and thus to higher female
428 stress. After the inclusion of the mediator, the direct association of support from spouse with the
429 partner's stress was no longer significant, as it was in the simple APIM.

430 The association of support from social network with individual passive-avoidance coping was
431 nonsignificant for women, $b = -.08$, $SE = .08$, $z = -0.96$, $p = .34$, but positive and significant for men
432 (see Figure 3). Passive-avoidance coping consistently mediated the relationship between men's
433 support from social network and their own stress, but did not mediate the association of women's
434 support from social network with their partners' stress (see Table 1). For men only, greater support

435 from social network was linked to a greater individual use of passive-avoidance coping, and thus to
436 higher individual stress.

437 **Meaning-based coping.**

438 ***Empirical distinguishability.*** The omnibus test constraining means, variances and correlations
439 was significant, $\chi^2(25) = 51.10$, $p = .002$, and that constraining only the correlations was marginally
440 significant, $\chi^2(17) = 27.40$, $p = .053$. Subsequent tests constraining each individual path as equal
441 among dyad members indicated that there were significant differences in the associations of support
442 from spouse with individual meaning-based coping, $\Delta\chi^2(1) = 8.47$, $p = .004$, and of meaning-based
443 coping with individual stress, $\Delta\chi^2(1) = 5.67$, $p = .017$. These paths were thus allowed to be freely
444 estimated across gender. The fit of this model was excellent (see Figure 4), and significantly better
445 than that of a model with all paths constrained to be equal across gender, $\Delta\chi^2(2) = 10.01$, $p = .007$.

446 ***Indirect associations.*** The association of support from spouse with individual meaning-based
447 coping was positive and significant for women, but nonsignificant for men, $b = -.01$, $SE = .09$, $z = -$
448 0.09, $p = .93$. The significant distinguishability by gender in the association of coping with
449 individual stress was due to the different sign of paths across gender; however, this association was
450 nonsignificant for both women, $b = -.01$, $SE = .07$, $z = -0.09$, $p = .93$, and men, $b = .14$, $SE = .07$, $z =$
451 1.92, $p = .06$. The only significant path was between women's support from spouse and their greater
452 meaning-based coping (see Figure 4).

453 **Discussion**

454 To our knowledge, this was the first dyadic study to examine the relationships between
455 infertility-specific support and infertility stress among infertile couples starting ART treatment, and
456 to test whether these associations were mediated by infertility-related coping. We focused on
457 domains unique to infertility as to better capture the experience of infertility (Greil et al., 2011). In
458 particular, we chose infertility stress as an outcome as it is considered a distinct construct from
459 general stress, which may lead to more generalized distress in other domains of life and respond
460 differently to interventions (Cesta et al., 2018; Sexton et al., 2010; Slade et al., 2007). Noteworthy,

in order to address perceived social support specific to infertility, we included in our study only couples who had disclosed their infertility status to their social network.

The findings showed that social support was related to individual and partner stress, and this relationship was either direct or mediated by individual and partner coping, with some differences based on gender, support from spouse or from social network, and coping strategies.

Direct Associations of Infertility-Specific Support with Infertility Stress

The first hypothesis on direct associations of social support with stress was confirmed for support from spouse: greater perceived support from spouse was directly associated with lower stress at the individual level for both women and men, in line with previous evidence (Chochovski et al., 2013; Gourounti et al., 2010; Martins et al., 2011, 2014, 2016; Sexton & Bird, 2015; Ying et al., 2015). At the partner level, a higher perception of support from spouse had been previously associated with the partner's lower stress among women only (Martins et al., 2014); in our study, the same association was found for both genders. As for support from social network, at the individual level, it was not directly linked to lower stress in women, in contrast with previous evidence (Martins et al., 2011, 2014; Sexton & Bird, 2015). Men's greater perceived support from social network was instead directly related to their own higher stress, contrary to hypotheses based on the majority of previous studies but in line with a qualitative study by Ying et al. (2015). A possible explanation might be related to social role expectations and cultural stereotypes about masculinity as related to sexual potency. Infertility might be perceived as a threat to men's gender identity (Gannon, Glover, & Abel, 2004) and potentially affect the way men use the support sources in relation to their infertility problem. It has indeed been reported that men prefer to receive support through online communities rather than openly share their emotions about infertility and its treatment (Richard, Badillo-Amberg, & Zelkowitz, 2017). Thus, for men adhering to masculinity norms, being offered the support of their social network in relation to infertility might increase their stress. At the partner level, partly in line with hypotheses, greater perceived support from social

network was directly associated with lower partner stress in women but not in men, as found in a previous study (Martins et al., 2014).

Indirect Associations of Infertility-Specific Support with Infertility Stress

Regarding the second hypothesis, a number of indirect associations between social support and individual and partner stress were found, which were generally in the same directions as those hypothesized but varied depending on the source of support and/or on gender. The partner's coping also mediated the individual- and partner-level associations between social support and stress.

Avoidance coping strategies. In men, greater perceived support from spouse was associated with their own lower stress through their lower use of both active- and passive-avoidance coping. In addition, men's greater perceived support from spouse was associated with lower women's stress through both men's lower use of active-avoidance coping and women's lower use of passive-avoidance coping. In both women and men, greater perceived support from spouse was associated with lower levels of stress in themselves and in their partners through a lower use of active-avoidance coping by their partners. Lastly, among men, a greater perceived support from social network was associated with their own higher stress also through their greater use of passive-avoidance coping. Active-avoidance coping was instead not associated with support from social network. Altogether, our findings reinforce the potential adverse effect of active- and passive-avoidance coping for individual and partner infertility stress, in line with previous findings (Martins et al., 2011; Peterson et al., 2008; Schmidt, Holstein, et al., 2005).

Active-confronting coping. Active-confronting coping was unrelated to support from spouse. In both women and men greater perceived support from social network was associated with higher individual and partner stress through a greater individual use of active-confronting. Thus, as suggested by an inconsistent mediation effect, the potentially protective role of women's support from social network against their partners' stress might be suppressed when women engage in active-confronting coping. Previous dyadic studies also found that women's use of active-confronting coping was linked to worse adjustment in their partners, while the same was not

observed among men (Peterson et al., 2008, 2009; Volmer, Rösner, Toth, Strowitzki, & Wischmann, 2017). Altogether, these findings point to the potentially maladaptive role of active-confronting coping for individual and partner infertility stress in couples starting their first ART treatment, in line with previous dyadic findings (Peterson et al., 2008, 2009; Volmer et al., 2017). On the one hand, this might be attributable to the problem-focused and emotional venting components of active-confronting coping. The goodness-of-fit hypothesis (Lazarus & Folkman, 1984) highlights the importance of matching the coping effort to the controllability of the situation, suggesting that problem-focused coping promotes adjustment in controllable situations, while with low-control stressors like infertility it might result in higher frustration and worse adaptation (e.g., Benyamini, Gozlan, & Kokia, 2004). There is also evidence that, among emotion-focused strategies, behaviors such as emotional venting can intensify negative feelings and frustration, probably due to rumination about the stressor (e.g., Nils & Rimé, 2012). On the other hand, the potentially negative role of active-confronting coping might be in part attributable to the timing of data collection. Couples at the early stage of fertility treatment might be characterized by an acute stress reaction (Berg & Wilson, 1991) that can reduce the efficacy of an active-confronting coping strategy. However, adopting such a strategy might yield to better outcomes in the long term as it was suggested in a previous longitudinal study of infertile individuals (Stanton, 2011).

Meaning-based coping. This coping strategy was not a mediator in the relationship between support and stress. Previous studies found an association between meaning-based coping and infertility stress (Peterson et al, 2008, 2009; Schmidt, Holstein, et al., 2005; Volmer et al., 2017) that was not observed in this study. This might be attributable to that the couples in the present study were seeking their first ART treatment. As previously suggested (Peterson et al., 2009), it may take time to experience the benefits of meaning-based coping, as it implies a thorough reflection on and a redefinition of the infertility experience. Thus, couples attempting ART treatment for the first time could have not found new meaning through the infertility experience yet.

Limitations and Future Directions

The present study has a number of limitations that must be acknowledged. First, the data relied exclusively on self-report measures. Therefore, future studies that use multiple informants and collect both self- and partner-reports would be helpful in reducing shared method variance (Orth, 2013). Second, the cross-sectional nature of the data does not allow conclusions about the directionality of the identified associations. Although the tested relationships were theoretically driven by the transactional theory of stress, future replication studies using longitudinal data are encouraged to rule out possible reverse effects. Furthermore, in accordance with the transactional theory of stress, we adopted a situational approach to coping as a response to the stressful infertility-related situation. A different, dispositional approach could be adopted in future studies, in which coping, conceptualized as a relatively stable characteristic, would act as a moderating rather than mediating variable (Wu & Zumbo, 2008). Third, a number of factors might have influenced the results. The duration of infertility was assessed as time trying to get pregnant (Moura-Ramos, Gameiro, Canavarro, Soares, & Almeida-Santos, 2016), regardless of the time since infertility diagnosis. We could not distinguish between the types of conventional fertility treatments (i.e., timed intercourse or intrauterine insemination) previously undergone by almost one third of couples, since this information was self-reported and previous treatments were not necessarily conducted at the same clinic. The couples in our study were entering their first ART treatment, which is a situation of high anxiety and uncertainty. In the measurement of infertility-specific support, support from spouse was assessed using only two items with reliability indices between .60 and .70. Also, the reliability of passive-avoidance and meaning-based coping scales, although higher than those reported in other studies (e.g., Martins et al., 2011; Schmidt, Christensen, et al., 2005; Schmidt, Holstein, et al., 2005), was in part slightly below the recommended thresholds. Because low reliability attenuates observed relationships but cannot result in spuriously high associations (Cohen, Cohen, West, & Aiken, 2003), the null results involving support from spouse, passive-avoidance and meaning-based coping should be interpreted cautiously, but the relationships found in this study for the mentioned variables likely reflect associations that do exist. Fourth, in

order to assess social support specific to infertility, we included only couples who had disclosed their infertile condition to others, which limits the generalizability of our findings. Since the benefits of social support against infertility stress might cease when the infertile condition is not disclosed (Martins et al., 2013), future dyadic studies should elucidate the relationships between social support, coping, and stress in couples keeping infertility secret. Future studies are also encouraged to address both general and infertility-specific social support, in order to clarify how they relate to each other and whether they differentially impact coping and stress. Fifth, the data were from a single clinic and a single country; thus, cross-cultural, multicenter studies are needed to clarify whether the identified dyadic associations represent a common pattern. Finally, sample-size requirements (Fritz & MacKinnon, 2007) did not allow including all coping strategies in a single APIMeM or distinguishing between different sources of social network support and between domains of infertility stress. To overcome this limitation, larger samples should be recruited to allow for testing of more complex multiple mediation models with a dyadic approach.

Conclusions and Implications

This study provides new insight into the role of infertility-specific support for infertile couples and suggests new hypotheses to be tested in future longitudinal studies. The first one is that infertility-specific support might protect against infertility stress, both individually and as a couple, when it comes from the partner. This is probably linked to that the marital relationship is perceived as a primary source of support under stressful circumstances, and was found to improve in couples undergoing their first ART treatment (Holter, Anderheim, Bergh, & Möller, 2006). Each partner might benefit from her/his own as well as the other partner's perceptions of receiving support within the couple also indirectly, as these perceptions can inhibit the individual and partner use of avoidance coping strategies. Another hypothesis is that, in contrast, receiving infertility-specific support from people outside the couple might exacerbate stress at both the individual and couple levels either directly or by encouraging the use of active-confronting and passive-avoidance coping.

589 The results of this study have implications for clinicians working with infertile individuals and
590 couples. Women and men reporting infertility stress might benefit from couple interventions aimed
591 at promoting an open communication between partners (e.g., Sormunen, Aanesen, Fossum,
592 Karlgren, & Westerbotn, 2018) as well as reciprocal support and understanding in relation to their
593 infertility problem. This type of intervention may also help reduce the use of avoidance coping
594 strategies that are maladaptive for the couple. Coping skills training could also help reduce the use
595 of active-confronting coping strategies, at least at the beginning of fertility treatment attempts. In
596 addition, given the potentially adverse role of support from social network, clinicians could help
597 couples identify the people to whom they may disclose their infertility status, by selecting the ones
598 who might be truly and effectively supportive within their social network.

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757

Table 1

Indirect Effects in the APIMeMs

Source of support	Support → Coping → Stress	Active-avoidance			Active-confronting			Passive-avoidance			Meaning-based		
		b	*SE*	95% CI	*b*	*SE*	95% CI	*b*	*SE*	95% CI	*b*	*SE*	95% CI
Spouse	W → W → W	-.05	.03	[-.11, .01]	-.01	.02	[-.05, .02]	.01	.02	[-.03, .05]	-.01	.02	[-.04, .03]
	M → M → M	-.12	.03	[-.19, -.07]	-.01	.02	[-.05, .02]	-.07	.03	[-.13, -.03]	-.01	.01	[-.04, .02]
	W → M → W	-.01	.01	[-.03, -.01]	-.01	.01	[-.02, .01]	.01	.01	[-.02, .02]	-.01	.01	[-.03, .01]
	M → W → M	-.01	.01	[-.03, -.01]	-.01	.01	[-.02, .01]	-.02	.02	[-.06, .01]	-.01	.01	[-.03, .01]
	M → M → W	-.03	.02	[-.07, -.01]	-.01	.01	[-.02, .01]	-.03	.02	[-.07, .01]	-.01	.01	[-.02, .01]
	W → W → M	-.01	.01	[-.04, .01]	-.01	.01	[-.02, .01]	.01	.01	[-.01, .03]	.02	.01	[-.01, .05]
	M → W → W	-.04	.02	[-.09, -.01]	-.01	.01	[-.03, .02]	-.06	.02	[-.11, -.03]	.01	.01	[-.01, .02]
	W → M → M	-.04	.02	[-.09, -.01]	-.01	.01	[-.03, .02]	.01	.02	[-.04, .04]	-.01	.01	[-.04, .00]
Social network	W → W → W	-.01	.02	[-.04, .04]	.06	.02	[.03, .10]	-.02	.02	[-.07, .02]	.00	.01	[-.01, .01]
	M → M → M	-.01	.02	[-.04, .04]	.06	.02	[.03, .10]	.04	.02	[.01, .09]	.01	.01	[-.01, .03]
	W → M → W M → W → M	-.01	.01	[-.02, .01]	.01	.01	[-.01, .02]	.01	.01	[-.01, .02]	.01	.01	[-.01, .03]
	M → M → W	-.01	.01	[-.01, .01]	.02	.01	[.01, .05]	.02	.01	[-.01, .05]	.01	.01	[-.01, .02]

W	→	W	→	M	-.01	.01	[-.01, .01]	.02	.01	[.01, .05]	-.01	.01	[-.04, .01]	.01	.01	[-.01, .02]
M	→	W	→	W	-.01	.02	[-.05, .03]	.01	.02	[-.03, .03]	.01	.01	[-.03, .03]	.00	.01	[-.02, .01]
W	→	M	→	M	-.01	.02	[-.05, .03]	.01	.02	[-.03, .03]	.01	.01	[-.03, .03]	.01	.01	[-.01, .04]

Note. W and M indicate women and men, respectively. APIMeM = actor-partner interdependence mediation model; *b* = standardized estimate; *SE* = standard error; CI = confidence interval. CI intervals not including zero are considered statistically significant.

Figure 1. APIMeM with active-avoidance coping as the mediator. Standardized path estimates are reported. Standard errors are in parentheses. Nonsignificant paths and within- and between-partner correlations are omitted from the figure for clarity. Model fit statistics: $\chi^2(9) = 9.39$, $p = .40$, RMSEA = .02, SRMR = .03, CFI = 1.00.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

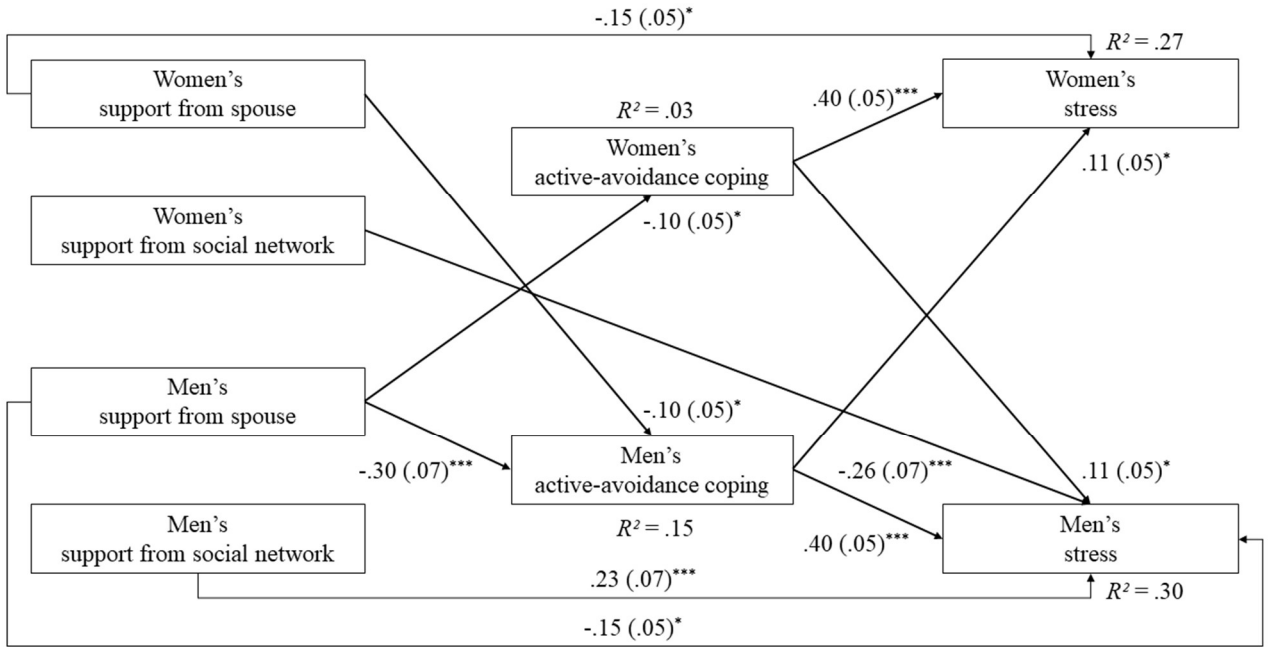


Figure 2. APIMeM with active-confronting coping as the mediator. Standardized path estimates are reported. Standard errors are in parentheses. Nonsignificant paths and within- and between-partner correlations are omitted from the figure for clarity. Model fit statistics: $\chi^2(10) = 15.01$, $p = .13$, RMSEA = .05, SRMR = .04, CFI = .96.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

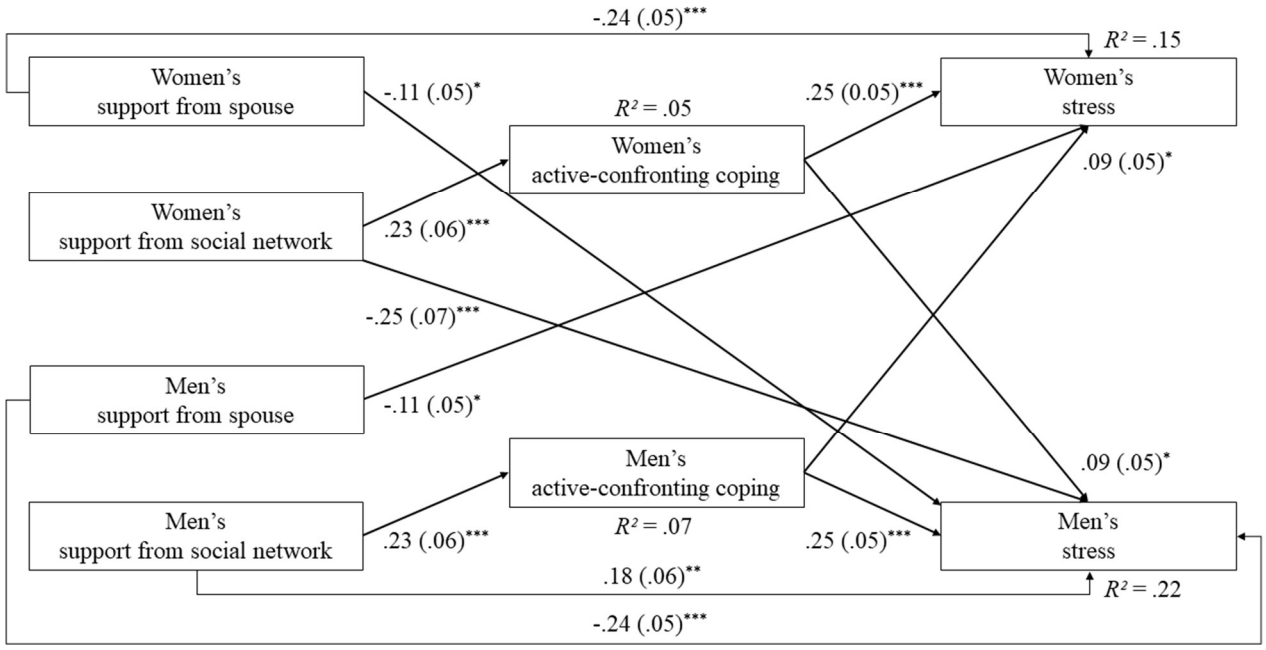


Figure 3. APIMeM with passive-avoidance coping as the mediator. Standardized path estimates are reported. Standard errors are in parentheses. Nonsignificant paths and within- and between-partner correlations are omitted from the figure for clarity. Model fit statistics: $\chi^2(7) = 2.82$, $p = .90$, RMSEA = .00, SRMR = .01, CFI = 1.00.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.

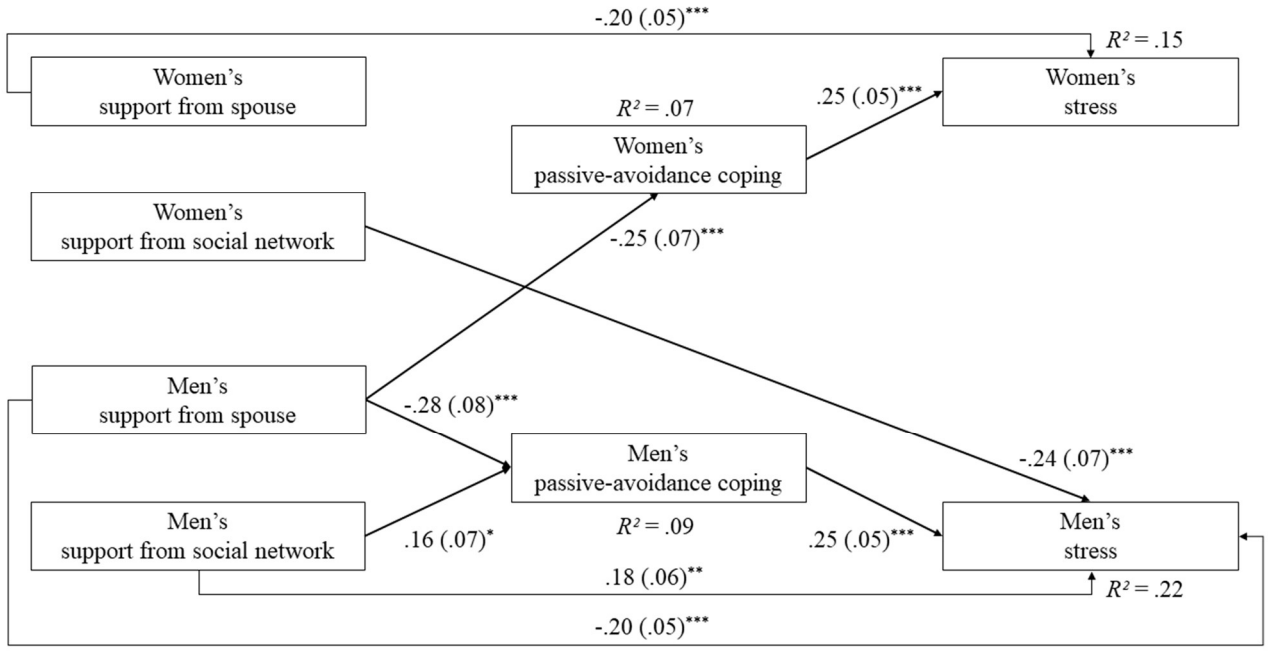
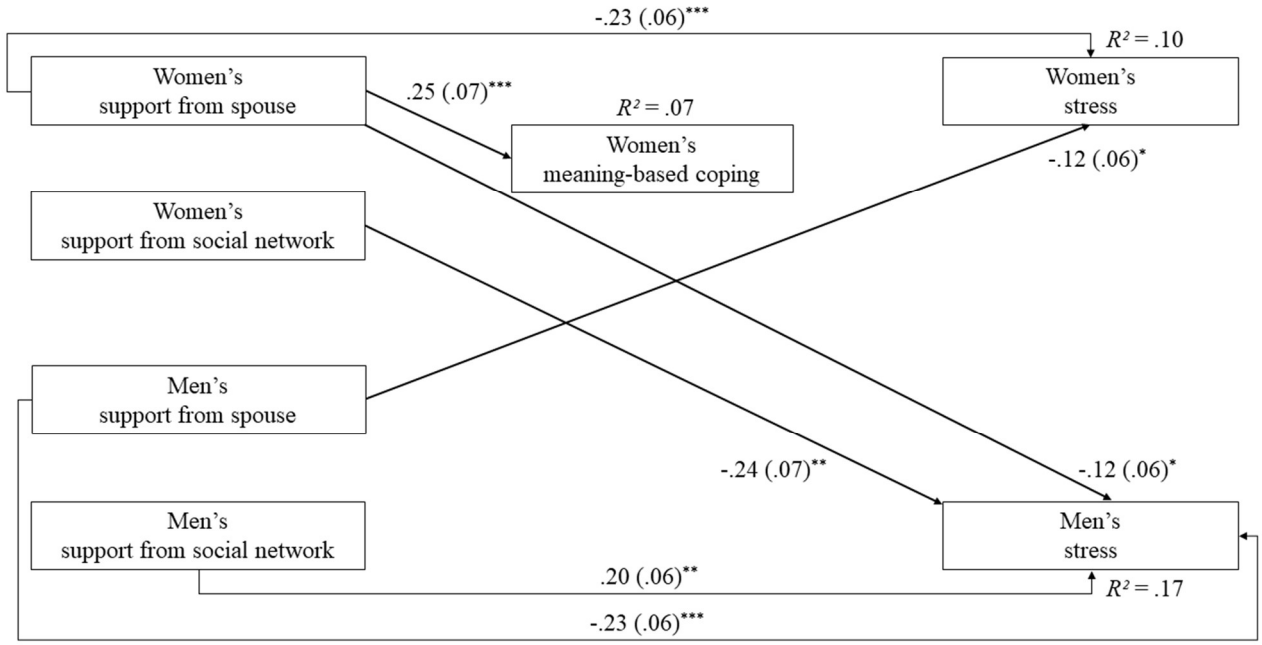


Figure 4. APIMeM with meaning-based coping as the mediator. Although not shown, infertility-related counseling was included as a covariate in the model. Standardized path estimates are reported. Standard errors are in parentheses. Nonsignificant paths and within- and between-partner correlations are omitted from the figure for clarity. Model fit statistics: $\chi^2(15) = 15.22$, $p = .46$; RMSEA = .01, SRMR = .04, CFI = 1.00.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.



Supplemental Table S1

Correlations for Study Variables and Potential Covariates/Confounders

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. Age (women)	-																
2. Age (men)	.56[a]	-															
3. Length of relationship	.13	.18[c]	-														
4. Duration of infertility	-.02	-.03	.36[a]	-													
5. Support spouse (women)	-.13	-.18[b]	-.03	.01	-												
6. Support spouse (men)	.04	.00	.02	.07	.29[a]	-											
7. Support social network (women)	.03	-.09	-.06	-.03	.32[a]	.07	-										
8. Support social network (men)	-.08	-.07	-.04	.02	-.03	.23[b]	.47[a]	-									
9. Active-avoidance (women)	-.14[c]	-.14[c]	.03	.11	-.13	-.22[b]	-.08	-.12	-								
10. Active-avoidance (men)	-.08	-.05	.04	.02	-.16[c]	-.39[a]	-.03	-.08	.31[a]	-							
11. Active-confronting (women)	-.02	.01	-.05	-.02	.16[c]	-.02	.32[a]	.14[c]	.12	.15[c]	-						
12. Active-confronting (men)	-.08	-.14[c]	.03	-.06	-.01	-.09	.11	.17[c]	.05	.13	.18[c]	-					
13. Passive-avoidance (women)	-.21[b]	-.10	-.10	.02	-.06	-.26[a]	-.09	-.07	.39[a]	.28[a]	.19[b]	.04	-				
14. Passive-avoidance (men)	-.10	-.09	.03	.04	-.07	-.24[a]	.04	.12	.19[b]	.36[a]	.03	.29[a]	.27[a]	-			

15. Meaning-based (women)	-.16[c]	-.07	.06	.10	.24[a]	-.04	.12	.07	.04	.02	.35[a]	.03	.19[b]	-.08	-		
16. Meaning-based (men)	.01	-.03	.15[c]	.13	-.03	-.03	.01	.05	.15[c]	.25[a]	.07	.34[a]	.13	.38[a]	.12	-	
17. Stress (women)	.00	.04	.12	.14[c]	-.23[a]	-.21[b]	-.12	.02	.50[a]	.31[a]	.23[a]	.10	.33[a]	.17[c]	-.07	.16[c]	-
18. Stress (men)	-.07	-.08	.14	.05	-.24[a]	-.28[a]	-.18[b]	.08	.22[b]	.43[a]	.10	.27[a]	0.24[a]	.30[a]	-.01	.19[b]	.44[a]

[a] $p \leq .001$. [b] $p < .01$. [c] $p < .05$.

Supplemental Table S2

Frequencies (Proportions) of Infertility-Related Characteristics and Coping and Stress Mean Scores (SD) by Subgroups within Genders

		Women					Men				
	n (%)	Active-avoidance	Active-confronting	Passive-avoidance	Meaning-based	Stress	Active-avoidance	Active-confronting	Passive-avoidance	Meaning-based	Stress
MAR prior to ART											
Yes	57 (28.36)	9.04 (3.28)	14.18 (4.33)	8.37 (2.25)	12.81 (3.30)	43.19 (20.04)	7.33 (2.39)	12.23 (3.73)	6.54 (2.61)	13.14 (3.04)	34.18 (16.82)
No	144 (71.64)	8.20 (2.97)	14.91 (4.63)	8.49 (2.69)	13.53 (3.69)	36.74 (18.59)	7.11 (2.77)	12.28 (4.58)	7.01 (2.71)	12.55 (3.83)	32.38 (20.05)
		$F = 0.25^a$, $d = 0.28$	$F = 0.04^a$, $d = 0.16$	$F = 0.02^a$, $d = 0.05$	$F = 0.14^a$, $d = 0.20$	$F = 1.05^a$, $d = 0.29$	$F = 0.95^a$, $d = 0.08$	$F = 1.01^a$, $d = 0.01$	$F = 2.06^a$, $d = 0.18$	$F = 0.77^a$, $d = 0.16$	$F = 3.54^a$, $d = 0.09$
Counseling											
Yes	26 (12.94)	9.19 (3.07)	13.42 (3.32)	8.88 (2.60)	13.04 (3.33)	45.81 (19.93)	7.62 (2.53)	12.65 (3.78)	6.81 (2.53)	13.58 (2.94)	40.19 (19.81)
No	175 (87.06)	8.33 (3.07)	14.89 (4.68)	8.39 (2.56)	13.37 (3.63)	37.50 (18.90)	7.11 (2.69)	12.21 (4.43)	6.89 (2.72)	12.59 (3.71)	31.80 (18.89)

		$F = 0.58^{a}$, $d = 0.28$	$F = 1.87^{a}$, $d = 0.33$	$F = 0.13^{a}$, $d = 0.19$	$F = 4.73^{a*}$, $d = 0.09$	$F = 0.14^{a}$, $d = 0.44$	$F = 0.66^{a}$, $d = 0.19$	$F = 0.16^{a}$, $d = 0.10$	$F = 1.15^{a}$, $d = 0.03$	$F = 0.15^{a}$, $d = 0.27$	$F = 1.49^{a}$, $d = 0.44$
Infertility type											
Primary	137 (68.16)	8.26 (2.95)	14.84 (4.62)	8.44 (2.60)	13.31 (3.85)	37.48 (19.38)	7.32 (2.77)	12.21 (4.30)	6.83 (2.65)	12.47 (3.62)	32.89 (19.57)
Secondary	64 (31.84)	8.83 (3.34)	14.41 (4.41)	8.50 (2.50)	13.38 (2.99)	40.92 (18.70)	6.86 (2.43)	12.38 (4.48)	6.98 (2.78)	13.23 (3.62)	32.88 (18.43)
		$F = 0.09^{a}$, $d = 0.19$	$F = 2.22^{a}$, $d = 0.09$	$F = 0.42^{a}$, $d = 0.02$	$F = 0.16^{a}$, $d = 0.02$	$F = 2.06^{a}$, $d = 0.18$	$F = 0.70^{a}$, $d = 0.17$	$F = 0.56$, $d = 0.04$	$F = 0.43$, $d = 0.06$	$F = 0.33^{a}$, $d = 0.21$	$F = 0.00^{a}$, $d = 0.00$
Abortions	45 (70.31)	9.29 (3.37)	14.82 (4.73)	8.58 (2.48)	13.22 (3.19)	43.71 (17.91)	7.00 (2.27)	11.98 (3.76)	6.80 (2.67)	12.98 (3.63)	32.69 (15.76)
Live births	19 (29.69)	7.74 (3.07)	13.42 (3.49)	8.32 (2.60)	13.74 (2.49)	34.32 (19.37)	6.53 (2.82)	13.32 (5.87)	7.42 (3.06)	13.84 (3.61)	33.32 (24.11)
		$F = 2.98^{b}$, $d = 0.48$	$F = 1.35^{b}$, $d = 0.32$	$F = 0.15^{b}$, $d = 0.11$	$F = 0.39^{b}$, $d = 0.18$	$F = 3.51^{b}$, $d = 0.52$	$F = 0.50^{b}$, $d = 0.20$	$F = 1.20^{b}$, $d = 0.30$	$F = 0.66^{b}$, $d = 0.23$	$F = 0.76^{b}$, $d = 0.24$	$F = 0.02^{b}$, $d = 0.03$
Infertility cause											

Female factor	76 (37.81)	8.62 (2.87)	14.70 (4.06)	8.51 (2.50)	13.32 (3.39)	41.88 (19.26)	7.53 (2.68)	12.67 (4.56)	7.08 (2.62)	13.05 (3.14)	33.38 (19.02)
Male factor	55 (27.36)	7.84 (3.21)	13.71 (4.06)	8.33 (2.75)	13.31 (3.68)	35.82 (19.90)	7.05 (2.66)	12.47 (4.48)	6.85 (2.76)	13.20 (4.11)	34.40 (20.14)
Mixed	35 (17.41)	8.74 (2.95)	15.43 (5.31)	8.03 (2.43)	13.60 (3.71)	35.77 (18.98)	6.54 (2.38)	12.37 (4.77)	7.00 (2.91)	12.06 (3.56)	30.54 (20.84)
Unexplained	35 (17.41)	8.69 (3.42)	15.54 (5.32)	8.97 (2.55)	13.11 (3.87)	38.51 (17.70)	7.23 (2.89)	10.94 (2.91)	6.37 (2.51)	11.89 (3.79)	31.77 (16.53)
		$F = 1.23^c$, $\eta^2 = 0.02$	$F = 0.27^c$, $\eta^2 = 0.01$	$F = 0.90^c$, $\eta^2 = 0.02$	$F = 0.55^c$, $\eta^2 = 0.01$	$F = 1.07^c$, $\eta^2 = 0.02$	$F = 0.37^c$, $\eta^2 = 0.01$	$F = 1.02^c$, $\eta^2 = 0.02$	$F = 1.46^c$, $\eta^2 = 0.02$	$F = 1.80^c$, $\eta^2 = 0.03$	$F = 0.43^c$, $\eta^2 = 0.01$
Total	201 (100)	8.44 (3.08)	14.70 (4.55)	8.46 (2.57)	13.33 (3.59)	38.57 (19.19)	7.17 (2.67)	12.26 (4.35)	6.88 (2.69)	12.72 (3.63)	32.89 (19.17)

Note. MAR = medically assisted reproduction treatments. Total score range was 4-16 for active-avoidance, 7-28 for active-confronting, 3-12 for passive-avoidance, 5-20 for meaning-based, and 12-84 for stress. η^2 of .01, .09, and .25 were considered small, medium and large, respectively.

[a] $df = 1,176$

[b] $df = 1,62$

[c] $df = 3,176$

[*] $p < .05$

Supplemental Figure 1. Simple APIM with direct individual and partner associations of infertility-specific support with infertility stress. Standardized path estimates are reported. Standard errors are in parentheses. Nonsignificant paths and within- and between-partner correlations are omitted from the figure for clarity.

$^{*}p < .05$. $^{**}p < .01$. $^{***}p < .001$.