Original Article

The Development and Validation of an Attitude Scale for Abortion in Turkey

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Abstract

Background
Abortion is a complex phenomenon studied not only from a health perspective, but also from a legal and social dimensions. Attitudes towards abortion have been varied significantly across different cultures and historical periods. In Turkey, where abortion is legal under specific conditions and timeframes, understanding these attitudes through the development of a standardized measurement tool can contribute meaningfully to the field.

Aim
This study aims to develop a reliable and valid attitude scale to measure perspectives towards abortion in a Turkish sample.

Methods
The study included 303 women aged 18-49 years residing in the Esenyurt district of Istanbul. The scale development process followed a rigorous methodology, including creating a draft scale, obtaining expert input, conducting a pilot application, refining the draft scale, collecting data from the sample group, and performing factor analyses.

Results
A three-factor structure consisting of 23 items was identified (x2/df: 2.787, Goodness of Fit Index(GFI): 0.853, Incremental Fit Index(IFI):0.913, Comparative Fıt Index(CFI):0.912, Root Mean Square Error of Approximation(RMSEA): 0.077, Standardized Root Mean Square Residual(SRMR): 0.0751). The three factors labeled as stigma, exclusion and hear respect explained the underlying attitudes captured by the scale.

Conclusion
This study successfully developed valid and reliable measurement tool to assess attitudes towards abortion has been developed in a Turkish context. The scale provides an important resource for future research and contributes to the broader understanding of abortion-related attitudes.

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Keywords: abortion, validation, pregnancy termination, attitude, scale development, Turkey

Introduction

Abortion is a multifaceted phenomenon that intersects with religious, legal, political and social issues.[1] While attitudes towards abortion and levels of knowledge have evolved over time in some parts of the world, they have remained unchanged in others. Abortion is influenced by religious, legal and social dimensions, often tied societal demographic policies. For instance, abortion is typically prohibited in policies aimed at increasing the population growth, while it is legalised in policies designed to reduce the population growth. However, in countries where abortion is illegal, there is often an increase in unsafe abortions conducted through unofficial means. Research indicates that the rates of abortion and unwanted pregnancy are higher in countries where abortion is prohibited. Furthermore, economic factors significantly impact abortion rates; even in regions with flexible legal frameworks, abortion rates are lowerin high-income areas compared to low-income ones.[2]

Abortions performed due to unwanted pregnancies remain a critical issue in women's health, ranking among the leading causes of mortality in women of reproductive age. According to the World Health Organisation, an average of 56 million women had abortions due to unwanted pregnancies between 2010 and 2014. Of these, approximately 25 million were considered unsafe abortions every year, primarily in developing countries. Unsafe abortions are estimated to account for 4.7% to 13.2% of maternal deaths annually, highlighting their significantly impact on maternal health.[3] Understanding attitude towards abortion is particularly important for women of reproductive age, as these attitudes are shaped by the social, religious and cultural perspectives of their communities. This study therefore, aimed to develop a pscyhometric scale to assess attitudes toward abortion within a Turkish sample.

Theoretical Framework

Abortion encompasses not only the termination of unwanted pregnancies but also medical procedures related to miscarriages and certain uterine conditions in non-pregnant women, reflecting both diagnostic and therapeutic dimensions. [3-5] Perspectives on abortion vary widely, with anti-abortion advocates often framing it as "murder" or the "termination of a fetus's right to life," while pro-abortion advocates emphasize it as a fundamental right, underscoring women's autonomy in decision-making.[5-8] One prominent factor influencing abortion attitudes is stigma, as explored through various theoretical frameworks. Goffman's grounded theory highlights the stigma associated with abortion services in healthcare institutions, while social process theory focuses on societal influences, including public activism, policy-making, and media representation, which shape abortion-related stigma.[15-16]

Globally, abortion laws and attitudes vary significantly. While 32 countries prohibit abortion entirely (e.g., Malta, Iraq), others allow it under specific conditions such as saving a mother's physical or mental health, addressing socioeconomic reasons, or upon request within a defined gestational age (e.g., Turkey, Norway).[10] Research has highlighted regional variations in attitudes influenced by legal, cultural, and religious contexts. For example, studies from the United States and New Zealand reveal increasingly moderate attitudes, while stricter laws in Indiana between 2010 and 2019 resulted in clinic closures and a 30% reduction in abortion rates.[11-12] A systematic review by Subasinghe et al. involving 22 studies from 15 countries demonstrated how healthcare providers' attitudes often align with their country's legal framework.[13] Similarly, in Germany, Hanschmidt et al. identified three groups based on their abortion attitudes: those who view it as a woman's right, those who support it under health or financial constraints, and those who oppose it entirely.[14]

In Turkey, demographic shifts since the 2000s have transformed the population from high fertility and mortality rates to low fertility and aging demographics. The 1965 Population Planning Law, expanded in 1983, legalized voluntary abortion within the first 10 weeks of pregnancy, making it accessible in public and private healthcare settings for minimal fees. Despite its legality, abortion remains a last resort for many women, with declining rates linked to political discourse, as evidenced in the 2013 Turkey Demographic and Health Survey.[17-19] Although prior studies have developed scales to measure stigma and attitudes toward abortion, Turkish adaptations vary in scope and structure, ranging from an 18-item, three-dimension model to a shorter 14-item version.[20-22] This study aims to address this gap by developing a psychometric tool tailored to women aged 18–49 in Esenyurt, Istanbul, providing a culturally relevant addition to the literature on abortion attitudes.

Materıals and Methods

Study design

This was a cross-sectional study conducted to develop and evaluate the psychometric properties of a scale measuring attitudes toward abortion.

Study Population and Sampling strategies

The population of this study consists of women aged 18-49 years, considered to be of reproductive age, residing in Esenyurt, Istanbul, the most populous district district. The sample consisted of 303 women selected using a convenience sampling method to represent the study population effectively. The sample size was determined based on guidelines for scale development studies. Nunnally et al.[23-24] suggest that 5- 10 participants per scale item. Hinkin suggests 4-10 particpants per item,[25] while Kline recommends a minimum of 100 participants [26] and Gorsuch proposes a range of 50-200 participants.[27]

Initial Scale Development and Content Validation

The scale development process began with a thorough review of existing literature, which informed the creation of a draft scale with 52 items. To ensure content validity, feedback was obtained from a panel of 10 experts specializing in health sciences, economics, and educational sciences. Based on their evaluations, the Content Validity Index (CVI) was calculated at 0.62, highlighting the need for refinement. A total of 28 items were removed during this process to improve clarity and alignment with the conceptual framework. After incorporating expert review and making necessary adjustments, the scale was finalized with 24 items that closely reflected the intended dimensions of the framework.

Data Collection Method and Creation of the Scale

Data were collected using a face-to-face survey method. The survey was designed to align with the conceptual framework and was informed by prior studies.[5,7,20-22,28-32] Questions were drawn from a pool of items created by the researchers, reflecting the core dimensions of stigma, exclusion, and hear respect.

Stigma: It is the dimension that includes the fact that those who perform abortions and those who have them are stigmatized and should be stigmatized.

Exclusion: It is the dimension in which expressions are included that individuals who have abortions and those who have abortions are ostracized and excluded by society.

Hear Respect: It is the dimension that contains statements explaining that abortion is a right and that it should be respected.

Data analysis

The data analysis for this study was conducted in several stages to ensure the reliability, validity, and structural integrity of the developed scale. Content validation was performed using expert opinion from ten academics across health sciences, economics, and educational sciences, and a Content Validity Index (CVI) was calculated.

Test-retest reliability was assessed by administering the scale to a subset of participants at two time points three weeks apart, with Pearson correlation coefficients used to evaluate temporal stability. Internal consistency was assessed using Cronbach's Alpha for the overall scale and its sub-dimensions. Exploratory factor analysis (EFA) was conducted to identify the underlying factor structure, with items that did not load significantly onto a single factor or loaded onto multiple factors removed. Confirmatory factor analysis (CFA) was then performed using IBM AMOS to test the fit of the hypothesized three-factor model. The following thresholds were used to evaluate model fit: CMIN/df < 5.0, GFI > 0.85, IFI and CFI > 0.90, RMSEA < 0.08, and SRMR < 0.08.[33-35] Additionally, convergent validity was assessed through Average Variance Extracted (AVE) and Composite Reliability (CR) values, with CR > 0.60 and AVE > 0.40 confirming the alignment of items with their respective factors. [36-37] This comprehensive approach ensured the development of a reliable and valid measurement tool for assessing attitudes toward abortion. As a result of the test-retest, the Pearson correlation coefficient between the two applications of the individuals included in the pilot application was found to be 0.81. Additionally, as a result of the explanatory factor analysis, the Cronbach Alpha reliability coefficient of the entire scale is 0.843. This shows that the value taken is statistically highly reliable.

Ethical Considerations

This study was conducted in accordance with the ethical standards and received approval from the Istanbul Esenyurt University Ethics Committee on January 26, 2023 (Approval Number: E-12483425-299-26780). All participants provided informed consent before participating in the study, and data confidentiality was maintained throughout.

Results

Sociodemographic characteristics

A total of 303 female participants were included in this study (Table 1). Since the study aimed to assess attitudes toward abortion, males were excluded from the study. Among the women aged 18-49 who participated in the study, 132 were in the 18-25 age range, 114 were in the 26-35 age range, and 57 were in the 36-49 age range. When examined in terms of educational level, it was found that 13 participants were illiterate or had no formal education, 21 were primary school graduates, 33 were secondary school graduates, 121 had completed higher education, 73 had a bachelor's degree, and 42 had a graduate degree.

Table 1. Demographic characteristics of women participants (N=303)

Characteristics		n (%)
Age	18-25	132 (43.56)
	26-35	114 (37.62)
	36-49	57 (18.82)
Education Level	Ilitirate	13 (4.29)
	Primary school	21 (6.93)
	Secondary school	33 (10.89)
	Higher education	121 (39.93)
	Bachelor's degree	73 (24.09)
	Graduate degree	42 (13.87)

Exploratory and confirmatory factor analysis

Following the administration of the survey to the target sample (n = 303), exploratory factor analysis (EFA) identified a structure comprising 24 items grouped into three factors .Items that did not align with a single factor or loaded onto multiple factors were removed, resulting in the exclusion of 1 item. The finalized structure consisted of 23 items distributed across three factors (Annex 1) . Confirmatory factor analysis (CFA) was subsequently conducted using IBM AMOS to test the fit of the assumed model. The results demonstrated good model fit, with all fit indices meeting or exceeding the acceptable thresholds (Table 2).

CFA results confirmed the three-factor structure, establishing high construct validity as indicated by the standardized regression coefficients (Figure 1). All factor loadings were significant ($p < 0.001$), confirming the alignment of the items with their respective factors.

In addition, the AVE and CR values of the dimensions of the model obtained by confirmatory factor analysis also showed that the model had convergent validity. Due to these results, the model met the validity requirement.

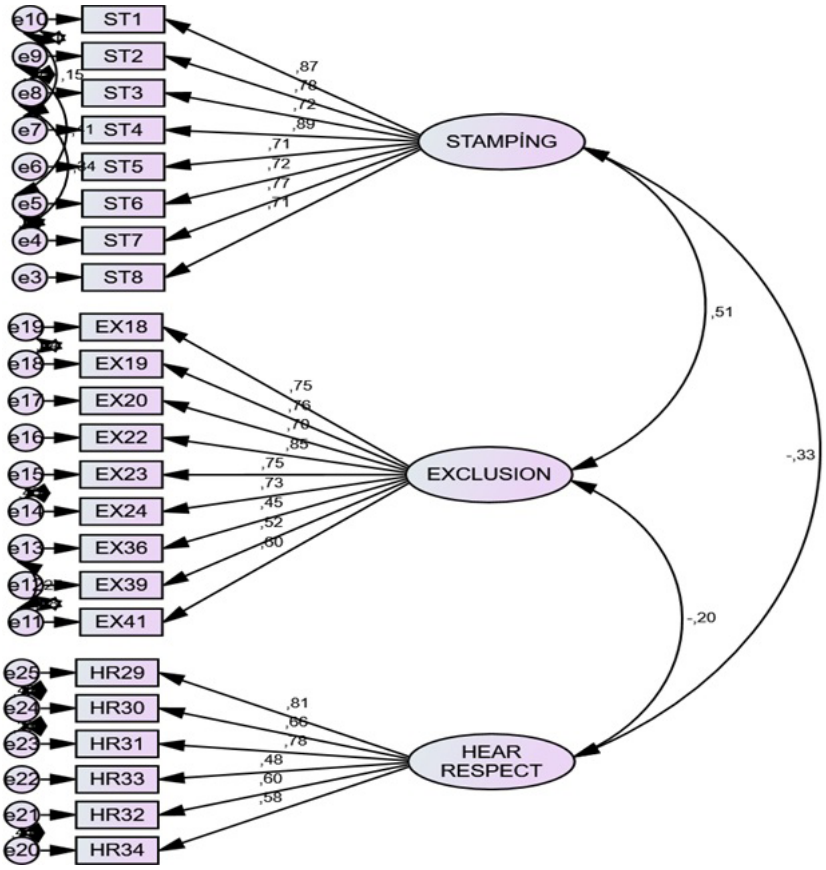

Figure 1. Confirmartory factor analysis for Attitude Scale for Abortion

The results of the model fit of confirmatory factor analysis are as shown in Table 2.

Table 2. Model fit indices of Confirmartory factor analysis for Attitude Scale for Abortion

Model Fit indices	Calculated Value
CMIN/df (x2/sd)	2.787
GFI	0.853
IFI	0,913
CFI	0,912
RMSEA	0,077
SRMR	0,0751

The results of the confirmatory factor analysis (CFA) of the Improving measurement models are presented in Table 3.

Table 3. CFA Results for the Improving Measurement Model

Factors	Item	Standardized Value	Forecast	Standard Value	T value	p	AVE*	CR**
Stamping	ST1	.870	1.223	.084	14.061	<0.001	.60	.82
	ST2	.784	1.052	.079	12.934	<0.001		
	ST3	.725	1.081	.118	11.987	<0.001		
	ST4	.888	1.274	.073	14.378	<0.001		
	ST5	.713	1.051	.119	11.802	<0.001		
	ST6	.717	1.010	.104	11.871	<0.001		
	ST7	.766	1.132	.103	12.660	<0.001		
	ST8	.710	1.000	.109		<0.001		
Exclusion	EX18	.745	1.287	.090	9.981	<0.001	.47	.82
	EX19	.759	1.276	.083	10.106	<0.001		
	EX20	.699	1.076	.075	9.590	<0.001		
	EX22	.851	1,273	.052	10.835	<0.001		
	EX23	.747	1.008	.055	10.002	<0.001		
	EX24	.732	1.000	.058	9.862	<0.001		
	EX36	.449	0.707	.115	7.761	<0.001		
	EX39	.524	0.818	.105	9.061	<0.001		
	EX41	.596	1.000	.110		<0.001		
Hear Respect	HR29	.807	1.462	.154	9.102	<0.001	.44	.64
	HR30	.664	1.211	.174	7.789	<0.001		
	HR31	.777	1.381	.127	9.037	<0.001		
	HR32	.604	1.099	.154	10.401	<0.001		
	HR33	.483	.881	.174	6.687	<0.001		
	HR34	.575	1.000	.145		<0.001		

*AVE: Average Variance Extracted, **CR: Composite Reliability

Tool reliability

A test-retest process conducted with 27 participants over a three-week interval yielded a Pearson correlation coefficient of 0.81, indicating a strong positive correlation and demonstrating high reliability of the scale.

Reliability coefficients for the overall scale and sub-dimensions (Stigma, Exclusion, Hear Respect) ranged between $0.80 \leq \alpha < 1.00$ (Table 3), signifying high reliability. Since the reliability coefficients were found between $0.80 \leq \alpha < 1.00$, the model was found to be quite reliable.

Table 4 shows the reliability coefficients for the sub-factors and the whole scale.

Table 4. Scale Reliability Coefficients

Factor	Number of İtems	Reliability Coefficients
Scale All	23	0.843
Stamping Factor	8	0.929
Exclusion Factor	9	0.890
Hear Respect Factor	6	0.837

Discussion

This study aimed to develop and validate a psychometric scale to measure attitudes toward abortion among women of reproductive age (18–49 years) in Turkey. The scale identified three key dimensions influencing abortion attitudes: Stigma, Exclusion, and Hear Respect. The findings provide insight into the complex social, religious, and cultural factors shaping abortion attitudes and contribute significantly to the existing literature on abortion-related beliefs and behaviors.

Abortion attitudes are deeply influenced by social, religious, and political factors. In Islamic contexts, interpretations of abortion vary widely, with some jurists allowing it under specific conditions, such as maternal health risks or living in non-Muslim states, while others permit it only in life-threatening situations.[5] Similarly, religious attitudes play a central role in shaping abortion views globally.[38] For instance, studies in the United States have demonstrated that religious beliefs significantly impact abortion opinions. Catholic and Protestant participants were generally opposed to abortion except in cases such as rape, incest, or threats to maternal health.[38-41] Furthermore, cross-national research involving 70 countries found that religious attitudes toward abortion were predominantly negative.[41] These findings align with the Exclusion dimension identified in this study, where religious and cultural norms contribute to the marginalization of women seeking abortions in the Turkish context.

A U.S.-based study examining racism, sexism, and religiosity's effects on abortion attitudes revealed resistance to abortion among Black, Latina, and White women, beyond religious factors.[42] Similarly, studies in Japan and the United States highlighted the role of gender roles and moral traditionalism in shaping abortion attitudes.[43] These findings resonate with the Stigma dimension of the current study, where abortion is perceived negatively due to societal judgments. Other research has documented the stigmatizing attitudes surrounding abortion, including perceptions of sin, shame, secrecy, and judgment. For example, in Ethiopia, stigmatizing attitudes persisted despite the legal status of abortion, and such attitudes were more accepting in cases of rape.[44] This aligns with findings from studies in Şanlıurfa, Turkey, which revealed significant impacts of gender, education, and socioeconomic status on abortion-related beliefs and behaviors.[45]

The Hear Respect dimension identified in this study reflects attitudes supporting women's autonomy in making abortion decisions. Findings from global studies echo this dimension. For instance, a study of 735 women's association members in Istanbul and Ankara found strong support for abortion on demand and in cases of sexual abuse, with left-wing ideology, marital status, and high income positively influencing abortion acceptance.[46] Similarly, research among medical students in Turkey suggested that women should have the autonomy to decide on abortion, particularly outside of marriage, though some participants emphasized the need for spousal consent within marriage.[47]

This study contributes to the literature by introducing a validated and reliable measurement tool tailored to the Turkish context.

The scale's three dimensions—Stigma, Exclusion, and Hear Respect—offer a nuanced framework for understanding abortion attitudes in Turkey. While many existing studies focus on single aspects such as stigma or religiosity, this study integrates these factors into a comprehensive tool that captures the multifaceted nature of abortion attitudes. Additionally, the findings align with global studies, highlighting the universality of some abortion-related issues while also emphasizing the unique cultural and religious context of Turkey.

Study Strengths and Limitations

One of the key strengths of this study is its rigorous scale development process, which included expert validation, pilot testing, and robust statistical analyses, ensuring the tool's validity and reliability. Additionally, this research addresses a critical gap in the Turkish literature by focusing specifically on attitudes toward abortion among women of reproductive age, a group directly affected by abortion policies. However, the study also has limitations. First, the sample was limited to women residing in Esenyurt, Istanbul, which, although the largest district in Turkey, may not fully represent the diverse cultural and social contexts across the country. Second, the study exclusively focused on women, excluding men's perspectives, which are also critical to understanding abortion attitudes comprehensively. Future research should address these limitations by applying the scale to broader and more diverse populations and incorporating men's views to provide a more holistic understanding of abortion attitudes.

Conclusion

This study developed and validated the Scale of Attitudes Towards Abortion, identifying three dimensions–Stigma, Exclusion, and Hear Respect–that influence abortion attitudes among women of reproductive age in Turkey. The findings confirm the scale's reliability and validity, making it a valuable tool for assessing abortion attitudes in similar contexts. Future research should expand the application of this scale to different regions in Turkey and explore the perspectives of men and other demographic groups to enrich the literature on abortion attitudes further.

Authors' Contribution

We confirm that the manuscript has been developed , read and approved by all named authors and that there are no other persons who satisfied the criteria for authorship but are not listed.

Conflict of interest and informed consent

The authors declare that there is no conflict of interest.

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ANNEX : ABORTION ATTITUDE SCALE

The scale below is a 5-point Likert (1: Strongly Disagree, 2: Disagree, 3: Neither Agree nor Disagree, 4: Agree, 5: Strongly Agree). There are 3 sub-dimensions.

1. Items 1-8 refer to the **STAMPING** factor.
2. Items 9-17 refer to the **EXCLUSION** factor.
3. Items 18-24 refer to the **HEAR RESCEPT** factor.

Number in Study	Number	Items
1	1	Woman who has an abortion is a murderer.
2	2	Physicians and medical personnel who perform abortions are murderers.
3	3	Traditional healers who help women have abortions are murderers.
4	4	Woman's partner (spouse/lover) who helps her have an abortion is the murderer
5	5	A woman who has an abortion commits a sin.
6	6	Physicians and allied health personnel who perform abortions commit sin.
7	7	Traditional healers who help women have abortions commit sin.
8	8	The spouse/husband/man who helps a woman to have an abortion commits a sin.
18	9	Woman who has an abortion is a bad mother.
19	10	Woman who has an abortion does not deserve to be a mother.
20	11	Woman who has an abortion cannot be trusted.
22	12	I wouldn't take the advice of woman who's had an abortion.
23	13	I would not be friends with woman who has had an abortion.
24	14	I would not allow my children to go near woman who had an abortion.
36	15	I would do anything to prevent someone in my family from having an abortion.
39	16	I believe that a woman who has an abortion should not tell anyone about her experience.
41	17	I believe it is a good idea for our state not to allow abortion to be legal.
29	18	I respect women who have abortions, regardless of the reason.
30	19	Regardless of the reason, I respect physicians and allied health personnel who perform abortions.
31	20	Whatever the reason, I respect traditional healers who help women have an abortion.
32	21	Regardless of the reason, I respect the wife/husband/man who helps a woman have an abortion.
33	22	I would support a woman who has an abortion because the doctor said the pregnancy was life-threatening.
34	23	I would support a woman who has an abortion because her doctor told her she would have a baby with Down syndrome.