

# Comparing the Personality Traits and Childbirth-related Beliefs of Two Groups of Women with Decision on Vaginal Delivery or Cesarean Section

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ARTICLE INFO	ABSTRACT
<p><i>Article type:</i> Original article</p> <hr/> <p><i>Article History:</i> Received: 26-Dec-2018 Accepted: 26-Dec-2019</p> <hr/> <p><i>Key words:</i> Belief Cesarean section Natural delivery Pregnant women Personality trait</p>	<p><b>Background &amp; aim:</b> The excessive increase in the number of cesarean sections is one of the problems of health care in all societies, including Iran. This study aimed to compare two groups of women based on their preferred mode of delivery in terms of their personality traits and beliefs toward the mode of delivery in Iran.</p> <p><b>Methods:</b> This comparative descriptive study was performed on 60 pregnant women in their last months of pregnancy, who decided for cesarean section or natural birth and were selected from doctors' offices and healthcare centers through cluster sampling technique in Birjand, Iran in 2107. Data were collected through the Big Five personality questionnaire, and two other questionnaires to measure religious attitudes and beliefs toward delivery. To analyze the data, independent t-test, and multivariate analysis of variance were employed using SPSS (version 16).</p> <p><b>Results:</b> Considering the personality traits, the mean value of extraversion was significantly different between the two groups (<math>P&lt;0.05</math>), meaning that women who preferred the natural birth were more extravert. Furthermore, there was a significant difference in terms of attitude towards mode of delivery between two groups and those who decided for the cesarean section had more positive attitude toward cesarean and negative attitude toward natural birth (<math>P&lt;0.001</math>).</p> <p><b>Conclusion:</b> Considering positive attitude of women toward cesarean section, it seems crucial that physicians, midwives, birth counselors, and the media design interventions focused on the promotion of normal birth to change the misconceptions about cesarean section and to encourage mothers to undergo natural childbirth.</p>

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## Introduction

Childbirth is one of the granted holy blessings for mankind generation on the earth, which has always existed since the creation of human beings. The childbirth mechanism is a spontaneous process without the need for intervention, which has been carried out naturally for many years.

However, the problems that may arise during this natural process lead to performing the inevitable intervention. In order to deal with this issue, the science of midwifery emerged

with the ultimate goal of successful childbirth with regard to providing maternal and neonatal health. Since the promotion of community health is indicated through the health of mothers and their neonates.

Since the healthcare index of each country is assessed through the rate of successful pregnancy and its related health care issues, these areas require special attention (1). Moreover, no one can ignore the economic dimension of pregnancy. Therefore, medical

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interventions performed during the natural process of childbirth are mainly employed to help mothers and the neonates. With the advent of science and technology over the past decades, people have reached approaches to decrease the mortality risks of a mother or fetus during the surgery (2).

Cesarean section is a surgical procedure applied in modern midwifery when performing natural delivery is harmful to both the mother and the infant. Today, after many years, the complications of this delivery method have become more evident. Complications, such as anesthesia, bleeding, embolism, postoperative infections and maternal mortality after cesarean section, in addition to maternal physical and psychological complications, increase the cost of delivery for the mother and the family by 2-3 times. Fever, uterine infections, and maternal mortality in the cesarean section are higher, compared to a natural delivery.

Moreover, cesarean section delays the opportunity (3) for maternal-neonatal interaction and breastfeeding. Considering the acceptable international delivery rate for cesarean section (15%), the available statistics suggest the high rates of cesarean section in Iran. In many societies, including Iran, the incidence of cesarean section is reported as 26-60%. Furthermore, statistics obtained from the Ministry of Health and Medical Education indicated that 53% of deliveries in private hospitals and 30% of the deliveries in government hospitals lead to cesarean section (1, 4).

Social, family, physician's recommendation, previous childbirth experience, and educational level aspects are considered as the factors affecting women's choice of delivery. Various studies have demonstrated that most pregnant women prefer cesarean section to natural delivery due several factors, including the fear of labor pain, possibility of harm to fetal health, high level of anxiety about the process of natural delivery, lack of nurses and midwiferies in maternity wards, insistence of their spouse, physician's recommendation, and insurance coverage in case of cesarean section (5).

In many cases, medical necessities do not lead to cesarean section delivery. In fact, ignorance, beliefs, behaviors, and misconceptions determine

the mode of delivery, meaning that the preference for cesarean section delivery in women has cultural, social, and psychological backgrounds (2). Generally, pregnant women are in a decision-making process regarding the selection of their mode of delivery (vaginal or cesarean section), which is affected by various factors. All people are involved in the mental process of decision-making throughout their lives. The process of decision-making is carried out in the light of culture, perceptions, beliefs, values, individual attitudes and beliefs, personality traits, and individual knowledge and insights that have a mutual effect on each other.

Previous studies have shown that cultural values and traditions can significantly affect the attitude of individuals towards delivery (6). In addition, religious beliefs and religious acts, such as saying prayers, religious songs, thanksgiving, and emotional support can have a significant effect on the type of delivery (3). It is observed that individuals with different personality types select a different type of childbirth (7). Moreover, women who select the cesarean section have a higher level of prenatal depression and anxiety (8).

In each society, there are certain beliefs, attitudes, tendencies, and patterns of behavior that need to be recognized before the development of health education programs (2, 5). The types of perceptions and beliefs of individuals play an important role in selecting the delivery mode. These beliefs originate from the information parents receive from various sources, which differ in terms of accuracy and reliability (9).

According to the viewpoint of the cognitive approach in psychology, cognitive variables (e.g., thoughts, beliefs, attributes, expectations and schemas) are the basis of human behavior and emotions.

In order to change the behaviors and emotions of individuals, their beliefs should be modified through cognitive therapy techniques and cognitive reconstruction. Based on this approach, the tendency towards cesarean section among pregnant women is often due to cognitive factors, especially their unreasonable beliefs and expectations toward cesarean section delivery.

In addition to a positive attitude toward

cesarean section and negative attitude towards natural delivery, personality traits and religious attitudes are also important factors in selecting the type of delivery among pregnant women. Some people

Really religious consider childbirth as a spiritual experience, and regard its hard moments a blessing (10). England and Horowitz also consider spirituality as an essential part of childbirth preparation. The part of religious beliefs that help people achieve the mental ability and tolerance to endure the pain of life is the search for the meaning in life, understanding the phenomena of life, the psychological power, and desire for higher spiritual levels in life (9).

As mentioned, another factor affecting the selection of delivery is personality traits. The relationship between the fear of childbirth and personality type among pregnant women was assessed in a study. According to the results, pregnant women with personality type A experienced a higher level of the fear of childbirth. In another study entitled "maternal personality traits and childbirth: the role of extraversion and neuroticism", the researchers concluded that among the personality traits, the factor of extraversion and emotional stability facilitated the process of accepting pain and delivery (11).

Most studies conducted in this field have investigated the incidence rate of cesarean section and its medical and demographic causes. On the other hand, only few studies have investigated the effect of the psychological variables on cesarean section and natural delivery. With this background in mind, this study aimed to compare the religious attitude and personality traits and beliefs related to the type of delivery in two groups of women regarding their preferred type of delivery (cesarean section and natural delivery).

## Materials and Methods

This comparative descriptive study was conducted on all pregnant women in Birjand, Iran, during 2017. Subjects were selected through cluster sampling technique, for which 5 doctor offices and 2 healthcare centers were selected out of 12 and 5 offices and healthcare centers, respectively. Sampling was carried out in the selected centers using convenience sampling method and based on sampling criteria.

Inclusion criteria were primary education, native residents, primiparous women who were in their third trimester of pregnancy. The exclusion criteria included having medical and obstetric disorders, which necessitated the cesarean section for women, and the lack of willingness to participate in the research.

In this study, data were collected using the following standard questionnaires: Big Five Personality Questionnaire (Short Form), which was designed by Khormaei and Farmani (12) based on the big five personality traits questionnaire of Goldberg (1999). The short version of this questionnaire contained 25 items. The validity of the questionnaire was confirmed using factor analysis through Varimax rotation for the main components of analysis. After the analysis, four items were eliminated and the final form of the questionnaire had 21 items (12). This questionnaire assesses five major dimensions, including openness, conscientiousness, agreeableness, extraversion, and neuroticism. In addition, the reliability of the questionnaire was estimated at the Cronbach's alphas of 0.83, 0.83, 0.81, 0.72, and 0.70 for the dimensions of neuroticism, agreeableness, conscientiousness, extraversion, and openness, respectively, which showed the acceptable reliability of the questionnaire.

Religious attitude questionnaire: This tool encompasses 15 three-alternative items, and the criterion of a religious attitude is the total score of the questionnaire. The score range of the tool is 0-36, where the higher the score, the more the religious attitude. This questionnaire has been created based on the cultural background of the country, Quranic verses, Islamic narrations, the existing questionnaires in this field, such as Golner and Alport questionnaires (13). In this study, three items of the questionnaire were removed due to the low detection ability, and the final form had 15 items. This questionnaire measures three dimensions of the beliefs, emotional, and ritual aspects. The reliability of the mentioned dimensions and the whole questionnaire were reported as 0.78, 0.75, 0.80, and 0.76, respectively, demonstrating a good internal consistency and acceptable reliability.

This researcher-made questionnaire was designed and validated along with the present

research in another study (Khooban & Asadi Younesi, 2017). Using major component methods and Varimax rotation, 4 factors and 27 items were extracted, as follows: 1) attitude toward natural delivery (11 items), 2) attitude toward cesarean section (5 items), 3) positive outcomes of cesarean section (5 items), and 4) negative outcomes of cesarean section (6 items). These factors explained 70% of the total variance. In addition, the Cronbach's alphas of the mentioned factors and the whole questionnaire were estimated at 0.94, 0.90, 0.84, 0.77, and 0.88, which showed proper internal consistency and acceptable internal consistency.

To collect data, at first, the researcher explained the objectives of the study to the participants and received a written informed consent prior to the study. After the collection of 78 questionnaires and based on the final question at the end of the questionnaire: "In case of ability to select the type of delivery (with no specific problem that limits selection), what is your preferred type of delivery?", the subjects were divided into two groups. In total, 30 and 48 individuals selected natural childbirth and cesarean section, respectively. Afterwards, the two groups were aligned based on age, and from 48 individuals who preferred the cesarean section, 30 women aligned with the group of natural delivery, were in the study and the rest were excluded from the research. Therefore, the data related to 60 individuals who decided either for cesarean section or natural birth (30 in each group) were analyzed.

Considering the presence of one independent variable (group) and three dependent variables and with regard to the fact that each dependent variable had various dimensions and components, data analysis was performed in SPSS (version 16) using MANOVA. In addition, P-value less than 0.05 was considered statistically significant.

## Results

In order to perform the MANOVA test, the conditions for its application, such as the normality of variables, homogeneity of variance covariance matrix, and the correlation between pair of dependent variables, were evaluated. The results of the normal distribution of variables based on Kolmogorov-Smirnov and Shapiro-Wilk tests indicated that some components of the

studied variables were far from a normal distribution. However, the distribution of all the investigated variables can be assumed normal based on the two indices of kurtosis and skewness in the range of +2 to -2. In addition, Bartlett's test of sphericity was utilized, the significance of which was indicative of a sufficient correlation between dependent variables to perform MANOVA. The results of the MBOX test also showed the equality or homogeneity of variance-covariance variables.

As previously mentioned, there were three dependent variables in the present research, each having various dimensions and components. Therefore, after evaluating the assumptions of the test, three one-way MANOVA tests were performed to assess the presence of significant differences in the multivariate sample means. Four multivariate tests, including the Pillai's Trace, Wilks Lambda test, the Hotelling effect, and Roy's largest root test, are usually used in MANOVA. All these tests yield the same results except in specific circumstances. Typically, Wilks Lambda test has been reported in most studies literature. In case M box test is significant (i.e., heterogeneity of variance-covariance matrices), the Pillai's Trace is reported.

The results of the Wilks Lambda test for the three categories of dependent variables in the present study are shown in Table (1). There was a significant difference between the two groups in the linear composition of the variable subscales of attitude toward the type of delivery ( $P < 0.001$ ).

The inter-group comparison test was used to examine the patterns of differences in each subscale of the dependent variables (Table 2). There were significant differences within the three components of the belief toward the type of delivery (i.e., attitude towards natural delivery, cesarean section, and positive outcomes of the cesarean section). Regarding the means of the two groups, the mean values of the components of the negative attitude toward natural delivery, the positive attitude toward cesarean section, and the positive outcomes of cesarean section in women who preferred cesarean section were significantly higher, compared to the corresponding values in the group of women who preferred natural delivery.

**Table 1.** Results of MANOVA for the comparison of dependent variables of the two groups

Dependent variable	Wilks Lambda	F statistic	Df assumption	Df error	sig.
Religious attitude with three subscales	0.99	1.11	3	56	0.35
Personality traits with five subscales	0.85	1.92	Δ	54	0.11
Attitude toward type of delivery with four subscales	0.50	13.83	4	55	p<0.05

**Table 2.** Results of the intergroup test of the subscales of dependent variables in two groups

Dependent variable	Subscales	Mean±SD		t-test statistic	(sig.)
		Natural delivery	Cesarean section		
Religious attitude	Religious beliefs	21.62±3.42	22.03±2.67	.28	.60
	Religious emotions	20.57±3.74	19.48±3.71	1.27	.22
	Religious rituals and acts	10.31±3.42	10.57±3.13	.09	.76
Personality traits	Neuroticism	9.43±3.50	10.63±2.53	2.32	.13
	Agreeableness	13.87±3.18	13.27±2.95	.55	.46
	Conscientiousness	12.33±2.64	11.73±3.03	.668	.42
	Extraversion	13.63±2.25	12.36±2.11	5.13	.03
Attitude toward the type of delivery	Openness to experience	10.37±2.17	10.93±1.51	1.38	.25
	Negative attitude toward natural delivery	21.40±9.60	35.29±11.09	26.90	<0.001
	Positive attitude toward cesarean section	5.97±5.32	13.57±5.79	41.57	<0.001
	Positive outcomes of cesarean section	5.61±3.91	13.57±5.79	38.92	<0.001
	Negative attitudes of the cesarean section	17.15±6.40	15.75±4.17	1.02	.32

In terms of extroversion, according to the mean values of the two groups, the mean component of extraversion in women who preferred cesarean section was more than its corresponding value in the group of women who preferred natural delivery. In other words, women who preferred the natural delivery were more likely to be an extravert, compared to those who supported cesarean section (P<0.05).

**Discussion**

According to the results of the present study, there was no significant difference between the two groups of women regarding their religious attitudes. In this regard, findings of the current study were in line with the results obtained by Vazirinejad et al., who evaluated the effect of adherence to religious orders among pregnant women on the choice of delivery in a case-control study on an Iranian population. According to the results of the mentioned study, there was no significant difference between the distributions of people based on the matched variables in the two groups. Both groups had a good religious level and received desirable grades, compared to the maximum score. In addition, no significant difference was found

between the mean values of mothers with natural delivery and mothers undergoing cesarean section (14). Among the personality traits, the t-test demonstrated significant differences in mean values of extraversion in the two groups, thereby rejecting the assumption of equal means of these components in two groups with more than 95% confidence level. In other words, and based on the mean values of the two groups, the mean of extroversion in women who preferred natural delivery was higher, compared to its corresponding value in the group of women who preferred cesarean section. In other words, women who preferred natural delivery were more extravert, compared to those who preferred the cesarean section. This means that women are affected by their fear of natural delivery, which has been considered as one of the main reasons for the tendency toward a cesarean section in many studies. Nasiri and Sharifi also concluded that pregnant women with personality type A had a higher level of childbirth fear (15). In this respect, the results of the mentioned study, as well as results obtained by Johnson and Brown are in congruence with our findings.

In a study entitled "maternal personality

traits and delivery: the role of extroversion and neuroticism", Johnson and Brown concluded that among the personality traits, the factor of extraversion and emotional stability facilitated the process of accepting pain and childbirth. Extraversion refers to a person's desire for being positive, ambitious, energetic, and intimate. This factor is indicative of the level of comfort of the person in the relationship. Extrovert people are social, affectionate, and decisive, whereas introvert individuals are self-possessed, coward, reticent, shy, and cautious (11).

Extroverts are adventurous and daring. In addition, it has been proven that introverts respond more sensitively to excitement, compared to extroverts. In addition, research has shown that introverts are more sensitive to low-level stimuli and have lower thresholds, compared to extroverts (16). The mentioned features can indirectly prevent women from perceiving labor pain and considering it as a terrible phenomenon. As mentioned before, extrovert women act more powerfully against sensory stimulation and are adventurous, which are considered as two factors that might be essential for undergoing natural delivery among women.

According to the results of the current research, three components of the belief toward the type of delivery (attitude toward natural delivery, attitude toward cesarean section, and positive outcomes of the cesarean section) were considered significant ( $P < 0.05$ ). Therefore, the hypothesis of equality of means of these components with a confidence level above 95% is rejected in this study. In other words, women who selected the cesarean section had a more positive attitude, compared to their counterparts in the natural delivery group.

In this respect, the findings of the current study were consistent with the results obtained by Latifnejad et al. (9), who also assessed cultural beliefs and their role in selecting the type of delivery. The obtained results revealed that pregnant women, women undergoing natural delivery, and those undergoing cesarean section differ significantly in terms of their attitude to delivery. Women who selected natural delivery as their preferred method also had a more positive attitude. In this regard, other studies, such as the one conducted by Salehian et al., reported that

positive attitudes and beliefs toward cesarean section were among the important factors for selecting cesarean section in their investigated population (17). Several other researchers also found a significantly high correlation between the tendency to cesarean section and positive beliefs toward this notion (4).

The results of the mentioned studies and present one indicated that in many cases, medical necessities do not lead to delivery in the form of the cesarean section. However, ignorance, beliefs, behaviors, and inappropriate attitudes determine the delivery method. This means that in several cases, the preference of cesarean section in women has cultural, social, and psychological roots. Today, in many societies, the delivery by cesarean section has become a culture, and more than half of the women voluntarily undergo cesarean section (18). Therefore, the first step toward changing the misconceptions about cesarean section delivery is the recognition of these beliefs which derive humans to perform specific behaviors.

The religious thoughts and attitudes are not properly expressed in Iran, because it is considered a confidential part of each person's life; therefore, religious beliefs are not investigated correctly. In addition, gynecologists had financial constraints and time limitations. Another limitation was the low knowledge level of mothers about social interactions.

## Conclusion

According to the results of the current research, religious attitude and personality traits, except for extroversion factor, caused no significant difference between the two investigated groups in terms of their preference to the type of delivery. Among the investigated variables, the variable of belief in the type of delivery led to a greater difference between the two groups. Regarding the effect of attitude toward cesarean section and natural delivery on the type of delivery, and maternal and neonatal health, it seems crucial to design interventions in this area to change the misconceptions about cesarean section delivery. The encouragement of mothers to participate in training sessions about the nature of natural delivery and cesarean section, benefits of natural delivery and the disadvantages of cesarean section, reinforcement of the beliefs of the natural

delivery, and modification of the beliefs toward cesarean section can reduce the fear and anxiety caused by natural delivery. Moreover, teaching methods to adapt to natural delivery and culture building to promote natural delivery by physicians, birth counselors, and the media can encourage mothers to undergo natural delivery.

The findings of the current study and the results of similar studies clearly suggested that women in our country are not fully aware of the types of delivery as well as their disadvantages and actual benefits, which is mainly responsible for improper attitudes in this regard. Furthermore, despite the religious beliefs in our society, the existing capacity has not been used to educate and promote the issue that natural birth is preferable when there is no risk.

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### Conflicts of interest

The authors declare no conflicts of interest.

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