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Fertility Concerns While Trying to Conceive

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Abstract

Introduction

During the months leading up to a successful pregnancy, couples experience a multitude of emotions, both positive and negative in nature. For the purposes of this study, we will be focusing on a cross-section of these emotions, including stress, as it relates to fertility issues, as assessed by the Fertility Problem Inventory (FPI; Newton, Sherrard, & Glavac, 1999). We particularly focus on social, relationship, and sexual concerns couples might experience during their efforts to conceive a child.

Infertility is defined as “the result of a disease (an interruption, cessation, or disorder of body functions, systems, or organs) of the male or female reproductive tract which prevents the conception of a child or the ability to carry a pregnancy to delivery” (Born & Preston, 2016, p. 497). The World Health Organization’s definition of infertility is much broader comparatively. By their definition, infertility is present in any couple still struggling to conceive a child naturally after a year of having regular sexual intercourse without the utilization of contraceptives (Luk & Loke, 2019). Overall, it is estimated that 9% of the world struggles with infertility, with variability depending on residence in developing or developed countries (Luk & Loke, 2019).

Experiencing infertility is undoubtedly a stressful event for a couple. Future pregnancy can help to heal the emotional wounds of women who have suffered a miscarriage, so for women who are unsure if they will have a successful pregnancy in the future (i.e., infertile women by the broader definition), the distress must be even greater, due to the ongoing uncertainty they face (Freda, Devine, Semelsberger, 2003). Women undergoing treatments for infertility may feel alone in their struggle, and efforts have been made to develop better techniques in order to help them cope with their grief by understanding themes that are central to the feelings they experience (Freda, Devine, Semelsberger, 2003).

There may, however, be a difference in the experience of infertility by gender. Born and Preston (2016) found that the experience of infertility-related stress, as measured by the FPI, is different between male and female respondents. They found that women tended to score higher on each subscale of the FPI across all five subscales (social concerns, sexual concerns, relationship concerns, rejection of a child-free lifestyle, and need for parenthood), but especially on the social and sexual subscales (Born & Preston, 2016). These findings were corroborated by Newton and colleagues' (1999) original study in which they created the Fertility Problem Inventory. The Born and Preston (2016) study was conducted in order to identify gaps in the qualitative aspects of the FPI in assessing infertility-related stress. One of these qualities is perceived control. Specifically, the researchers found a negative correlation between perceived personal control (e.g., over pregnancy) and infertility-related stress (Born & Preston, 2016).

Clearly, there is a need for further research into complex relationships between infertility and stress. Faramarzi et al. (2013) noted that a higher level of stress is associated with a lower rate of success in infertility treatments, suggesting that stress may lead to problems with fertility, and infertility unquestionable leads to high stress levels in many individuals. Negative feelings measured in the FPI such as sexual concern, guilt, and hopelessness are also related to infertility (Faramarzi et al., 2013).

Social Concerns

Newton and colleagues (1999) defined *social concern* in their original paper documenting their construction of the FPI as “sensitivity to comments, reminders of infertility, feelings of alienation from family or peers” (p. 56). Such concerns are not necessarily unwarranted. Several studies illuminate the stigma still associated with infertility issues and the unhelpful responses some people still give to those who are dealing with fertility issues and

confide in them (Schmidt, 2009). Studies have revealed that receiving unsupportive responses that were infertility-specific were associated with poorer psychological adjustment, and men and women's perceptions of stigma were linked to low social support (Schmidt, 2009). Martins et al. (2014) also discovered that familial support can have a protective effect on women's infertility-related stress.

Sexual Concerns

Newton and colleagues (1999) defined sexual concern as “diminished sexual enjoyment or sexual self-esteem, scheduled sexual relations difficult” (p. 56). One study found a gender difference in sexual concerns surrounding fertility among infertile couples, such that there were significantly more men who reported that their sex lives were affected by the fertility challenges (Luk & Loke, 2019). The study also found a positive correlation between sexual dissatisfaction and infertility-related sexual and relationship concerns in couples (Luk & Loke, 2019). In addition, more women said they had sexual concerns related to infertility than their male counterparts (Lakatos et al., 2017). The current study does not address these gender differences, instead focusing on broad associations between sexual concerns, however prevalent, and well-being.

Relationship Concerns

Newton and colleagues (1999) defined relationship concerns as “difficulty talking about infertility, understanding/accepting sex differences, concerns about impact on relationship” (p. 56). In studying couples' sexual relationships, Luk & Loke (2019) found that infertile women said they had poorer marital adjustment and quality of life than their fertile counterparts. More women than men also felt that their partner did not understand how their fertility problem affected them personally (Luk & Loke, 2019). For men, their stress was found to be lessened by

two factors: support from their partner and the perception from their partners that the men are being supportive of them (Martins et al., 2014). Interestingly, Lakatos et al. (2017) found that relationships were not affected by infertility issues; however, sexual lives were. One aim of the present study was to replicate this finding.

Research Questions

The present study addresses three primary questions regarding couple's retrospective accounts of their experiences trying to conceive: (1) Do people who took longer to conceive, or who report previous fertility challenges, or who used more methods to try to conceive, report more fertility concerns? (2) Are people with fewer fertility concerns more satisfied with their lives, and do they report more meaning in life? (3) Are people with more fertility concerns more anxious in general, and do they report more negative emotions and fewer positive emotions generally?

Overview and Hypotheses

The current study examined participants' experiences struggling with fertility and the emotions associated with this stressful period. We hypothesized that people who took longer to conceive their youngest child would report more fertility concerns during those efforts, given that stress is likely to accumulate as fertility challenges extend for longer periods of time (*Hypothesis 1a*). We also hypothesized that people with more fertility risks (including people who faced previous fertility problems) would report more fertility concerns during their efforts to conceive (*Hypothesis 1b*). The final part of our first hypothesis was that people who tried more methods to conceive their youngest child would report more fertility concerns during those efforts, presuming that using multiple methods reflects greater commitment to conceiving a child (*Hypothesis 1c*).

Our second hypothesis was that people who recall more fertility concerns during their efforts to conceive their youngest child would report lower satisfaction with life and less meaning in life (less presence of meaning, more searching for meaning; *Hypothesis 2*). Finally, we hypothesized that people who recall more fertility concerns during their efforts to conceive their youngest child would also recall more anxiety, less positive emotion, and more negative emotion during that period (*Hypothesis 3*).

Method

Participants

Participants ($N = 429$) were recruited from Amazon's Mechanical Turk (mTurk) and compensated \$2 for their completion of the survey. The study was listed on mTurk under the title "Parents' Experiences While Planning Pregnancy" and had following description: "You will complete a survey about planning the pregnancy that led to the birth of your youngest child, which includes questions about your personality and your experience during the time when you or your partner was trying to become pregnant." Participation in the study was restricted to people in the U.S. An Internet sampling technique offers a variety of advantages, such as an increased diversity in demographics (Gosling et al., 2004). All participants were parents to a child below the age of three ($M_{childage} = 1.4$ years), which they made a conscious effort to conceive (i.e., no unplanned pregnancies).

Procedures

Interested individuals (mTurk workers) were given the opportunity to participate in a study inquiring about their experiences in conceiving the pregnancy that resulted in their youngest child. They were first instructed to complete an eligibility screening and consent form prior to the survey. All procedures were approved by the IRB at University of California,

Riverside.

Measures

Once eligibility requirements were determined to have been met, participants were instructed to fill out a demographics form before completing the questionnaires. Measures listed here are in the order completed by participants.

Well-being. Participants completed various questionnaires in order to assess their well-being. They first completed the 5-item Satisfaction with Life Scale (Diener et al., 1985; e.g., “In most ways my life is close to ideal”; $M = 5.02$, $SD = 1.29$, $\alpha = .89$). Participants answered on a 7-point scale indicating their agreement with each statement, with a score of 1 indicating strong disagreement and a score of 7 indicating strong agreement. Participants also completed the Meaning of Life Questionnaire (MLQ; Steger et al., 2006), which has 10 items and two subscales, one assessing the presence of meaning (5 items; e.g., “I understand my life’s meaning”; $M = 5.26$, $SD = 1.21$, $\alpha = .93$) and the other assessing the search for meaning (5 items; e.g., “I am always looking to find my life’s purpose”; $M = 3.99$, $SD = 1.54$, $\alpha = .94$). The MLQ was scored on a 7-point scale with 1 indicating absolutely untrue and 7 indicating absolutely true. Higher values imply a greater satisfaction with life, greater meaning in life, and more of an effort to search for a meaning in life.

Pregnancy prompt. Participants were then instructed to think back to the time where they were trying to conceive their youngest child and the feelings they had prior to getting pregnant. Participants answered 6 questions for this portion, including the time to conception (“How many months did it take to get pregnant, from the first month you began trying?” $M = 5.52$, $SD = 6.87$) and questions assessing past fertility challenges (5 questions; e.g., “I have a history of fertility problems”). We created a summed composite of the number of fertility

problems they faced ($M = 0.60$, $SD = 0.97$).

Methods used to conceive. We also assessed the various methods participants used while trying to conceive their youngest child, including stopping birth control, have sex more regularly, the calendar method, temperature method, ovulation predictor kit, preconception planning, medical treatment for possible fertility issues, and any other possible methods used (open-ended). We created a summed score representing the total number of methods used ($M = 2.31$, $SD = 1.28$).

Emotions. Participants indicated their anxious feelings in retrospect during their time trying to conceive their last child by indicating their agreement with the statements, “During the time when I was trying to get pregnant with my youngest child, I felt [e.g., anxious, worried, calm, nervous]” (10 items). We averaged these items into an anxiety composite ($M = 2.58$, $SD = .90$, $\alpha = .92$). They answered these questions based on a 5-point scale with 1 indicating not at all and 5 indicating extremely. Participants then proceeded to respond to the same statement with various emotions such as jittery, enthusiastic, and alert (28 items total) with the same 5-point scale. We created two averaged composites, one for positive emotion ($M = 3.46$, $SD = 0.81$, $\alpha = .91$) and one for negative emotion ($M = 1.58$, $SD = 0.72$, $\alpha = .94$).

Fertility concerns. Participants completed measures of fertility concerns from the Fertility Problems Inventory (FPI; Newton, Sherrard, & Glavac, 1999). For decades, the FPI has been utilized as a tool to quantify couples’ experience with infertility-related stress and has been found to have high internal, convergent, and discriminant validity both by the original creators of the instrument and successors interested in measuring the validity and reliability of the scale for global application (Newton, Sherrard, & Glavac, 1999; Peng et al., 2011; Samani et al., 2017). The FPI assesses fertility concerns on five subscales: social concerns, sexual concerns,

relationship concerns, need for parenthood, and rejection of a childfree lifestyle. For the purposes of this study, we focused on social concerns (3 items ; e.g., “The holidays were especially difficult for me,” “It didn’t bother me when I was asked questions about children”; $M = 2.38$, $SD = 1.20$, $\alpha = .82$), relationship concerns (3 items; e.g., “I couldn’t show my partner how I felt because it would make him/her feel upset,” “My partner didn’t understand the way that trying to get pregnant affected me”; $M = 2.20$, $SD = 1.00$, $\alpha = .69$), and sexual concerns (4 items; e.g., “I found I’d lost my enjoyment of sex because we were trying to get pregnant,” “I felt like I’d failed at sex”; $M = 2.11$, $SD = 1.17$, $\alpha = .88$). Participants answered these questions retrospectively for each scale, thinking back to when they were trying to conceive their youngest child, and responded based on a 6-point scale, with 1 indicating strong agreement and 6 indicating strong disagreement.

Results

In order to test our hypotheses, we ran bivariate correlation analyses on our data to find relationships between each pair of variables in question. Sample size for each correlation ranged from 400 to 407; missingness is due to participants skipping individual items on the questionnaire pertinent to variable in question.

Hypothesis 1a: Longer time to conceive will predict increased fertility concerns.

Our hypothesis was partially supported, in that a longer time to conceive, measured in months, was correlated with participants recalling greater social, $r(405) = .18$, $p = .0002$, and sexual concerns, $r(401) = .15$, $p = .003$. Contrary to our hypothesis, a longer time to conceive was not associated with more relationship concerns, $r(402) = .02$, $p = .69$.

Hypothesis 1b: More fertility risks will predict increased fertility concerns.

Our hypothesis was strongly supported, such that participants with more fertility risk factors (up to 5 risk factors total), or who specifically faced past fertility challenges, recalled more social, sexual, and relationship concerns associated with fertility. To assess this relationship, we ran bivariate correlations and t-tests to compare participants who did and did not face past fertility concerns on each of the fertility concerns subscales. Our hypothesis was also strongly supported in that those who specifically faced past fertility challenges recalled more social, sexual, and relationship concerns associated with fertility.

Specifically, participants who had more fertility risks reported more social concerns, $r(407) = .29, p < .0001$. Those who had experienced more fertility challenges in the past ($M = 3.80, SD = 1.25$) also reported more social concerns than their counterparts with no past fertility challenges ($M = 2.27, SD = 1.12$), $t(404) = 7.23, p < .0001$. Those with more risk factors also reported more sexual concerns, $r(403) = .27, p < .0001$, and if they had experienced past fertility challenges ($M = 3.29, SD = 1.28$), they also reported more sexual concerns, $t(400) = 6.11, p < .0001$, than if they had no past fertility challenges ($M = 2.01, SD = 1.10$). Additionally, risk factors and relationship concerns were also positively correlated, $r(403) = .20, p < .0001$. Participants who had past fertility challenges ($M = 2.62, SD = 1.00$) had more relationship concerns, $t(400) = 2.47, p = .01$, compared to their counterparts with no past fertility issues ($M = 2.17, SD = 0.99$).

Hypothesis 1c: Using more methods to try to conceive will predict increased fertility concerns.

For this hypothesis, we ran bivariate correlations between number of methods tried and each of the three FPI subscales we were examining. Our hypothesis was partially supported, such

that people who used more methods to conceive recalled more social, $r(407) = .18, p = .0004$, and sexual concerns, $r(403) = .24, p < .0001$, but not more relationship concerns, $r(403) = .02, p = .70$, associated with fertility. It is important to note that because the methods tried and time to conceive were related to one another, we also ran multiple regressions predicting social and sexual concerns from both of these variables. Methods tried remained a strong predictor of both social and sexual concerns.

***Hypothesis 2:** Recalling more fertility concerns will predict decreased satisfaction with life and meaning in life.*

For this hypothesis, we measured the relationship between each of the three FPI subscales and satisfaction with life, presence of meaning, and search for meaning with bivariate correlations. Our hypotheses were strongly supported, such that people who recalled more social, sexual, and relationship concerns reported lower satisfaction with life, less presence of meaning, and more searching for meaning. Specifically, social concerns were negatively correlated with satisfaction with life, $r(407) = -.14, p = .005$, as well as presence of meaning, $r(407) = -.18, p = .0003$, and they were positively associated with search for meaning, $r(407) = .14, p = .004$. Sexual concerns were negatively correlated with satisfaction with life, $r(403) = -.12, p = .02$, and presence of meaning, $r(403) = -.12, p = .01$, and positively correlated with search for meaning, $r(403) = .10, p = .04$. Lastly, relationship concerns were negatively correlated with satisfaction with life, $r(403) = -.23, p < .0001$, and presence of meaning, $r(403) = -.18, p = .0002$, and positively associated with search for meaning, $r(403) = .22, p < .0001$. We also looked at the association between relationship concerns and these variables controlling for relationship satisfaction (in case relationship concerns were really just a reflection of problems in

the relationship), and in all cases fertility-related relationship concerns remained a strong predictor of well-being.

Hypothesis 3: Recalling more fertility concerns will predict increased anxiety, decreased positive emotion, and increased negative emotion.

For these analyses, we ran bivariate correlations between each of the FPI subscales and each emotion variable. We found that our hypothesis was strongly supported such that people who recalled more social, sexual, and relationship concerns also recalled more anxiety, less positive emotion, and more negative emotion. Specifically, social concerns were positively correlated with anxiety, $r(407) = .60, p < .0001$, negatively correlation with positive emotions, $r(407) = -.14, p = .005$, and positively correlated with negative emotions, $r(407) = .61, p < .0001$. Similarly, sexual concerns were positively correlated with anxiety, $r(403) = .58, p < .0001$, negatively correlated with positive emotions, $r(403) = -.17, p = .0005$, and positive correlated with negative emotions, $r(403) = .62, p < .0001$. Lastly, relationship concerns were positively correlated with anxiety, $r(403) = .45, p < .0001$, negatively correlated with positive emotions, $r(403) = -.23, p < .0001$, and positively correlated with negative emotions, $r(403) = .48, p < .0001$.

Discussion

In the present study, we used the Fertility Problem Inventory to assess how infertility, the element of uncertainty, and the inevitable waiting period affects social, relationship, and sexual concerns. Our hypotheses were mostly strongly supported, with a few instances where the data partially supported our predictions. Our data replicated the results found by Lakatos et al. (2017), in that they also found that infertility issues did not seem to impact relationships; however, it did

have an impact on a couple's sexual lives.

Our first hypothesis was split into three parts. Hypothesis 1a addressed our prediction that people who took longer to conceive would report more fertility concerns during these efforts. This hypothesis was only partially supported, in that those who took longer to conceive had more social and sexual concerns but not more relationship concerns. This may be due to the fact that couples who underwent infertility treatments report that they have gotten closer and their relationship has grown stronger following their infertility diagnosis (Martins et al., 2014). Couples may use a negative event they are experiencing together to bring them closer to one another. This marital support and reliance on their partner seemed to be the coping mechanism primarily utilized by males facing fertility issues, due to the fact that they do not necessarily discuss these matters with their social circles (Martins et al., 2014). Researchers found that women who had more perceived social support also had partners who felt they had more perceived social support (Martins et al., 2014). We found elements of this pattern replicated in our study and thus it could be a possible explanation for the results.

The second part, Hypothesis 1b, was our prediction that people who had more fertility risks, including those who had past fertility problems, would report more fertility concerns during their efforts to conceive. This hypothesis was strongly supported by our data, in that people with more fertility risks factors or who specifically faced past fertility challenges recalled more social, relationship, and sexual concerns related to fertility. This finding is supported by the fact that future pregnancy is one of the factors that helps to heal women from the grief of suffering a miscarriage. For those who are uncertain if or when they will get pregnant, their concerns are even greater (Freda, Devine, Semelsberger, 2003). If someone has had fertility problems in the past, this would undoubtedly lead to concerns about facing those same issues in

the future. Additionally, if risk factors are also considered, infertility may be even more a cause for concern for these individuals than those with no risk factors or past fertility issues facing infertility.

Finally, Hypothesis 1c was our prediction that people who tried more methods to conceive would report more fertility concerns during those efforts. The number of methods tried was how we quantified how hard a couple was trying to get pregnant. Theoretically, we assumed those trying more techniques were more serious about getting pregnant, therefore, possibly having more fertility concerns. This hypothesis was also partially supported in that people who used more methods to conceive recalled more social and sexual concerns but not more relationship concerns associated with fertility. As previously discussed, this may be explained by the research conducted by Martins et al. (2014), in that couples who are trying more techniques and going through infertility together get stronger as a couple and experience more marital adjustment during this trying period.

Hypothesis 2 addressed the satisfaction with life and meaning in life of people who recall more fertility concerns during their efforts to conceive their youngest child. Theoretically, if someone has less meaning in their life, this implies they are doing more searching for meaning to make up for that. Our hypothesis was strongly supported in this case, in that people who recalled having more social, sexual, and relationship concerns also reported having a lower satisfaction with life, less presence of meaning, and more searching for meaning. This implies that these couples may tie their satisfaction with and meaning in life with their fertility. Our study cannot determine whether these participants were also more likely to experience negative emotions toward life prior to their fertility challenges.

Hypothesis 3 concerned the well-being of people who recall more fertility concerns when

trying for their youngest child. This hypothesis was strongly supported in that people who had more fertility concerns on all three subscales (social, relationship, sexual) also recalled more negative emotions, more anxiety, and less positive emotions during this time. This is consistent with the results found by Lakatos et al., 2017 in the sense that their results indicated that women with infertility had higher levels of anxiety than their fertile counterparts. Anxiety was also found to be correlated to social, sexual, and relationship concerns in their study (see also Nelson, Robbins, Andrews, & Sweeny, 2015).

Conclusion

This study examined the social component of infertility, involving emotional support from loved ones as a coping strategy and infertility's impact on relationships, and connected it to aspects of well-being and life circumstances. Using various aspects of their experience, such as time to conception of youngest child, methods tried, and fertility risks/past challenges, we aimed to understand how couples respond to fertility concerns in terms of their satisfaction with life, meaning in life, and emotions. Our findings may have implications for those experiencing the waiting period between trying to conceive and successful conception. The stressful nature of experiencing these fertility concerns, including negative emotions, anxiety, and less satisfaction with life/meaning of life, are detrimental not only psychologically when it comes to those facing fertility challenges, but physiologically as well. There is evidence to suggest that stress lowers the effectiveness of infertility treatments (Faramarzi et al., 2013). The impact of stress may also be further exacerbated due to the lack of sleep caused by the stress, leading to a loop of negative situational factors that may hinder the couple's chance of conceiving (Sweeny, Andrews, Nelson, & Robbins, 2015). Due to these implications, it is in prospective parents' best interest to seek solutions to manage the stress that is inevitable in this situation and develop healthy coping

mechanisms to deal with the circumstances.

Limitations

Retrospective accounts allow the possibility of memory bias, creating a possible limitation for our study. Ideally, we would have participants complete these questionnaires while they were trying to conceive; however, some of the data, such as months to conception, would not be available if the couple had not conceived yet. Another possible limitation was that all participants in the study were eventually able to conceive. It is possible that participants may be viewing the situation with a different lens than when they were originally experiencing the emotions, one that is more positive knowing the result is that their efforts eventually paid off.

Another limitation is the correlational nature of our study. Causal relationships cannot be established due to the necessary criteria not being met. Therefore, it is incorrect to assume the infertility was the cause of the satisfaction with life or meaning of life results or that infertility issues were the cause of the increased anxiety, less positive emotions, and more negative emotions. We can only definitively conclude that these variables co-occurred and were related in some way. It is impossible to rule out reverse causation or third variable confounds in this situation and thus further research needs to be conducted.

Future Directions

As discussed previously, fertility concerns often lead to anxiety. It is not surprising then that Newton and colleagues (1999) also found that depression is linked particularly to the three subscales examined in this study. This is also consistent with the findings of Faramarzi et al. (2013), in that those facing infertility had higher rates of anxiety and depression than their fertile counterparts. This study has implications for future studies that can address how to treat individuals experiencing stress, negative emotions, anxiety, decreased meaning of life and

satisfaction with life, as they relate to the subject of fertility. Faramarzi et al. (2013) had success in treating those experiencing grief following a miscarriage with cognitive behavioral therapy and found the effects of the CBT to be greater and longer lasting on these individuals than those treated with pharmacotherapy to cope with their infertility stress. Further research is required to connect these results with the fertility concerns discussed in the FPI. That is, does CBT also help to reduce fertility concerns in individuals facing infertility? Further research is also required to establish causal relationships between the emotions experienced by the participants and their infertility. Nonetheless, our study provides an initial picture of nuances in the suffering associated with fertility challenges.

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