



Research Paper: The Relationship between Emotional Creativity and Pregnancy Anxiety in Five to Eight Months Pregnant Women



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Abstract

Objectivity: Pregnancy is a critical period that may entail various challenges such as pregnancy anxiety. Thus, early and timely detection of this anxiety can be crucial for the well-being of pregnant women. This study aimed to examine the association between emotional creativity and pregnancy anxiety among women in their second and third trimesters.

Methods: The study employed a descriptive-correlational design. The sample consisted of 200 pregnant women of 5 to 8 months in Mazandaran province in 1401 who were recruited by purposive sampling from health and treatment centers. They completed the Emotional Creativity Inventory (ECI) and the Pregnancy Related Anxiety Questionnaire (PRAQ). The data were analyzed using SPSS 24 and correlation analysis.

Results: The results indicated a negative correlation between emotional creativity and pregnancy anxiety ($r = -0.322$, $P < 0.01$).

Conclusion: It can be inferred that improving emotional creativity during pregnancy can help reduce pregnancy anxiety.

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1. Introduction

Pregnancy is a critical stage in a woman's life that involves significant physiological and psychological alterations, which may sometimes lead to pathological outcomes, despite the joy of motherhood (Littlewood & McHugh, 1997). During this stage, women commonly experience anxiety, known as pregnancy anxiety, as a result of various concerns, mental preoccupations, and fears regarding pregnancy and its associated changes, as well as childbirth, infant health, and child care. However, this anxiety may have adverse effects on the pregnant mother's physical and mental well-being (Basharpoor et al., 2013). Studies have shown that fetal health is a source of worry for mothers and most pregnant women are anxious about the possibility of fetal anomalies and the performance of screening tests (Smith et al., 2019).

Individuals differ in their responses to anxiety-inducing factors based on their genetic makeup, personality characteristics such as how they appraise the stressor, their coping abilities with the anxiety-inducing factor, their living situations and surroundings, their social support networks, and their prior experiences (Sarani et al., 2016). Folkman et al. (1986) suggested that a woman's emotional and behavioral coping responses to stress are shaped by how she evaluates anxiety during pregnancy. Therefore, emotional creativity can be one of the factors in managing pregnancy anxiety. Averill and Nunley (1992) introduced the concept of Emotional Creativity along with Emotional Intelligence by Salovey and

Mayer. From a social constructivist viewpoint, Averill (1999) argued that emotions were not merely the result of biological forces, but rather a form of social interactions that were constructed by social norms and rules. Moreover, when these norms and rules change, so do the emotions. He proposed the possibility of Emotional Creativity based on this feature of variability. Averill and Nunley (1992) specified the dimensions of the elements of this kind of creativity. According to this definition, Emotional Creativity is the expression of oneself (honesty) in a novel way (innovation) that leads to the expansion of the individual's lines of thought and the enhancement of his interpersonal relationships (effectiveness). According to this definition, innovation, effectiveness, and honesty are the three main elements of Emotional Creativity (Ajam et al., 2016).

Emotional Creativity is a constellation of cognitive capacities and personality characteristics that enable originality and appropriateness in emotional and affective experience. This is a crucial element in the creative process. It entails the capacity to generate novel outcomes by drawing on emotions elicited from personal or others' experiences (Beidel & Turner, 2007). Emotional creativity facilitates the regulation and guidance of one's inner emotions in a suitable manner, implying that individuals with this trait can cope with their inner emotions according to the context and maintain them under control, as well as make innovative decisions or actions. Emotional Creativity and its awareness allow individuals to comprehend their inner

emotions better and behave more rationally and deliberately in their actions and choices. Individuals with high emotional creativity derive more pleasure from emotional experiences and new learning (Averill & Nunley, 2010).

Research has demonstrated the influence of Emotional Creativity on anxiety. For instance, Kiani et al. (2018) revealed that the factors of emotional intelligence, emotional creativity, and emotion regulation difficulty affected the processing of emotional information of individuals and impacted their perception, interactions, and engagement with the educational setting. High competence in these factors results in adaptation, whereas low competence leads to heightened stress and maladaptive behaviors. Emotions and emotional abilities have a significant role in dealing with challenges and anxieties (such as pregnancy anxiety).

Chronic anxiety and daily stress are common in modern life, but they can have adverse effects on pregnancy outcomes, such as preterm birth or low birth weight (Akhlaghi, 2012). Therefore, it is important to reduce anxiety and learn to cope with it in a way that enhances interpersonal relationships and creates healthier conditions for pregnant women. However, there is a lack of research on this topic among pregnant women in Iran. Thus, this study aimed to examine the relationship between emotional creativity and pregnancy anxiety among pregnant women in their second or third trimester.

2. Methods

2.1. Research Design

This study employed a descriptive-correlational design. The study population consisted of pregnant women in their second or third trimester in Mazandaran province in 1401, who were recruited from health and treatment centers using a purposive sampling technique, based on the criterion of having fifteen subjects per observed variable (Kline, 2016). A total of 200 women participated in the study. The inclusion criteria were being pregnant, not having serious psychological problems, and being willing to cooperate in the study. After selecting the participants and following the general ethical principles and ensuring the confidentiality of their information, the researcher administered the following questionnaires to the participants: Emotional Creativity Inventory (ECI; Averill, 1999) and the Pregnancy-Related Anxiety Questionnaire (PRAQ; Vandenberg, 1990). The data were analyzed using SPSS software version 24 employing the correlation statistical method.

2.2. Instruments

Emotional Creativity Inventory (ECI): Averill (1999) developed this questionnaire to assess emotional creativity across four dimensions: novelty, effectiveness, honesty, and readiness. The questionnaire consists of 30 items, with 7 items measuring emotional readiness, 14 items measuring novelty, 5 items measuring effectiveness, and 4 items measuring honesty. Each item is rated on a five-point Likert scale ranging from very low (0 points) to very high (4 points). The

Cronbach's alpha method indicated a high reliability of the total score of emotional creativity (0.91) and the four dimensions (0.80, 0.89, 0.80, and 0.85, respectively). The validity of the questionnaire was evaluated through factor analysis and correlation with similar tests. The factor analysis revealed three dimensions instead of four, with the following values: 0.88, 0.82, and 0.81. The dimensions of effectiveness and honesty merged into one factor. Sabet (2014) confirmed the reliability of the test by obtaining a Cronbach's alpha coefficient of 0.83. The correlation between the subtests of Torrance creativity and ECT was 0.74, indicating a good concurrent validity of the test.

Pregnancy-Related Anxiety Questionnaire (PRAQ): Vandenberg (1990) designed this questionnaire, 58 items, to assess pregnancy-related fears and worries. Five factors emerged from the exploratory factor analysis of the questionnaire data: fear of childbirth (14 items), fear of having a physically or mentally handicapped child (5 items), fear of changes in marital relationships (13 items), fear of mood changes and their impact on the child (16 items), and self-centered fears or fear of changes in the mother's personal life (7 items). Each item is rated on a seven-point

Likert scale from completely disagree (0 points) completely to agree (7 points). The total score of pregnancy anxiety can vary from zero to 385 (Vandenberg, 1990). Huizink et al. (2004) reported a high reliability of the questionnaire using Cronbach's alpha method (0.76) and a good validity of the questionnaire using the correlation method with the Spielberger state anxiety questionnaire (1970; cited in Spielberger & Richard, 1970) (0.70). Babanazari and Kafi (2008) confirmed the reliability of the questionnaire using Cronbach's alpha method (0.70) and the validity using the confirmatory factor analysis method (0.74).

3. Results

The study sample consisted of two hundred pregnant women in their second or third trimester in Mazandaran province. Among them, 32 respondents were aged 20-25 years (13.8%), 88 were aged 25-30 years (48.2%), and 80 were aged 30-35 years (38%). Table 1 presents the mean and standard deviation of the scores of the participants in the pregnancy anxiety questionnaire and the emotional creativity questionnaire and their subscales of readiness, innovation, effectiveness, and originality.

Table 1

Mean and standard deviation of emotional creativity and pregnancy anxiety dimensions in pregnant women

Factors	Mean	Standard deviation
Pregnancy anxiety	77.5	9.8
Readiness	36.1	3.9
Innovation	33.3	5.7
Effectiveness	31.5	5.34
Originality	34.1	4.22
Emotional Creativity (total)	92.1	8.9

Table 2 showed the correlation coefficients between pregnancy anxiety and emotional creativity (and its dimensions).

Table 2

Correlation between pregnancy anxiety and emotional creativity

	Readiness	Innovation	Effectiveness	Originality	Total (emotional creativity)
Pregnancy anxiety	-0.76**	-0.17*	-0.29*	-0.12**	-0.322*

* P<0.01

** P<0.05

The results indicated a significant negative correlation between pregnancy anxiety and emotional creativity ($r = -0.322$, $p < 0.01$), meaning that higher levels of emotional creativity were associated with lower levels of pregnancy anxiety.

4. Discussion

This study examined the relationship between pregnancy anxiety and emotional creativity among pregnant women. The findings revealed a negative correlation between the two variables, indicating that

higher emotional creativity was associated with lower pregnancy anxiety. This study has been the first of its kind in Iran, and therefore it relies on similar and related studies for comparison. The findings are in line with [Razmi et al. \(2023\)](#), who found a significant inverse relationship between social interaction anxiety and emotional creativity among female high school students in Shiraz.

The results can be explained by the fact that expressing emotions creatively with a novel style and method enhances pregnant women's awareness of their emotions and

possibly enables them to control stress and manage negative emotions, which in turn reduces pregnancy anxiety. Cognitively, expressing positive emotions helps people to see new connections between ideas, organize information, and integrate as well as create new solutions for problems. Creativity stemming from these emotions improves and increases the readiness of people to engage in various activities. Consequently, people become more flexible in the face of obstacles and challenges, and positive emotions are directly related to high levels of creativity. Based on the above cases, when confronted with stressful and anxious situations, pregnant women who have a high score of emotional creativity use a variety of coping strategies that include their preference for solutions that focus on self-regulation, problem-solving planning, social support seeking, and re-evaluation. In this situation, they reject negative emotions and replace them with positive emotions to find a positive meaning when faced with stress (Issazadegan et al., 2012).

The present study had some limitations; one of which was conducting research only on pregnant women limiting the generalization of the results to other members of society. Therefore, it is recommended that similar research be conducted on other people in the future.

5. Conclusion

Based on the results of this study, it is concluded that emotional creativity will be one of the effective factors in predicting pregnancy anxiety.

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Conflict of interest

The Author declares that there is no conflict of interest with any organization. Also, this research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

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