

Development and Validation of the Attitude Towards Surrogacy Scale in a Turkiye Sample

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ABSTRACT

Background: Surrogacy is one of the options a lot of ethical, legal and psychological controversy. Surveying attitudes toward surrogacy plays an important role in building awareness of this phenomenon in the society. In this study authors aimed to develop and validate a scale to assess the attitudes towards surrogacy.

Methods: In this study cross-sectional design was implemented. Development process of the Attitude towards Surrogacy Scale (ATSS) included items development based on literature reviews, other existing questionnaires, confirmatory factor analysis (CFA), and reliability analysis using internal consistence coefficients. A total of 272 people residing in Büyükçekmece and Beylikdüzü districts of Istanbul were included in the study. Firstly, conceptual structure and item pool were created for the draft scale created by the researchers. Then, the question pool was submitted to expert opinion. After the expert opinion, a pilot study was applied to the statements in the draft scale. After the test-retest reliability was performed, the data collection phase started. Participants who agreed to participate in the study were reached both face-to-face and online. Convenience sampling method was used to reach the participants.

Results: IBM SPSS and IBM AMOS package programmes were used to analyse the data obtained within the scope of the study. In the data analysis, firstly, item analysis was performed for internal consistency reliability. After this stage, structural validity analysis was used. As a result of the analysis, a measurement tool consisting of 4 dimensions and 24 statements expressed as “positive impact, negative impact, legal impact and economic impact” was developed. It has been statistically determined that this measurement tool is valid and reliable.

Conclusion: The results obtained show that the scale developed for the perception of surrogacy has validity and reliability. Therefore, the “scale developed for the perception of surrogacy” can be used to measure the perception of surrogacy of people in our country.

Keywords: Surrogacy, Attitude, Attitude Scale, Validation

Background

Humans are born, grow, reproduce and eventually die. Reproduction, in other words, the continuation of the generation, is among the most basic impulses of all living things. However, this urge may not be possible for all living things. When demographic studies conducted since the 1950s are analysed, it is reported that birth rates are decreasing every year [1]. Especially in recent years, with the introduction of new technologies into human life, it has become possible for individuals who do not have the ability to reproduce under normal conditions to have children. This situation has negative as well as positive aspects. The reproductive system, which is particularly sensitive to environmental factors, is the system most affected by this change [2].

Infertility is the inability of couples who want to have a child to become pregnant despite having unprotected and regular sexual intercourse (twice a week) for more than 12 months [1]. It is known that between 48 million and 186 million couples worldwide have infertility problems. In the light of the World Health Organisation (WHO) data, it is seen that one out of every six people worldwide has an infertility problem covering a period of their lives. The prevalence of infertility problem throughout human life is estimated to be 17.5 [3]. In the study conducted by Bayu et al, it was concluded that 10% to 15% of couples in the world have infertility problems. In another study conducted in Iran to determine the prevalence of infertility, it was reported that the infertility rate was 7.88% [4]. In the meta-analysis study conducted by Nik Hazlina et al, it was concluded that the rate of infertility was 46.25% [5].

The problem of infertility, i.e. the inability of couples to have children, deeply affects marriages, can lead to divorce, polygamy or adultery, exposure of women to bullying, violence, stigmatisation and even social exclusion, and many negative personal, familial and social consequences. With the developing medical technology, various solutions to infertility treatment continue to be offered. Thanks to the technological developments in reproductive medicine, assisted reproductive techniques that have found application areas and have resulted in success have been defined. Assisted reproductive techniques such as IUI (Intra Uterine Insemination), GIFT (Intrafallopian Transfer of Gametes), ZIFT (Intrafallopian Transfer of Zygotes), IVF-ET (Invitro Fertilisation and Embryo Transfer), ICSI (Intra Stoplasmic Sperm Injection) are used for infertile couples. Apart from these treatment options, infertile couples can also have a child through surrogate motherhood [6].

The concept of surrogacy is defined in the most general sense as a woman becoming pregnant and giving the child to another individual or individuals. The concept of surrogate motherhood is becoming more and more popular day by day due to the increasing number of women with serious uterine disorders who do not have homosexual tendencies and who cannot have children, the spread of infertility, the desire of individuals to have children without marriage, and the desire of individuals with homosexual tendencies to become parents. This increase brings along legal, ethical, commercial and political problems. What is important here is to realise ethical and legal regulations that will protect the surrogate mother and to put forward regulations that will protect the future parents [7-13].

In surrogate motherhood, the woman who carries the child, i.e. the woman who becomes pregnant, is called a surrogate mother [14]. Depending on the procedure applied to the surrogate mother, the concept of surrogacy is basically realised in two different ways. These concepts are called traditional and gestational surrogacy. In traditional surrogacy, the surrogate mother who carries/conceives the child also donates her own egg. This is proof that the surrogate mother is actually the genetic mother of the child. Another concept other than traditional surrogacy is gestational surrogacy. In this case, the surrogate mother's own egg is not donated; instead, the embryo formed by the fertilisation of the egg taken from a woman other than the surrogate mother and the sperm taken from the father is transferred to the woman without any biological or genetic contribution. In gestational surrogacy, there is no biological link between the surrogate mother and the child [8,9,15]. Whether by traditional or gestational methods, if the surrogate mother earns any income for surrogacy, she is called a mother for hire, and if she performs this procedure without any charge, she is called an altruistic mother. In surrogacy practice, it is considered normal for the surrogate mother to be paid [16]. Another way of defining a surrogate for hire is commercial surrogacy. In commercial surrogacy, the surrogate mother not only receives a fee after giving birth, but also earns a monthly income during pregnancy. Being a surrogate mother is a source of financial income, especially for women who are poor and have no other choice [17]. India is the country with the highest progress in commercial surrogacy. Both the legal regulations and the fact that people with low purchasing power see this situation as a commercial door reveals a tendency in this direction. There are people coming to India from various parts of the world

for surrogacy tourism [18,19]. In cases where there are no or insufficient regulations on surrogacy in their own countries, individuals engage in surrogacy activities internationally. This leads to legal violations, economic unethical behaviour and problems in the delivery of the baby to the foreign family. A woman who agrees to be a surrogate mother to an individual or a couple in another country may face many different problems if there are no legal regulations in her own country. There is a prevailing opinion that international legislation on this issue should be clearer and prevent unlawful behaviours [20].

When the history of surrogacy is examined, it is possible to see that this situation dates back to 2000 BC. In these periods, the concept of surrogate motherhood is known to be realised in the form of the father having a child naturally from a slave other than his wife and then taking the child from the slave [21]. Although this situation is similar to traditional surrogacy in modern medicine, the question of whether this procedure was adopted with consent or with an oppressive attitude in the past raises ethical problems.

What is more, globally the legal framework for surrogacy does not exist, thus there are different legal regulations of surrogacy across countries. Countries such as Russia and Ukraine allow commercial and altruistic surrogacy, whereas The United Kingdom, Australia, and Canada legally allow only altruistic surrogacies. In contrast, Germany, France and Italy are among countries, which ban all forms of surrogacy [22]. In Turkey, surrogacy is not a legal practice and is prohibited. However, it should not be forgotten that there are people who give birth to their babies and give them to their siblings/relatives who do not have children. Surrogacy, which was initially applied only by infertile married couples, has become a method applied by many people such as single men or women who have never been married, women or men whose spouse has died in order to have a child. To summarise, it is possible to say that surrogate motherhood is being used by more and more people today, whether they are married or not.

When the literature is analysed, it is seen that studies on surrogacy in Turkey are examined from legal and religious perspectives. It is also seen that there is no scale development study based on the society of the Republic of Turkey and including surrogacy. Based on all these reasons; with the idea that there is a need for a measurement tool to reveal the perceptions of the citizens of the Republic of Turkey on surrogacy, this study aims to introduce the surrogacy perception scale to the literature.

Materials and Methods Measure

The study had a cross-sectional design. The development process of the Attitudes towards Surrogacy Scale (ATSS) was based on theoretical and practical knowledge and consisted of a few stages. While preparing the scale format to be applied to the participants who voluntarily accepted to participate in the research, the conceptual structure was put forward in accordance with the literature after a comprehensive review of the literature on the subject. Accordingly, a question pool was developed by the researchers [9,10,16-18,20].

The factors that have an effect on the perception of surrogacy were determined as positive effect, negative effect, legal effect

and economic effect. The purpose of presenting the conceptual model of the research is to determine the structural relationships between the factors. In the naming of the scale sub-dimensions, the expressions that best explain the items collected under the factor were included. The scale sub-dimensions are as follows.

Positive Impact Factor: It is the factor that includes the statements that individuals who cannot have a child with traditional methods or who want to have a child other than the traditional method provide positive feedback about surrogacy practice.

Negative Impact Factor: The factor that combines the items stating that surrogacy is absolutely unacceptable and the reason for this is cultural, religious, etc. is expressed as the negative impact factor.

Legal Impact Factor: It is the factor that includes the items stating that surrogacy should be carried out within the legal process and that this process has legal reasons and consequences.

Economic Impact Factor: The factor that includes the statements that surrogacy practices are carried out in some way, whether through legal or illegal processes, and if it is done, profit should be made from this situation is named as the economic impact factor.

Ethical Approval

The study had a cross sectional design and was approved by the Research Ethics Board at the University of Esenyurt (number 2023/03-30) and abided by the standards of the Declaration of Helsinki. Consent was obtained from the individuals who participated in the research. Participation in the research process is entirely voluntary.

Procedure

An on-line survey was constructed using the Forms website and took approximately 15 min to fill out. Te invitations to participate in this study were distributed through various on-line institutional web sites and other websites such as social platforms. Participation in the project was voluntary and could be discontinued at any time. Informed consent to participate in the study has been obtained from all the participants. All items required a response throughout the whole study – i.e., participants could not complete the questionnaire without leaving an answer to each question

Participants

The population of this study consists of individuals over the age of 18 who have a residence certificate in Büyükçekmece and Beylikdüzü districts of Istanbul. Among these individuals, 272 individuals over the age of 18 were included in the study. There are different opinions about the number of samples to be included in the research in scale development studies. According to one opinion, it is stated that the number of samples in scale development studies should be at least 5 or 10 times the number of scale expressions, while another opinion is that the number of participants should be 260 or more [24,25]. In this study, reaching 272 people is considered sufficient both because it is more than 260 and because the 24 statements in the final version of the scale are more than 5 or 10 times more. In this case, it is an indication that the sample represents the universe.

Statistical Analysis

Within the scope of the research, the data were first collected from the participants and then these collected data were subjected to analysis. Package programmes were used to analyse the data. These package programmes are IBM SPSS and IBM AMOS package programmes. In the analysis of the data, linear factor analysis was applied under structural equation modelling. Confirmatory factor analysis is used in scale development processes, and scales developed with this method are included in the literature [26,27]. In this study, a scale development study was carried out using this method.

Results

Reliability of Research Data and Pilot Study

The conceptual structure was created by reviewing the literature related to the scale that was needed in the literature and whose deficiency was identified and wanted to be developed. After this stage, a question pool of 33 items was created by the researchers. While creating the questions in the question pool, the opinions of 10 experts with theoretical background were taken. Out of these 10 experts, 4 of them are academicians from the faculty of business administration, 4 of them continue their academic career in the field of nursing and 2 of them continue their academic life in the field of measurement and evaluation.

After receiving the expert opinion, the statements labelled as İ11 and İ25 were removed from the scale. After this stage, a pilot study was conducted on a group of 20 people. The purpose of the pilot study was to correct errors such as expression errors and misunderstandings. At this stage, the statement numbered İ14 was removed from the scale. Afterwards, for test-retest reliability, the expressions in the draft scale were applied to 30 people twice for 3 weeks each. The Pearson correlation coefficient between the first and the next application was statistically 81% (0.81). This shows that the analyses performed on the same individuals at different times show a high degree of similarity. Since the Pearson correlation coefficient was >0.80 , it was concluded that the scale was highly reliable. After these steps, the final participant group of 272 participants was included in the research. Reliability coefficients for the sub-factors and the whole scale are presented in Table 1.

Table 1: Scale Reliability Coefficients

Factor	Number of Statements	Reliability Coefficients
Full Scale	24	0.952
Positive Impact	9	0.931
Negative Impact	8	0.928
Legal Impact	4	0.765
Economic Impact	3	0.799

When Table 1 is analysed, it is possible to see that the whole scale, positive impact and negative impact factors have a position between $0,80 \leq \alpha < 1,00$. This shows that these factors are highly reliable. It is concluded that the legal impact and economic impact factors are statistically between $0,60 \leq \alpha < 0,80$, which is reliable.

Results of Confirmatory Factor Analysis

Confirmatory factor analysis (CFA) was applied to the factors related to the perception of surrogacy and the degree of fit of the data to the hypothesised model was tested. This testing was carried out through IBM AMOS package programme. Structural validity analysis was performed with confirmatory factor analysis. The model fit diagram for this analysis is shown in Figure 1.

When the fit index result of the model shown in Figure 1 is examined, it is seen that the CMIN/df (χ^2/sd) value is 4.827. As a fit index, CMIN/df (χ^2/sd) is an acceptable value as long as it is <5 [27-30]. In this scale development study, the fact that this value was 4.827 indicates that it is an acceptable value. In other words, the data fit the model well and the construct validity of the data was ensured. As a result of the analysis, statements İ1, İ2, İ7, İ15, İ16 and İ27 did not fit the model and were removed from the scale. The results of the confirmatory factor analysis (CFA) of the relationship according to the optimised measurement model are presented in Table 2.

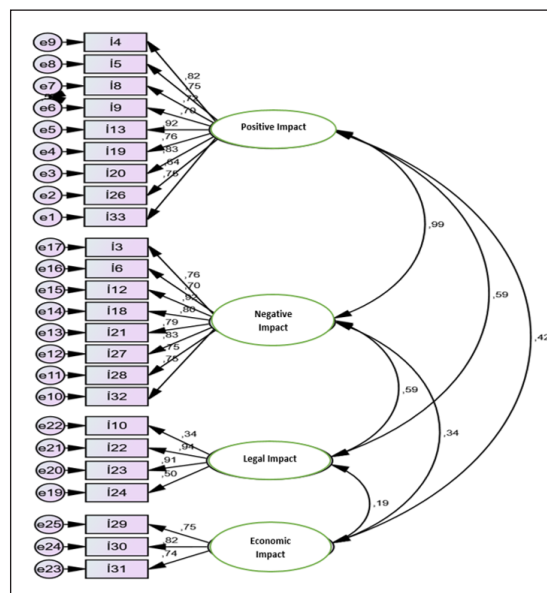


Figure 1: AMOS Diagram of the model

Table 2: CFA Results of the Improved Measurement Model

Factors	Ifade	Standardised Value	Estimate	Standard Value	T	p	AVE	CR
Positive Impact	I4. Surrogate motherhood Is a situation that I can understand.	,816	1,085	,075	14,386	***	,59	,85
	I5. The concept of surrogate motherhood may be an option for the treatment of Infertility.	,746	,998	,077	12,946	***		
	I8. Single men and/or women who have never been married can also apply for surrogacy.	,721	1,032	,083	12,466	***		
	I9. Women or men whose partner has died can also apply for surrogacy.	,703	,981	,081	12,100	***		
	I13. Surrogacy Is not Immoral.	,922	1,204	,072	16,675	***		
	I19. I do not find it right that surrogacy of any kind is prohibited in countries such as Turkey, Saudi Arabia, Pakistan, Germany, Japan and Italy.	,756	,988	,075	13,154	***		
	I20. I think it is right that some countries such as Ukraine, Cyprus and Georgia allow both commercial and non-commercial surrogacy.	,825	1,068	,073	14,571	***		
	I26. Those who do not have children among relatives can have children through surrogate motherhood.	,639	,824	,076	10,883	***		
	I33. Since surrogate motherhood enables homosexuals to have children, it is compatible with human values.	,753	1,000					
Negative Impact	I3. Surrogate Motherhood Is not an acceptable situation in my opinion.	,756	,985	,076	13,028	***	,62	,85
	I6. Surrogacy should not be an option for the treatment of Infertility.	,700	,898	,075	11,949	***		
	I12. Surrogate motherhood Is Immoral.	,916	1,141	,070	16,305	***		
	I18. I find it right that in countries such as Turkey, Saudi Arabia, Pakistan, Germany, Japan and Italy, surrogacy of any kind is prohibited.	,805	,981	,070	14,000	***		

Negative Impact	I21. I do not find it right that some countries such as Ukraine, Cyprus and Georgia allow both commercial and non-commercial surrogacy.	,787	,980	,072	13,651	***	,62	,85
	I27. I do not accept surrogate motherhood, as it is also fateful not to have children.	,833	1,043	,072	14,574	***		
	I28. Having a child through surrogate motherhood is incompatible with my religious values.	,751	,985	,076	12,924	***		
	I32. Since surrogate motherhood allows homosexuals to have children, it is not religiously appropriate.	,748	1,000					
Legal Impact	I10. In surrogacy, the surrogate mother is also the genetic mother of the resulting child.	,344	,395	,069	5,723	***	,52	,65
	I22. After giving birth to the child, the surrogate mother has rights over the child.	,943	,988	,049	20,184	***		
	I23. The surrogate mother does not have any rights over the child after giving birth to the child.	,911	1,000					
	I24. The paternity of the child born through surrogacy agreements is established with the birth mother.	,497	,527	,060	8,732	***		
Economic Impact	I29. Surrogate motherhood can bring foreign currency into the country.	,749	1,143	,106	10,833	***	,59	,78
	I30. Economic crises can be overcome with surrogate motherhood.	,820	,891	,080	11,176	***		
	I31. Surrogacy tourism should be a field in our country.	,741	1,000					

These are regression values that reveal the power of observed variables to predict latent variables, i.e. factor loadings. The “p” value for each binary relationship in this study is less than 0.001. This is an indication that the factor loadings are significant. This shows that the statements are loaded correctly on the factors. There is an opinion that in cases where the CR value is greater than 0.60, it is sufficient for the AVE to be less than 0.50 [31]. Another view is that when the AVE value is 0.40 and above, the fit validity is ensured [32]. Based on both views, it was statistically determined that the values determined in this study provided the validity of the fit.

Discussion

Surrogate motherhood is a subject that has been discussed for a long time but has not been included in the literature. In a study conducted by Poote and Van den Akker with 187 women based in England, it was concluded that 76 of the women stated that they could accept surrogacy, while 111 women had negative attitudes towards this issue [33]. In the study conducted by Carone et al. to reveal the experiences of gay fathers in Italy regarding surrogacy, semi-structured interviews were conducted with 30 Italian gay fathers residing in California or Canada who had not seen the donors who carried their children before [10]. As a result of the interviews, it was found that gay fathers who had children through surrogacy introduced the surrogate woman as the child’s aunt or auntie, and that this person was the surrogate in the emotional bond between the child.

In the study conducted by Peters et al., the data of individuals having children through surrogacy in the Netherlands were

analysed for 10 years. In this context, data were obtained from 60 parents and 63 surrogate mothers who had children through surrogacy [34]. As a result of the analyses, it was concluded that the rate of problem-free births is high and that this situation can be used as long as it does not involve a commercial unethical process. The study by Riggs et al. was conducted on 12 gay individuals who had children in this way after the regulations on surrogacy in India [24]. The aim of the study is to reveal the experiences of those who have children in this way [24]. As a result of the interviews, it was determined that gay individuals who had children through surrogacy after the legal regulation in India had both positive and negative experiences. Another situation identified is that it is thought that positive experiences will be revealed day by day. In the study conducted by MacCollum et al. it is aimed to reveal the experiences of 42 individuals who have children through surrogacy [35]. For this purpose, semi-structured interviews were conducted with 42 individuals who had children through surrogacy [35]. As a result of the interviews, it was determined that the couples applied for surrogacy after trying to conceive for a long time but not being successful, that they did not know the surrogate mother of the child before surrogacy, that they continued to stay in contact with the surrogate mother, and that they planned to tell the child about this issue in the future.

Another situation emphasized in the study is that individuals who have children through surrogacy are satisfied with this situation. In the study conducted by Jadva et al. to reveal the experiences and psychological states of surrogate mothers who have undergone the surrogacy process, interviews were

conducted with 34 women who were surrogate mothers [36]. It was determined that surrogate mothers' maternal instinct decreased over time, they were not pressured by the society, and finally they did not encounter an exclusionary attitude [36]. In the study conducted by Blake et al. to determine the experiences and motivations of those who have children through surrogacy among gay male couples; 74 fathers were interviewed. Among these 74 fathers, there are those who are genetically the father of the child as well as those who are not genetically the father of the child and those who do not genetically recognize the father of the child [37]. As a result of the interviews, it was concluded that whether or not the child has a genetic father does not have any drawbacks for having a child through surrogate motherhood, that those who have children in this way receive support from their families and close circles, and that homosexual individuals can also have children through surrogate motherhood. The study by Bergman et al. was carried out by sampling 40 gay men who became parents through surrogacy. The aim of the study was to reveal the experiences and psychological conditions of gay fathers who became parents through surrogacy [38]. As a result of the interviews, it was emphasized that the fathers' self-confidence increased. In the study conducted by Everingham et al. the attitudes of individuals living in Australia towards surrogacy were examined. As a result of the examination, it was determined that compensation costs, which are thought to be a deterrent in surrogacy, do not affect individuals who aim to have a child through surrogacy, and that there are different attitudes towards surrogacy from region to region [38]. In the study conducted by Bruce-Hickman et al. in which the attitudes of 185 students studying medicine in the United Kingdom towards surrogacy were examined, it was found that the students had a positive attitude towards surrogacy, and that this attitude differed from the laws of the United Kingdom [40]. The opinion that it is possible to have a child through surrogate motherhood if ethical and legal conditions are met was reported by the medical faculty students who accepted to participate in the study.

Although scientific studies on the concept of surrogacy are recent, it is known that the concept of surrogacy dates back to ancient times. When the literature is examined, there are studies on surrogacy in the international arena. These studies in the literature cover different countries of the world [9,24,34,40]. In Turkey, it is seen that studies on surrogacy are generally addressed from legal and ethical perspectives [6,14,15,21]. While it is a fact that legal and ethical processes are involved in surrogacy, this study was designed with the idea that this issue should not be addressed only from this perspective. The scale developed within the scope of this study, which aims to measure the perception of surrogacy in the Turkish sample, consists of 4 dimensions and 24 statements.

The Positive Impact

Dimension includes the statements that surrogacy is included in alternative reproductive methods, that it is done in order for individuals who cannot have children naturally or who have different sexual orientations to have children, and that are considered positive. When the studies conducted were examined; Bergman et al., Everingham et al., Riggs et al.,

Carone et al. Blake et al. also concluded that there are similar situations to the positive impact factor of the scale developed within the scope of this study [9,24,37-39].

The Negative Impact

Dimension includes statements that characterize surrogacy as an unacceptable situation and see it as unethical. In the studies conducted by Poote ve van den Akker, Sexena et al.; Patel et al., Kneebone et al. Brandão, Garrido It was concluded that there were similar situations regarding the negative attitude factor, which is one of the factors of the scale developed within the scope of this study [11-13,20,33].

The legal Impact

Dimension includes statements that there are uncertainties about whether the surrogate mother is a 'real mother' or a 'surrogate mother' and whether surrogacy is carried out in accordance with local and global legal legislation. When the literature was examined, it was concluded that the studies conducted by Benshushan, Schenker, Burrell, Edozien also included similar situations with the legal impact dimension of this scale [7,8].

In the Dimension of Economic Impact

The idea that surrogacy should be commercialized and that this should be added to the country as tourism is dominant. Statements related to this are categorized under this dimension. In the literature, it was determined that the studies conducted by Jadva et al., Wilkenson, Parks, Arvidsson et al., 2015 have similar characteristics with this dimension [17-19,36].

Strength of the Study

The presented scale measures attitudes towards surrogacy in Turkey, which to our knowledge is novel in Turkey. The major strength of this study is constructing the scale with the established validity and reliability. In the process of scale development a pilot testing was conducted to decrease the risk of bias. Pilot assessments are needed for the scale feasibility, readability of included items and assessment whether they are subjectively perceived by respondents as addressing what they are designed to measure. The other strength of the developed scale is that it can be addressed to different groups and is not only limited to people with infertility. Assessing the opinions and attitudes on a controversial topic such as surrogacy, plays an important role in disclosing various aspects of surrogacy, helps to fill in legislative gaps and ambiguities, and to convert controversial dimensions surrounding surrogacy into a normative concept that eliminates stigma.

Conclusion

The main purpose of this study was to develop a measurement tool to measure the perception of surrogacy and as a result of the statistical analysis, it was determined that there is a measurement tool that can be used to measure this situation.

The results obtained show that the scale developed for the perception of surrogacy has validity and reliability. Therefore, the developed "scale developed for the perception of surrogacy" can be used to measure the perception of

surrogacy of people in our country. Research on controversial topics such as surrogacy can contribute to expanding public knowledge about surrogacy, including the different aspects of surrogate parenthood.

Competing Interests

The authors declare that they have no competing interests.

References

- Petraglia F, Serour GI, Chapron C. The Changing Prevalence of Infertility. *Int J Gynecol Obstet*. 2016. 123: 4-8.
- Demirel N, Potur Coşkuner D. Male Fertility and Risky Lifestyle Behaviours. *Florence Nightingale Journal of Nursing*. 2014. 22: 39-45.
- World Health Organization (WHO). *Infertility*. 2023.
- Bayu D, Egata G, Kefale B, Jemere T. Determinants of Infertility among married women attending desile referral hospital and Dr. Misganaw Gynecology and Obstetrics Clinic, Dessie, Ethiopia. 2020.
- Nik Hazlina NH, Norhayati MN, Shaiful Bahari I, Nik Muhammad Arif NA. Worldwide prevalence, risk factors and psychological impact of infertility among women: a systematic review and meta-analysis. 2022.
- Özpuat F. Assisted Reproductive Techniques, Ethics and Responsibilities of Health Personnel. *Health Academy Kastamonu*. 2017. 2: 112-131.
- Benshushan A, Schenker JG. Legitimizing surrogacy in Israel. *Human reproduction*. 1997. 12: 1832-1834.
- Burrell C, Edozien LC. Surrogacy in modern obstetric practice. In *Seminars in fetal and neonatal medicine*. 2014. 19: 272-278.
- Carone N, Balocco R, Lingardi V. Italian gay fathers' experiences of transnational surrogacy and their relationship with the surrogate pre-and post-birth. *Reproductive Biomedicine online*. 2017. 34: 181-190.
- Narayan G, Mishra HP, Suvvari TK, Mahajan I, Patnaik M, et al. The Surrogacy Regulation Act of 2021: A Right Step Towards an Egalitarian and Inclusive Society?. *Cureus*. 2023. 15: 1-8.
- Saxena P, Mishra A, Malik S. Surrogacy: ethical and legal issues. *Indian journal of community medicine: official publication of Indian Association of Preventive & Social Medicine*. 2012. 37: 211.
- Patel NH, Jadeja YD, Bhadarka HK, Patel MN, Patel NH, et al. Insight into different aspects of surrogacy practices. *Journal of human reproductive sciences*. 2018. 11: 212.
- Brandão P, Garrido N. Commercial surrogacy: an overview. *Revista Brasileira de Ginecologia e Obstetricia*. 2023. 44: 1141-1158.
- Savaş E. Surrogate Motherhood in Medical Law. *Istanbul Medeniyet University Institute of Postgraduate Education Department of Medical Law. Unpublished Master Thesis, Istanbul*. 2019.
- Erol Y. Artificial Fertilisation Methods and Surrogate Motherhood. *Selçuk University Institute of Social Sciences, Department of Private Law. Unpublished Doctoral Thesis, Konya*. 2011.
- Aznar J, Martínez Peris M. Gestational surrogacy: Current view. *The Linacre Quarterly*. 2019. 86: 56-67.
- Wilkinson S. The exploitation argument against commercial surrogacy. *Bioethics*. 2003. 17: 169-187.
- Parks JA. Care ethics and the global practice of commercial surrogacy. *Bioethics*. 2010. 24: 333-340.
- Arvidsson A, Johndotter S, Essén B. Views of Swedish commissioning parents relating to the exploitation discourse in using transnational surrogacy. *PLoS One*. 2015. 10: e0126518.
- Kneebone E, Bellby K, Hammarberg K. Experiences of surrogates and intended parents of surrogacy arrangements: a systematic review. *Reproductive Biomedicine Online*. 2022. 45: 815-830.
- Ekşi N. Legal Problems Regarding Transnational Surrogacy in Court Decisions. *Public and Private International Law Bulletin*. 2016. 36: 1-51.
- Lutkiewicz K, Bieleninik Ł, Jurek P. Development and validation of the attitude towards Surrogacy Scale in a Polish sample. *BMC Pregnancy Childbirth*. 2023. 23: 413.
- Riggs DW, Due C, Power J. Gay men's experiences of surrogacy clinics in India. *Journal of Family Planning and Reproductive Health Care*. 2015. 41: 48-53.
- Bryman A, Cramer D. *Quantitative data analysis with SPSS release 10 for Windows*. Routledge. 2001.
- Karagöz Y. *SPSS and AMOS applied qualitative-quantitative-mixed scientific research methods and publication ethics (Updated 3rd Edition)*. Ankara: Nobel Academic Publishing. 2021.
- Karaşın Y, Filiz M, Karagöz Y. Development of Attitude Scale Towards Earthquake. *Journal of Disaster and Risk*. 2023. 6: 548-561.
- Filiz M, Karagöz Y, Karaşın Y. Scale Development Study to Determine the Psychological Effects of Individuals Exposed to Earthquake. *Journal of Dicle University Institute of Social Sciences*. 2023. 236-250.
- Hooper D, Coughlan J, Mullen MR. *Structural equation modelling: Guidelines for determining model fit*. *Electronic journal of business research methods*. 2008. 6: 53-60.
- Schumacher RE, Lomax RG. *A beginner's guide to structural equation modeling: SEM*. New Jersey: Lawrence Erlbaum Associates. 2010.
- Munro BH. *Statistical methods for health care research (Vol. 1)*. Lippincott Williams & Wilkins. 2005.
- Hair JF, Black WC, Babin BC and Anderson RE. *Multivariate Data Analysis*. International Encyclopedia of Statistical Science. Springer, Berlin, Heidelberg. 2010.
- Pasilla G and Wagner R. *E-Commerce and Web Technologies*. Austria: Linz, Springer. 2007.
- Poote AE, Van Den Akker OB. British women's attitudes to surrogacy. *Human reproduction*. 2009. 24: 139-145.
- Peters HE, Schats R, Verhoeven MO, Mijatovic V, Groot CJ, et al. Gestational surrogacy: results of 10 years of experience in the Netherlands. *Reproductive Biomedicine Online*. 2018. 37: 725-731.
- MacCallum F, Lycett E, Murray C, Jadvá V, Golombok S. Surrogacy: the experience of commissioning couples. *Human reproduction*. 2003. 18: 1334-1342.
- Jadvá V, Murray C, Lycett E, MacCallum F, Golombok S. Surrogacy: the experiences of surrogate mothers. *Human reproduction*. 2003. 18: 2196-2204.
- Blake L, Carone N, Raffanella E, Slutsky J, Ehrhardt AA, et al. Gay fathers' motivations for and feelings about surrogacy as a path to parenthood. *Human Reproduction*. 2017. 32: 860-867.

38. Bergman K, Rubio RJ, Green RJ, Padrón E. Gay men who become fathers via surrogacy: The transition to parenthood. *Journal of GLBT family studies*. 2010. 6: 111-141.
39. Everingham SG, Stafford-Bell MA, Hammarberg K. Australians' use of surrogacy. *Medical journal of Australia*. 2014. 201: 270-273.
40. Bruce-Hickman K, Kirkland L & Ba-Obeid T. The attitudes and knowledge of medical students towards surrogacy. *Journal of Obstetrics and Gynaecology*. 2009. 29: 229-232.