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Prediction of Maternal-Fetal Attachment Based on Gender Role in Pregnant Women

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ABSTRACT

Background & aim: Maternal concept is part of the feminine gender role. An important component of maternal concept is the unique relationship experience between mother and child that begins with maternal-fetal attachment (MFA) during pregnancy. In this study, we aimed to predict MFA according to gender role in pregnant women.

Methods: This descriptive, correlational study was conducted on 171 primiparous and multiparous women of more than 24 weeks of gestation, referring to the Obstetrics and Midwifery Department of Kowsar Hospital, Shiraz, Iran, during May-June 2015. The participants were selected using purposive sampling, and data were collected using a demographic-obstetric form including age and obstetric information, Cranley's Maternal-Fetal Attachment questionnaire, and Bem's Gender Role questionnaire. To analyze the data, Pearson product-moment coefficient and multiple regressions were performed, using SPSS version 16.

Results: There was a statistically significant correlation between MFA and femininity and masculinity components of gender role. Maximum correlation was noted between masculinity and MFA (R=0.33, P<0.001) and between femininity and MFA (R=0.24, P=0.009). However, there was no correlation between neutrality and MFA (R=0.12, P=0.084). Almost 14% of the variance in MFA was explained by gender role. According to regression coefficients, the femininity (β=0.159, P=0.015) and masculinity indicators (β=0.266, P=0.001) could predict MFA, while neutral component (β=0.109, P=0.064) did not predict MFA.

Conclusion: Gender role is part of mental health that predicts MFA during pregnancy. As maternal mental health can be promoted by identifying mothers based on gender role, to promote behavioral attachment, healthcare providers can identify mothers who need additional psychological support during pregnancy in health centers and improve MFA behaviors during prenatal care.

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Introduction

In modern societies, fetal health that lays the foundation of life is of great importance. Maternal concept is part of the feminine gender role [1], a significant part of which is the unique relationship experience between mother and child that begins with maternal-fetal attachment (MFA) during pregnancy [2]. Therefore, maternal mental health during pregnancy plays a crucial role in promoting fetal health, which in turn, affects mental health during later stages of life [3]. One of the effective factors in mental health is gender role. From a philological perspective, gender role refers to the behavioral, social, and mental characteristic of women and men that are known as femininity and masculinity [4]. Fetal attachment refers to the interaction and bonding with an unborn child [5].

MFA is manifest in behaviors demonstrating care and commitment to the unborn child and includes adequate nutrition, avoidance of harmful drugs and substances such as alcohol,

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and relaxation during pregnancy [6].

Attachment is a method for conceptualizing and measuring the quality of romantic relationships between two individuals, its typical feature is the emotional bond between two persons that creates a sense of psychological safety [7]. MFA theory indicates a strong relationship between parents and the fetus during prenatal period [8]. The maternal-fetal relationship appears to be associated with psychological health and might play an important role in identifying mothers who need additional support during pregnancy [9]. Maternal concept and adaptation to pregnancy are dependent on cognitive representations of the fetus [10].

Gender role refers to a set of beliefs about masculinity and femininity; it includes information about physical appearance, attitudes, interests, traits, social relationships, and job, which are interrelated [1]. Feminine and masculine gender roles are two independent dimensions; however, both genders have some femininity and masculinity, as well [11]. Various biological and environmental factors and experiences can affect gender role [12].

There are different patterns to explain the gender roles (femininity and masculinity). According to the two-dimensional model propounded by Bem, each individual can assumes both gender roles at the same time [13]. Based on this model and the explanation of psychological health, those who face life events with the behavioral capabilities of both genders have high mental health [14]. Expressive and practical words are used for the conceptualization of masculinity and femininity [15]. In a study performed by Lippa (2002), a considerable overlap was found between two practical and expressive personality traits in terms of gender roles [16].

Schema is a term associated with cognitive psychology, which determines how people think, learn, process, and remember data. Bem believed that people have different gender schemas, which are obtained from data gathered by the person about a gender in family, culture, and society during his/her life [17].

Thus, according to Bem's theory, high levels of both sexual traits in the individual can constitute gender adaptive features. Healthy, compassionate individuals encounter problems easily, make decisions without hesitation and indecision, and can endure mental pressure [18].

Training interventions aimed at increasing sensitivity and maternal attachment to the fetus through activities such as touching and recording fetal movements during pregnancy can lower anxiety during pregnancy and increase MFA after delivery [19].

To the authors' best knowledge, this is the first attempt to investigate the relationship between MFA and gender roles. In this study, we purported to predict MFA according to gender roles in pregnant women, in so doing, the level of fetal attachment in mothers with a masculine or feminine gender role was evaluated.

Materials and Methods

This descriptive, correlational study was conducted on 171 primiparous and multiparous women of more than 24 weeks of gestation, referring to the Obstetrics and Midwifery Department of Kowsar Hospital, Shiraz, Iran, during May-June 2015. The subjects were selected using purposive sampling, and data were collected using a demographic-obstetric form including age and obstetric information, Cranley's Maternal-Fetal Attachment questionnaire [5], and Bem's Gender Role questionnaire [17].

The inclusion criteria were Iranian nationality, primiparous and multiparous pregnant women, aged between18 and 40 years, ability to read and write, gestational age of above 24 weeks, single pregnancy, and planned pregnancy without any obstetric problems. The exclusion criteria were patients with previous history of infertility or chronic mental or physical diseases in women.

Before initiating the study, the approval of the Ethics Committee of Islamic Azad University of Shiraz was obtained, the subjects were assured of the confidentiality of the data, and informed consent was obtained from all the participants. After explaining the objectives of the study to the mothers (with regard to ethical principles for medical research), sampling was performed. Sample size of the study was determined to be 200 women using Morgan's table. After eliminating incomplete questionnaires, 171 participants remained in the study.

Data collection tools consisted of demographic-obstetric form, investigating demographic and current pregnancy status (i.e., maternal age, gestational age, parity, age of marriage, and history

of abortion), which was completed at the beginning of the study. Bem's Gender Role questionnaire is a 30-item scale rated using a 7-point Likert scale (1=completely incorrect, 2=incorrect, 3=almost incorrect, 4=I don't know, 5=almost correct, 6=correct, and 7=completely correct). The questionnaire was validated in Iranian population by Ali Akbari (20), and includes three subscales of femininity (11 items), masculinity (11 items), and neutral (8 items) (20).

The reliability of this scale, as estimated by Bem, is 0.90 [18]. The Cronbach's alpha is reported to be 0.80 in Iran. The component coefficients for femininity and masculinity were 0.82 and 0.78, respectively [20].

Canley's Maternal-Fetal Attachment question-nnaire was first applied by Cranley (1981) and its validity (0.85) was confirmed [5]. Jamshidimanesh et al. confirmed content validity (0.83) of the Farsi version. This questionnaire consists of 24 statements, rated using a 5-point Likert scale (5=strongly agree, 4=agree, 3=not sure, 2=disagree, and 1=strongly disagree). Item 22 was reverse scored. The minimum and maximum scores were 24 and 120, respectively, with higher scores indicating stronger attachment [21]. Abbasi et al. also confirmed the validity of the Farsi version using content validity (2010) [22].

To analyze the data, Pearson product-moment correlation and multivariate regression were run, using SPSS version 16. P-value less than 0.5 was considered statistically significant.

Results

The mean age of the participants was 30.75±4.84 years, the majority of whom (n=115, 67%) were aged between 18 and 30 years. The mean number of parities was 1.87±0.93 and the majority of the subjects (n=123, 72%) were primiparous. Mean gestational age was 30.50±7.25 weeks and the majority of the subjects (n=99, 58%) were within 24-32 weeks of gestation. The mean duration of marriage was 9.77±0.17 years, and the mean numbers of abortion was 0.26±0.39. The total mean score of MFA was 95.53±9.69.

Among gender role indicators, femininity, masculinity, and neutral indicators had the mean scores of 69.13±5.62, 59.69±7.56, and .92±5.1, respectively (Table1). Our results showed a statistically significant correlation between MFA and femininity and masculinity components of gender role. Maximum correlation was noted between masculinity and MFA (R=0.33, P<0.001), and then, between femininity and MFA (R=0.24, P=0.009). There was no correlation between neutral gender role and MFA (R=0.12, P=0.084; Table1).

Almost 14% of the variance in MFA was explained by gender role (Table 2). Considering the comparison of regression coefficients, the femininity (β=0.159, P=0.015) and masculinity indicators (β=0.266, P<0.001) could predict MFA, while neutral component (β=0.109, P=0.64) did not predict MFA (Table 2).

Discussion

The present study exhibited a significant positive relationship between MFA and feminine gender role, that is, MFA was predicted by feminine gender role. In this regard, maternal concept is part of the feminine gender role [1], and an important part of maternal concept is the unique relationship experience between mother and child, beginning with the MFA during pregnancy that is part of the gender role [2].

The mere knowledge about a woman implies certain physical characteristics (e.g., soft voice,

Table 1. Distribution of demographic and gender role variables and correlation between demographic /gender role with maternal-fetal attachment

Variable	Mean±SD	Subgroups	N(%)	R	P
Age	30.75±4.84	18-30years 30-40years	115(67%) 56(33%)	0.050	0.518
Gestational age	30.50±7.25	24-32weeks	72(42%)	0.039	0.617
Parity	1.87±0.93	1 child >1 child	123(72%) 43(28%)	0.190	0.013
Marriage age	9.77±0.17			0.069	0.436
Femininity	69.13±5.62			0.270	0.009
Masculinity	56.96±7.56			0.331	<0.001
Neutral	33.92±5.11			0.123	0.084

Table 2. Regression coefficient of gender role and demographic variables as predictors of maternal-fetal attachment

Predictors	β	Standard error	β*	t	P	R^2
Age	-0.234	0.181	۰,۱۱۷	۰,۲۹۷	۰,۱۹۷	
Gestational age	0.105	0.114	۰,۰۷۹	۰,۹۲۳	۰,۳۵۷	
Parity	1.884	۰,۹۶۱	۰,۱۸۳	۱,۹۶۱	۰,۰۵۲	
Marriage age	0.184	۰,۱۱۸	۰,۱۱۷	۱,۵۵۸	۰,۱۲۱	
						۰,۱۴۳
Femininity	0.272	۰,۱۲۹	۰,۱۵۹	۲,۰۳۱	۰,۰۱۵	
Masculinity	0.340	۰,۰۹۳	۰,۲۶۶	۳,۳۸۶	<0.001	
Neutral	0.206	۰,۱۴۵	۰,۱۰۹	۱,۴۹۲	۰,۰۶۴	

delicate, and beautiful), psychological traits (e.g., kind, dependent, weak, emotional), and doing special activities (e.g., childcare, cooking, and gardening) [1].

According to former studies, fetal attachment is closely related to mother's emotional conflicts, maternal-child relationship, and relationship with others [2]. Results of previous studies confirm the correlation between femininity (maternal role) and MFA. Thus, maternal role, considered as feminine traditional role, can predict MFA.

The findings of the current study indicate a positive correlation between MFA and masculine gender role. Some studies investigated the psychological consequences of bisexuality in gender role and concluded that women with only feminine role are faced with greater psychological health problems, while women with androgynous personality traits (both femininity and masculinity) are more flexible in maternal care and experience less sexual dissatisfaction [23].

Gender socialization is currently considered, which suggests that men and women can assume the role of the opposite gender. They can behave properly based ontheir special personality, rather than their gender [27]. Therefore, given the results of this study, mothers with masculine trait can assume maternal role, as well.

The present study showed a significant correlation between MFA and both masculine and feminine roles. Considering Bem's theories, the results revealed that individuals with androgynous features have higher mental health and are more pleased with marital, parental, and interpersonal relationships [24]. The findings of Mahalei, Lefkowitz, and Zeldow were consistent with those of the current study and showed a significant relationship between mental health and gender role [26, 27]. The presence of a high level of both sexual traits in the individual shapes gender adaptive features. Healthy, compassionate individuals, solve problems easily, make decisions without hesitation and indecision, and can endure encounter mental pressure [18].

These results were in agreement with the correlation between masculinity and MFA as an indicator of mental health. Although this study showed a positive relationship between MFA and gender role, some controversial results have been reported. For instance, Cranley found no relationship between maternal emotion after birth and MFA (5). In this regard, Barimnejad et al. (2011) [29] and Vakilian et al. (2008) [25] suggested that there was no significant correlation between MFA and caring behaviors. According to the finding of the present study, no significant correlation was found between MFA and neutral trait of gender role.

Considering the importance of Bowlby's attachment theory [28], fetal-maternal emotional bond is the basis of all future relationships, and healthcare providers can improve MFA behaviors during prenatal period. Despite the researchers' effort to eliminate and control the confounding factors, some of them were out of control. One of the limitations of this study was that differences in personalities and emotional status of the participants affected their responses to the questionnaires.

Conclusion

Gender role is part of mental health that predicts MFA during pregnancy. Since maternal mental health can be improved by identifying gender role, to promote behavioral attachment, healthcare providers can identify mothers who need additional psychological support during

pregnancy in health centers and improve MFA behaviors during prenatal care.

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Conflicts of interest

The authors declare no conflicts of interest.

References

1. Ruble DN, Martin CL, Berenbaum SA. Gender development. Trans: Golombok S, Phishi R. Tehran: Ghoghnoos Press; 2002 (Persian).
2. Coleman PK. Induced abortion and increased risk of substance abuse: a review of the evidence. Current Women's Health Reviews. 2005; 1(1):21-34.
3. Siddiqui A, Hägglöf B. Does maternal prenatal attachment predict postnatal mother-infant interaction? Early Human Development. 2000; 59(1):13-25.
4. Pryzgoda J, Chriler JC. Definitions of gender and sex: the subtleties of meaning. Sex Roles. 2000; 43(7-8):553-569.
5. Cranley MS. Development of a tool for the measurement of maternal attachment during pregnancy. Nursing Research. 1981; 30(5):281-284.
6. Salisbury A, Law K, LaGasse L, Lester B. Maternal-fetal attachment. JAMA. 2003; 289(13):1701.
7. O'Connor E, McCartney K. Attachment and cognitive skill: an investigation of mediating mechanisms. Journal of Developmental Psychology. 2013; 28(5):458-476.
8. Anna RB. A history of theory of prenatal attachment. Journal of Prenatal & Perinatal Psychology & Health. 2009; 23(4):201-222.
9. Walsh J, Hepper EG, Bagge SR, Wadephul F, Jomeen J. Maternal–fetal relationships and psychological health: emerging research directions. Journal of Reproductive and Infant Psychology. 2013; 31(5):490-499.
10. Rubin R. Maternal tasks in pregnancy. Maternal-Child Nursing Journal. 1975; 4(3):143-153.
11. Spence JT, Helmrich RL. Masculinity and femininity: their psychological dimensions, correlates, and antecedents. Austin: University of Texas Press; 1978.
12. Hines M. Gender development and the human brain. Annual Review of Neuroscience. 2011; 34:69-88.
13. Bem SL. The measurement of psychological androgyny. Journal of Consulting and Clinical Psychology. 1974; 42(2):155–162.
14. Barens AL. Mental health in young females: a gender perspective. Bombay Psychologist. 1997; 14(2):37-45.
15. Spence JT. Gender-related traits and gender ideology: evidence for a multifactorial theory. Journal of Personality and Social Psychology. 1993; 64(6):624-635.
16. Lippa RA. Gender-related traits of heterosexual and homosexual in men and women. Archives of Sexual Behavior. 2002; 31(1):83-98.
17. Bem SL. Bem sex-role inventory: professional manual. Palo Alto, CA: Consulting Psychologists Press; 1981.
18. J Woodhill BM, Samuels CA. Desirable and undesirable androgyny: a prescription for the twenty-first century. Journal of Gender Studies. 2005; 13(1):15-28.
19. Kim JS, Cho KJ. The effect of mother-fetal interaction promotion program of talking and tactile stimulation on maternal fetal attachment. Korean Journal Child Health Nursing. 2004; 10(2):153-164.
20. Aliakbari Dehkordi M, Mohtashmi T, Hasanzadeh P. The study of psychometric characteristics in short form Bem`s Sex-Role Inventory with emphasis on factor analysis in Iranian population. Social Cognation. 2012; 1(1):44-58 (Persian).
21. Jamshidimanesh M, Astaraki L, Behbodi Moghadam Z, Taghizade Z, Haghani H. Maternal-fetal attachment and its associated factors. Journal of Hayat. 2012; 18(5):33-45 (Persian).
22. Abasi A, Tafazoli M. The effect of training attachment behaviors on primipara maternal fetal attachment. Scientific Journal of Hamedan Nersing and Midwifery Faculty. 2009; 17(1-2):35-45 (Persian).
23. Yarcheski A, Mahon NE, Yarcheski TG, Hanks MM, Cannella BL. A meta-analytic study of predictors of maternal-fetal attachment. International Journal of Nursing Studies. 2009; 46(5):708-715.
24. Barimnejad L, Mehrnoosh L, Seyed-Fatemi N, Haghani H. The effect of empowerment program on mother infant interaction and weight gain in preterm infants. Zahedan Journal of Research in Medical Sciences. 2012; 14(9):19-23 (Persian).
25. Taylor MC, Hall JA. Psychological androgyny: theories, methods, and conclusions. Psychological Bulletin. 1982; 92(2):347-366.
26. Ehteshamzadeh P. Women's gender role development and family sanity. Woman and Culture. 2010; 1(3):51-65 (Persian).
27. Vakilian K, Khatamidoust F, Khorsandi M. Effect of kangaroo mother care on maternal attachment behavior before hospital discharge. Medical Journal of Hormozgan University. 2007; 11(1):57-63.
28. Mahalik JR, Burns SM, Syzdek M. Masculinity and perceived normative health behaviors as predictors of men´s health behaviors. Social Science and

Medicine. 2007; 64(11):2201-2209.
29. Lefkowitz ES, Zeldow PB. Masculinity and femininity predict optimal mental health: a belated test of the androgyny hypothesis. Journal of Personality Assessment. 2006; 87(1):95-101.
30. Bowlby J. Attachment and loss**.** New York: Basic Book; 1969. P. 211-253
31. Barimnejad L, Mehrnoosh L, Seyed-Fatemi N, Haghani H. The effect of empowerment program on mother infant interaction and weight gain in preterm infants. Zahedan Journal of Research in Medical Sciences. 2012; 14(9):19-23 (Persian).
32. Jamshidimanesh M, Astaraki L, Behbodi Moghadam Z, Taghizade Z, Haghani H. Maternal-fetal attachment and its associated factors. Journal of Hayat. 2012; 18(5):33-45 (Persian)
33. Abasi A, Tafazoli M. The effect of training attachment behaviors on primipara maternal fetal attachment. Scientific Journal of Hamedan Nersing and Midwifery Faculty. 2009; 17(1-2):35-45 (Persian).