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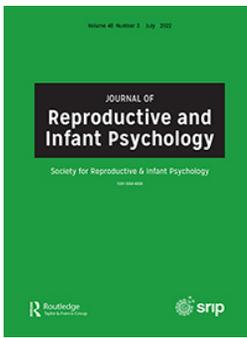
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The role of self-esteem on fear of childbirth and birth experience

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ABSTRACT

Objective: Fear of childbirth (FOC), also referred to as tokophobia, can have detrimental consequences for a woman's well-being during pregnancy and for their subjective birth experience. However, it is unknown what role self-esteem plays in the relationship between FOC and the experience of childbirth. This study investigates the relation between FOC and the birth experience, and the role of self-esteem in that relation.

Methods: We studied 125 nulliparous and parous Finnish women from their third trimester of pregnancy to 4–8 weeks postpartum. Path analysis with MLR estimation was conducted using MPlus to predict the childbirth experience according to prior self-esteem and fear of childbirth as well as their interaction. Also, age and parity were included as predictors of the birth experience, as well as their interactions with self-esteem. FOC was measured with the Wijma Delivery Expectancy/Experience Questionnaire – version A (W-DEQ-A), self-esteem with the Rosenberg Self-Esteem Scale (RSES), and birthing experience with the Delivery Satisfaction Scale (DSS).

Results: We found that self-esteem moderated the association between fear of childbirth and the subjective birth experience: the lower the self-esteem, the stronger the negative connection between FOC and the birth experience; and, reversely, the higher the self-esteem, the weaker the connection between FOC and the birth experience.

Conclusions: The results highlight intra-group differences between fearful women and contribute to theory formation. They can be used in clinical practice and when planning interventions to reduce negative birth experiences.

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Fear of childbirth; self-esteem; birth experience; childbirth; birthing; tokophobia

Introduction

Childbirth is a unique life event (Downe et al., 2018) that is often experienced as a transition stage of deep importance and vulnerability (Larkin et al., 2009). One third of women experience their childbirth as very positive (Hildingsson et al., 2013) and most women as at least somewhat positive (Chabbert et al., 2020). Negative experiences are rated by 10% to one-third of women (Chabbert et al., 2020). These experiences may be

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influenced by fear of childbirth (FOC; Saisto et al., 2006) that complicates 10–30% of pregnancies in developed countries (Rondung et al., 2016), affecting both nulliparous and parous women (Saisto & Halmesmäki, 2003). Previous studies have shown that the higher the FOC, the more negative the childbirth experience (Chabbert et al., 2020). However, most research to date fails to address the interaction effects of FOC with other variables, with a consequence of treating women with FOC as a homogenous group rather than addressing their differences (Rondung et al., 2018). In the present study, the role of general self-esteem – defined as person’s evaluation of their value or self-worth (Jordan et al., 2015) – on childbirth experience was investigated while considering the possible interaction effects with FOC. High self-esteem is proposed to serve as a resource to support adjustment in life transitions in general (Chen et al., 2016), as well as in relation to pregnancy and childbirth (Jomeen, 2004). Low self-esteem, in turn, may interfere with a woman’s ability to cope. Theoretically, there are at least three mechanisms (Jordan et al., 2015) that may put individuals with low self-esteem at a disadvantage: First, they are less likely to engage in behaviours that promote good physical health and may consequently be less prepared for childbirth. Second, they experience elevated and prolonged cortisol response to stressful situations, which may make labour and the immediate postpartum period more fearful experiences for them. Third, their interpersonal relationships are of poorer quality than those of others (Jordan et al., 2015), which means they probably need to cope with less support during pregnancy, birth and postpartum.

Low self-esteem and FOC often co-occur (Lowe, 2000), affecting the course of the woman’s labour negatively, in turn further reducing her self-esteem while increasing her fear (Jomeen, 2004). However, the possible interaction effects are not yet understood, and the effects of self-esteem on birth experience are seldom differentiated from the effects of fear. Furthermore, the effect of parity and age on birth experiences remains unclear (Chabbert et al., 2020). The present study sought to answer the following research questions:

- (1) To what extent are self-esteem and FOC related to childbirth experience?
- (2) Is the relationship between FOC and childbirth experience different depending on self-esteem?
- (3) Is the relationship between self-esteem, FOC and birth experience different depending on age and parity?

Materials and methods

Participants

A total of 125 women were enrolled in the study. They were recruited from four medium-sized cities in Central Finland. In the area, a total of 2,754 women gave birth in the year 2020. Women were eligible to participate in the study if they were at least 30 weeks into gestation and were able to complete the survey in Finnish. They had expected dates of delivery between February and December 2020. Participants were 20 to 46 years old ($M = 31$, $SD = .49$), and 73 were nulliparous (58.4%) and 52 were parous (41.6%). The total number of children that they already had ranged from none to seven. The women either lived together with the father of their child or children (92%), in a mixed family (6.5%), or

in another type of family formation (1.5%). Their perceived income levels were above average (21.6%), average (68.8%), below average (8.0%), or poor (0.8%). A total of 72.0% of women had completed tertiary and 26.4% vocational education, whereas 0.8% of women had no further education after compulsory schooling.

Procedure

Ethical approval for the study was obtained from the University of Jyväskylä Ethics Committee before data collection (August 2019). All family health centres in four medium-sized cities in Central Finland volunteered to participate in the data collection. Nearly all Finnish women receive antenatal care at their community health centre (Finnish Institute for Health and Welfare, 2013, p. 307), and that made it possible to reach the majority of the pregnant women there. Participants were recruited via public health nurses during their antenatal visits from February to October 2020. According to power analysis, sample size $n = 100$ is needed to detect .30 (or higher) correlation or standardised regression coefficient with a statistical power of .80 using nominal significance level at .05. Keeping this in mind and the expected drop out during the longitudinal study, the study survey was initially distributed to 489 women. They were given written information about the study, a voluntary participation form, and the study survey, which they were asked to fill in at home after the appointment and return to the researcher in a pre-paid envelope. A total of 125 women returned the survey. Consequently, the participation rate in the first phase was 25.6%. The second phase surveys were sent directly by mail to the women who had participated in the first phase. They were asked to complete the survey and to return it to the researcher in a pre-paid envelope. A total of 90.4% ($n = 113$) of women who participated in the first phase also returned the surveys in the second phase. The missing data analyses comparing the drop-out participants ($n = 12$) to those who did not drop out ($n = 113$) according to the independent variables under interest at T1 (i.e. self-esteem, fear of childbirth (FOC), age, and parity) revealed that the differences between the two groups were not statistically significant ($p < .05$) for any of the T1 independent variables.

Measures

Birth experience (T2, 4–8 weeks after childbirth)

Birth Experience was measured with the Delivery Satisfaction Scale (DSS), an eight-item scale developed and validated in Finland (Saisto et al., 2001). It is a 5-point Likert scale with items 4 and 8 reverse scored. Examples of items are as follows: *Was childbirth a positive experience for you?*; and, *Were you able to affect the course of your labour according to your wishes?* The maximum sum score of the scale is 40, and higher scores represent a more positive experience. Cronbach's alpha for the scale was good, .78.

Fear of childbirth (T1, 30+ weeks into gestation)

FOC was measured with the Wijma Delivery Expectancy/Experience Questionnaire – version A (W-DEQ-A; Wijma et al., 1998) with the permission of the copyright holder. W-DEQ-A is a 33-item questionnaire that represents answers to each question on a visual scale (line) with numerical values from 0 to 5 and lingual expressions at each end. Examples of items are as follows: *How do you think your labour and delivery will turn out*

as a whole? (0 = extremely fantastic; 5 = not at all fantastic); and, *What do you think will happen when the labour is most intense?* (0 = I will behave extremely badly; 5 = I will not behave badly at all). The scale has been validated in English (Reisz et al., 2015) and was translated into Finnish by the researcher using a back-translation method. The accuracy of the translation was checked by a native speaker. The total score ranges from 0 to 165 and higher scores represent more fear. Cronbach's alpha for the scale was excellent, .92.

Self-esteem (T1; 30+ weeks into gestation)

Self-Esteem was assessed with the Rosenberg Self-Esteem Scale (Rosenberg, 1989). The scale includes 10 items that measure the general level of self-esteem, such as: *On the whole, I am satisfied with myself*; and, *I wish I could have more respect for myself*. The statements are answered on a 5-point Likert scale (1 = strongly agree; 5 = strongly disagree; items 2, 5, 6, 8 and 9 are reverse scored). Higher scores represent better self-esteem and the maximum sum score of the scale is 50. Cronbach's alpha for the scale was excellent, .91.

The descriptive data of the study variables revealed that information concerning birth experience was missing in the case of 12 participants, whereas information concerning self-esteem and parity was missing in the case of one participant. Information concerning fear of childbirth and age was available to all 125 participants. The data were slightly skewed concerning all these variables, skewness ranging from the value -0.533 (age) to -1.01 (birth experience). In all cases, the skewness was statistically significant ($p < .05$).

Analysis

The data were analysed using MPlus statistical software, version 7.3 (Muthén & Muthén, 1998–2012). The method of analysis used was path analysis, and the method of estimation was full information maximum likelihood (FIML) robust estimation (MLR estimator). MLR takes missing data into account by using all available information when estimating the model. The few missing values (one missing value for parity and self-esteem, and 12 missing values for birth experience) were supposed to be missing at random (MAR), and the standard errors were corrected to be robust to address non-normality. FOC and self-esteem at Time 1 (third trimester of pregnancy) served as independent variables, and subjective birth experience at Time 2 (4–8 weeks after childbirth) served as the dependent variable in the analysis. Moreover, the interaction term *Self-esteem X Fear of childbirth*, as well as parity and age of the mother, was included as independent variables in the model. Independent variables were allowed to correlate with each other.

Results

The descriptive statistics and correlations of study variables are presented in Table 1. The cut-off score for severe FOC as measured with the W-DEQ-A is proposed to be 85 (Lukasse et al., 2014). In the present sample, the average score of the participants was 58.71 ($SD = 19.88$), suggesting that the participants reported, on average, moderate levels of FOC. A total of 11.5% of participants reported clinical levels of FOC ($W-DEQ A \geq 85$). Self-esteem was positively and statistically significantly associated with birth experience, while

Table 1. Correlations between subjective birth experience, self-esteem, Fear of Childbirth (FOC), parity, and age.

| | Birth Experience | Self-esteem | FOC | Parity | Age | M | SD |
|---------------------------------|------------------|-------------|-----------|----------|-------|-------|-------|
| | (T2) | (T1) | (T1) | | | | |
| | (n = 113) | (n = 124) | (n = 125) | | | | |
| Birth Experience (T2) | 1.000 | | | | | 31.96 | 5.03 |
| A. Self-Esteem (T1) | .324*** | 1.000 | | | | 40.45 | 7.17 |
| B. FOC (T1) | -.220* | -.321*** | 1.000 | | | 89.55 | 19.88 |
| Parity | .181* | -.042 | -.096 | 1.000 | | | |
| Age (measured by year of birth) | -.132 | .023 | -.088 | -.333*** | 1.000 | | |
| A X B | .156 | .001 | -.097 | -.052 | .139 | | |

T1 = pregnancy (30+ weeks gestation).

T2 = 4–8 weeks after childbirth.

* $p < .05$, *** $p < .001$.

FOC correlated negatively with birth experience. Further, self-esteem correlated negatively with FOC, whereas parity correlated positively with birth experience.

The aim of the present study was to find out if FOC and self-esteem have independent or interaction effects to be taken into consideration in predicting subjective childbirth experience. The results show that participants' self-esteem (standardised estimate = 0.300, $p = .001$; 95% confidence interval, .125–.481) predicted their birth experience with statistical significance: the higher the self-esteem, the more positive the reported birth experience. The results further show that the effect of FOC on birth experience was dependent on the level of self-esteem (standardised estimate for the interaction of *Self-esteem X Fear of childbirth* = 0.171, $p < .05$; 95% confidence interval, .011–.326). The interaction found is visualised in [Figure 1](#). The results show that among mothers with a low level of self-esteem (-1 SD), FOC had a steeper negative effect on subsequent birth experience than among mothers with a high level of self-esteem ($+1$ SD). Consequently, good self-esteem seemed to protect from the detrimental effect of FOC on birth experience, whereas low self-esteem further strengthened this effect.

Another aim of our study was to find out if the relation between women's self-esteem and FOC during pregnancy until their reflection on the birth experience afterwards is different depending on age and parity. The results show that these background variables were not associated with the birth experience after taking into account the effects of self-esteem and FOC; neither did they show any interaction effect with FOC and self-esteem.

Discussion

In the present study, we investigated the role of women's self-esteem and FOC on their subjective birth experience. The results demonstrate that the role of FOC in women's postpartum assessment of their birth experience was dependent on their level of self-esteem: among mothers with a low level of self-esteem, FOC showed a stronger negative effect on their subsequent birth experience than among mothers with a high level of self-esteem. It was surprising that high self-esteem removed the effect of fear altogether, especially since previous studies have largely ignored the effect of self-esteem on the

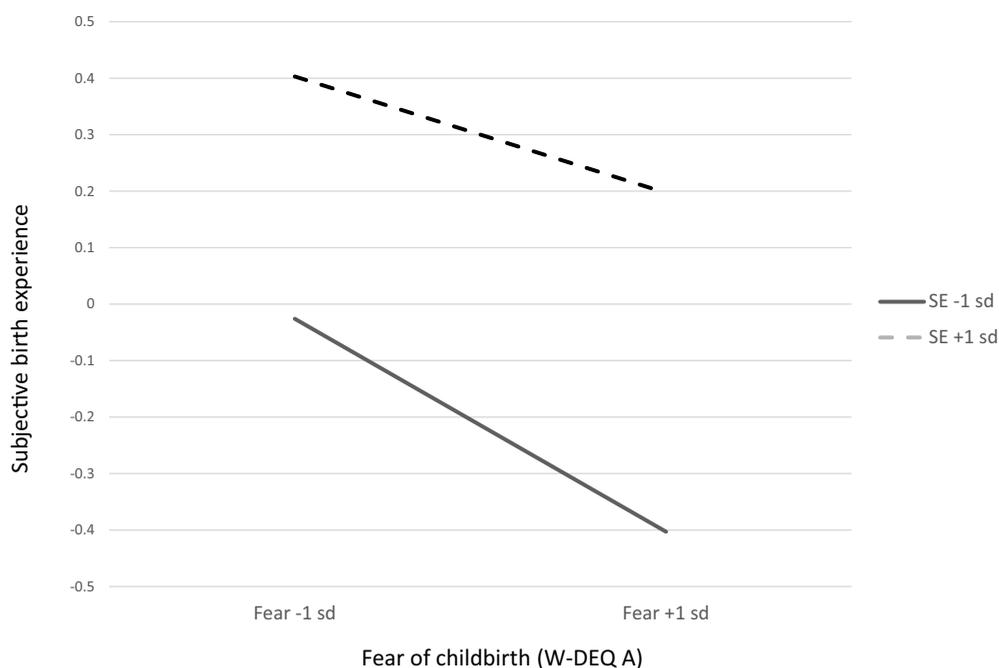


Figure 1. Fear of childbirth (Fear) and birth experience for participants with high (+1sd) and low (−1sd) self-esteem (SE).

birth experience and have described only the effect of FOC. However, we did not assess if obstetric characteristics of the labour and birth explain any negative evaluations of the birth experience associated with lower self-esteem. Future studies should assess whether the results are the same even after controlling for birth interventions and delivery mode.

While it has been proposed previously that women with FOC generally have lower levels of self-esteem than do women without FOC (Lowe, 2000), intra-group differences in self-esteem have not been studied before. In the present study, participants with high self-esteem and higher-than-average FOC scored higher with respect to the subjective birth experience than did mothers with average levels, whereas participants with low self-esteem and high levels of fear scored lowest. This result suggests that high self-esteem can protect against the detrimental effects commonly associated with FOC (Saisto & Halmesmäki, 2003), and that low self-esteem can further deepen those effects.

A further aim of our research was to investigate whether the relationship between self-esteem and FOC to birth experience is dependent on age and parity. No main or interaction effect between age or parity and birth experience was found. This means that the results apply to childbearing women with FOC regardless of age or parity. This result elaborates the previous finding by Lowe (2000) that low self-esteem is more common in nulliparous women who suffer from FOC than in those who have less fear: Our finding suggests that the level of self-esteem has clinical importance regardless of parity; and it suggests that for women with FOC, their level of self-esteem contributes more to their birth experience than does their prepartum level of FOC.

The present study has several strengths. First, it contributes to understanding the psychological premises of FOC and birth experiences, which is essential for theory formation and clinical practice. Second, studying women with severe fear in a longitudinal setting makes it possible to examine intra-group differences and different pathways to positive or negative birth experiences. The findings can be meaningful when planning relevant interventions, particularly for the most fearful women facing childbirth.

The present study also has limitations. The first limitation concerns the time of the data collection, year 2020: Because of the global COVID-19 pandemic causing uncertainty and limiting social connections worldwide, and in some cases restricting childbirth companions and visitors in hospitals, we do not know if the results would be the same during a less challenging time. The effect of self-esteem found in the present study may represent a resiliency factor that buffers the psychosocial effects caused by the pandemic and not so much of the FOC itself. Second, this study was conducted in only one cultural setting, Finland, that has a different maternity system from those in many other countries. Different findings might be obtained in different settings. Third, findings should be confirmed in clinical populations of women with fear of childbirth.

While a person's level of self-esteem has been proposed as an important factor in their general well-being (Jordan et al., 2015), it has rarely been discussed in relation to pregnancy and childbirth (Jomeen, 2004). Self-esteem has been found to predict postnatal depression (Beck, 2001) and has at times been indicated to be associated with FOC (Lowe, 2000), suggesting that it has clinical importance during the perinatal period. The present research suggests that FOC is a complicated phenomenon that cannot be adequately understood without understanding how it connects to the psychological structure of the self. It was found that including self-esteem in the model made the direct effect of FOC on the birth experience disappear altogether. One possible explanation would be that FOC is in close interplay with low self-esteem, and reciprocal interactions are likely. Women with FOC might feel their self-worth threatened by the upcoming birth that is perceived as frightening – doubting their performance (Reisz et al., 2015) and/or even their survival and that of the baby (Rondung et al., 2018) in advance. Prepartum feelings of inadequateness or incapability as a woman or a mother may make the upcoming birth seem like a mission impossible.

The moderating effect of self-esteem should be addressed when planning future research and support for women with FOC in order to improve birth experiences. While it is uncertain if self-esteem can be improved through interventions (Jordan et al., 2015), teaching self-compassion before and during pregnancy may be beneficial. However, special effort should be made to recognise those who are most in need of intervention. Women with low self-esteem may be less likely to seek support for their fear than women with higher self-esteem (Higgins et al., 1994), and more likely to engage in avoidant coping strategies (Kotzé et al., 2013) even though treating their fear is likely to be especially beneficial. Further, as Rondung and colleagues (Rondung et al., 2016) suggest, interventions should be individualised to suit all pregnant women suffering from fear.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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