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Original Article

Predictive effect of digital platform use on attitudes toward abortion: A secondary analysis of the Turkiye general social survey

Sumeyye Ahi[1], Beyza Ucar[2], Mukadder Bektas[3], Tugba Busra Caliskan[4]

ABSTRACT

Objective: This study aimed to examine the predictive effect of digital platform use on attitudes toward abortion (ATA) using a secondary analysis of the 2024 Turkiye General Social Survey.

Methodology: This cross-sectional secondary data analysis was conducted using the 2024 Turkish General Social Survey (TGSS) dataset, which collected nationally representative data across Turkiye in 2024. Analyses were performed on 1,428 participants with complete responses to the study variables. ATA was measured using a three-item composite score. Digital platform use was evaluated in three dimensions—general-purpose, news-information, and entertainment use—based on exploratory factor analysis. Data were analyzed using descriptive statistics, t-test, ANOVA, and hierarchical regression analysis.

Results: News-information digital platform use (β=0.078;p<0.05), marital status (β=0.056;p<0.05), education level (β=0.243;p<0.001), sex (β=0.083;p<0.05), and ideal number of children (β=−0.207;p<0.001) were significant predictors of ATA. A higher ideal number of children was associated with lower ATA scores. The final model explained 14.8% of the variance in ATA.

Conclusion: Digital platform use had a limited but measurable effect on ATA, and attitudes were multidimensional. Future studies should include cultural and psychosocial variables and examine content-specific digital platform use. In secondary analyses of TGSS data, the rotation design, planned missing data, and sampling weights should be considered when interpreting findings.

KEYWORDS: Abortion, Attitude, Induced, Social Media, Secondary Data Analysis.

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INTRODUCTION

The widespread use of digital technologies has changed how individuals access health information and shape their attitudes. Particularly in sensitive issues such as abortion, social media and other digital platforms serve not only as information sources but also as spaces where different views and experiences are shared.[1,2] Abortion is a major reproductive health issue with ethical, cultural, religious, legal, and political dimensions. Attitudes toward abortion are influenced not only by individual and social factors, such as sex, education, marital status, religious values, and fertility preferences, but also by information sources and communication environments.[3,4]

In recent years, digital platforms have increasingly influenced public debates. Following developments in abortion policies in 2022, online discussions on abortion increased markedly, making digital platforms an important arena for shaping public opinion.[5,6]

Exposure to different views on reproductive rights, family values, religious beliefs, and bodily autonomy through these platforms may influence attitudes toward abortion.[6]

Most previous studies have focused on abortion discourse, media framing, and online content.[5-7] In Turkiye, research has mainly examined access to abortion, reproductive policies, and individuals' experiences, whereas the relationship between digital platform use and attitudes toward abortion has not been investigated nationally.[8-10] This study aimed to examine the predictive effect of digital platform use on attitudes toward abortion using data from the 2024 Turkiye General Social Survey and to contribute to the limited literature.

Research Question: Does digital platform use predict attitudes toward abortion?

METHODOLOGY

This study was conducted as a cross-sectional secondary data analysis using the 2024 Turkiye General Social Survey (TGSS) dataset, obtained through the official TGSS data platform.[11]

Ethical approval: This study was a secondary analysis of anonymized TGSS data. As no new data were collected, ethics committee approval was not required.

No new data were collected; analyses utilized the 2024 TGSS dataset. TGSS is a national survey of individuals aged ≥18 in Turkiye, employing a multistage stratified cluster sampling design. Targeting 2,400 participants (95% CI, ±2% margin of error), 2,615 valid questionnaires were obtained. Due to the rotation design, participants answered core demographic questions and two randomly assigned questionnaires (A, B, or C), with thematic modules administered to a subset.

A total of 1,428 participants with complete responses for all study variables were included. Observations with ≤5% missing control data were retained, and sampling weights were omitted to preserve sample size.

Measures and Variables: As it was unknown whether the TGSS items belonged to a standardized instrument, composite scores were created for ATA and digital platform use. The procedures are described below.

ATA: Three TGSS items assessing attitudes toward abortion (ATA) were included. Items were rated on a five-point Likert scale (1=strongly disagree, 5=strongly agree). Exploratory factor analysis identified a one-factor structure (KMO=0.627; Bartlett's $\chi^2(3)=833.744$, $p<0.001$), with factor loadings ranging from 0.69 to 0.85 and explaining 62.37% of the total variance. A composite ATA score was calculated by averaging the items, with higher scores indicating more positive attitudes toward abortion. Internal consistency was acceptable (Cronbach's $\alpha=0.698$).[12]

Digital platform use: Eleven items assessing digital platform use were rated on a seven-point Likert

Table-I: Descriptive Characteristics of the Participants.

Variables (n=1428)	$\overline{X}$ ± SD	Min-Max
Age (years)	39.5±15.1	18-84
Time spent on digital platforms (hours/day)	4.6±2.8	1-24
Ideal number of children (n=1413)	2.7±1.1	0-10
Digital Platform Use	3.5± 1.2	1-7
GPDPU	4.8±1.6	1-7
NIDPU	2.1±1.7	1-7
EDPU	2.1±1.6	1-7
ATA	3.4±1.0	1-5
Sex	***n***	***%***
Male	724	50.7
Female	704	49.3
Urbanization		
Rural	212	14.8
Semi-urban	254	17.8
Urban	962	67.4
Highest Educational Level		
Primary school or below	293	20.5
Middle school	209	14.6
High school	497	34.8
University or higher	429	30.1
Marital Status		
Single	415	29.0
Married	918	64.3
Divorced/Widowed	95	6.7
Income Level*		
No income	297	21.3
Below minimum wage	435	31.2
Above minimum wage	663	47.5

*Missing observations (n=33,2.3%) were excluded from the analysis. n: Number of participants; $\overline{X}$ ± SD: Mean±standard deviation; ATA: Attitudes Toward Abortion; GPDPU: General-Purpose Digital Platform Use; NIDPU: News-Information Digital Platform Use; EDPU: Entertainment Digital Platform Use.

scale (1=never, 7=more than once a day). Exploratory factor analysis excluded three items (Reddit, Twitch, and LinkedIn) with factor loadings below 0.30. The KMO value was 0.727, Bartlett's test was significant ($\chi^2(28)=1631.663$, $p<0.001$), and a three-factor structure explaining 59.35% of the total variance was identified. The factors were named General-Purpose Digital Platform Use (GPDPU), News-Information Digital Platform Use (NIDPU), and Entertainment Digital Platform Use (EDPU). Composite scores were calculated for each factor and used in the analyses. Higher scores indicated more frequent digital platform use. Internal consistency was acceptable (Cronbach's $\alpha=0.666$).[12]

Control variables: Age, sex, education level, income level, marital status, urbanization, time spent on digital platforms, and ideal number of children were included in the model.

Statistical analysis: Data were analyzed using SPSS. Descriptive statistics are presented as frequencies, percentages, means, and standard deviations. Group comparisons were performed using the independent samples t-test, ANOVA, or Welch's test, and post hoc comparisons using Tukey's HSD or Tamhane's T2 test. Effect sizes were assessed using Cohen's d and eta squared (η^2).[13] Regression assumptions were tested and met before hierarchical regression analysis.[14,15] Four models were constructed by sequentially entering GPDPU, NIDPU, EDPU, and finally the sociodemographic variables (income, marital status, education, sex, urbanization, time spent on digital platforms, and ideal number of children). No multicollinearity was detected (VIF=1.06-1.37; tolerance=0.73-0.94). No multicollinearity was detected (tolerance=0.73-0.94; VIF=1.06-1.37). Statistical significance was set at $p<0.05$.

RESULTS

The mean age of the participants was 39.5±15.1 years, and the mean daily digital platform use was 4.6±2.8 hours. Of the participants, 50.7% were male, 67.4% lived in urban areas, 34.8% had a high school education, and 64.3% were married (Table-I).

In Table-II, the exploratory factor analysis results. ATA showed a one-factor structure, whereas digital platform use consisted of three factors: GPDPU, NIDPU, and EDPU. The KMO values and Bartlett's tests indicated the suitability of both analyses. As shown in Table-III, ATA scores were higher among women, participants living in urban areas, those with a university education, and those with incomes above the minimum wage ($p<0.05$). A moderate effect size was observed only for education level.

In Table-IV, the hierarchical regression results. The final model explained 14.8% of the variance in ATA ($R^2=0.148$; $p<0.001$). NIDPU ($\beta=0.078$), marital status ($\beta=0.056$), education level ($\beta=0.243$), sex ($\beta=0.083$), and ideal number of children ($\beta=-0.207$) were significant

Table-II: Exploratory Factor Analysis Results for Digital Platform Use and Attitudes Toward Abortion.

ATA	*Factor Loading*
Abortion should be legal if the woman's health is at serious risk.	0.85
A woman should have the right to abortion if she does not want the baby.	0.82
Abortion should be legal if the fetus has a high risk of severe disability.	0.69

KMO = 0.627; Bartlett $\chi^2(3) = 833.744$, $p < 0.001$; Explained variance= 62.37%			
Digital Platform Use	*Factor 1 (GPDPU)*	*Factor 2 (NIDPU)*	*Factor 3 (EDPU)*
WhatsApp	0.76		
Facebook	0.65		
Instagram	0.64		
YouTube	0.58		
X (Twitter)		0.76	
Telegram		0.71	
TikTok			0.84
Snapchat			0.74

KMO=0.727; Bartlett $\chi^2(28)=1631.663$, $p<0.001$; Total explained variance=59.35%

ATA:Attitudes Toward Abortion;GPDPU:General-Purpose Digital Platform Use;NIDPU:News-Information Digital Platform Use; EDPU:Entertainment Digital Platform Use; KMO:Kaiser–Meyer–Olkin measure of sampling adequacy.

Table-III: Comparison of Attitudes Toward Abortion According to Participants' Characteristics.

Variables	*n*	*ATA* $\bar{X}\pm SD$	*Test*	*p*	*d/η²*
Sex					
Male Female	724 704	3.3±1,0 3.4±1,0	t=-2.351	0.019	d=-0.10
Urbanization					
Rural[1] Semi-urban[2] Urban[3]	212 254 962	3.1±1.0 3.3±1.0 3.4±1.0	F/Welch 8.85	<0.001 1-3	η²=0.011
Highest Educational Level					
Primary school or below[1] Middle school[2] High school[3] University or higher[4]	293 209 497 429	2.9±1.0 2.1±1.0 3.4±1.0 3.7±1.0	F=44.205	<0.001 4,1-3[b]	η²=0.085
Marital Status					
Single[1] Married[2] Divorced/Widowed[3]	415 918 95	3.5±1.0 3.3±1.0 3.4±1.1	F=2.381	0.093	
Income Level*					
No income[1] Below minimum wage[2] Above minimum wage[3]	297 435 663	3.3±1.0 3.3±1.0 3.5±1.0	F=6.775	0.001 3-1,2[b]	η²=0.049

n: Sample size;Mean ± SD:Mean ± standard deviation; ATA: Attitudes Toward Abortion; t: Independent samples t test; F: One-way ANOVA; d: Cohen's d; η²: Eta squared; a: Tamhane's T2 post hoc test; b: Tukey's HSD post hoc test.

predictors of ATA (p<0.05). GPDPU, EDPU, income level, urbanization, and time spent on digital platforms were not significant predictors.

DISCUSSION

This study found that news-information digital platform use was a significant predictor of ATA, whereas general-purpose and entertainment use were not. Education level, sex, marital status, and ideal number of children were also associated with ATA. These findings suggest that the effect of digital platform use on attitudes toward abortion varies according to its purpose. This study uniquely reveals that attitudes toward abortion in Turkiye are specifically predicted by news and information platform use, rather than general or entertainment digital use.

Access to news and information may influence attitudes toward abortion by exposing individuals to different views on abortion and reproductive health.[16] Similarly, knowledge and education on reproductive health have been associated with more positive attitudes toward abortion services and reproductive rights.[17] However, the low correlation coefficients indicate that the effect of digital platform use on ATA is limited and that attitudes are also shaped by cultural, social, and individual factors.

Education level was one of the strongest positive predictors of ATA, consistent with previous studies.[18] Increased education may promote more favorable attitudes toward abortion by improving health literacy and access to reliable information.[19] The negative association between the ideal number of children and ATA may reflect more traditional and pronatalist values.[18,20] Higher ATA scores among women are also consistent with previous findings.[18,21] Marital status was another significant predictor. However, the small effect sizes for sex and marital status suggest that ATA is shaped by multiple individual and social factors. The final model explained 14.8% of the variance in ATA, supporting its multidimensional nature.

Strengths: Its use of a large national survey to distinguish the purpose-specific effects of digital platform use, while future longitudinal and mixed-method research should examine how religious beliefs, political orientation, gender norms, and exposure to specific online content

Table-IV: Hierarchical Regression Analysis of Predictors of Attitudes Toward Abortion.

Model	*Variables*	*B*	*95% CI for B*	*Beta*	*t*	*p*	*R*	*R^2*	*ΔR^2*	*F*
Dependent variable: ATA										
Model 1	GPDPU	.068	.034-.102	.105	3.903***	<0.001	.105	.011	.010	15.237***
Model 2	GPDPU	.043	.007-.079	.066	2.341*	.019	.152	.023	.022	16.335***
	NIDPU	.073	.039-.107	.117	4.154***	<0.001				
Model 3	GPDPU	.053	.017-.089	.082	2.853**	.004	.172	.029	.027	13.933***
	NIDPU	.082	.047-.117	.133	4.646***	<0.001				
	EDPU	-.052	-.086-.018	-.083	-2.990**	.003				
Model 4	GPDPU	-.027	-.065-.011	-.041	-1.380	.168	.385	.148	.142	23.751***
	NIDPU	.048	.014-.082	.078	2.746*	.006				
	EDPU	-.018	-.052-.016	-.029	-1.045	.296				
	Income level	.059	-.016-.134	.045	1.541	.124				
	Marital status	.105	.001-.209	.056	1.977*	.048				
	Education level	.228	.174-.282	.243	8.253***	<0.001				
	Sex	.172	.054-.290	.083	2.871*	.004				
	Urbanization	.019	-.052-.090	.014	.528	.598				
	Time spent on digital platforms	.020	-.002-.042	.053	1.814	.070				
	Ideal number of children	-.193	-.240- -.146	-.207	-8.047***	<0.001				

B:Unstandardized regression coefficient; β:Standardized regression coefficient; t:t statistic; R:Multiple correlation coefficient; R^2:Coefficient of determination; ΔR^2:Change in explained variance; F:ANOVA F statistic; $p<0.05$, $p<0.01$, $p<0.001$. Tolerance values ranged from 0.73 to 0.94, and VIF values ranged from 1.06 to 1.37 across the predictors in Model 4;GPDPU: General-Purpose Digital Platform Use;NIDPU: News-Information Digital Platform Use; EDPU: Entertainment Digital Platform Use.

Model 1:GPDPU.
Model 2:GPDPU and NIDPU.
Model 3:GPDPU, NIDPU, and EDPU.
Model 4:GPDPU, NIDPU, EDPU, income level, marital status, education level, sex, urbanization, time spent on digital platforms, and ideal number of children.

shape these associations. Although the nationally representative sample is a major strength, the cross-sectional design limits causal inference. To our knowledge, this is one of the few national studies in Turkiye examining the relationship between digital platform use and attitudes toward abortion. The findings may inform public health interventions targeting reproductive health communication and digital health literacy.

Limitations: Because of the TGSS rotation design, the analyses were limited to participants with complete responses to the study variables.

CONCLUSION

Only news-information digital platform use was a significant predictor of attitudes toward abortion. Education level, sex, marital status, and ideal number of children were also associated with attitudes toward abortion. These findings support the importance of promoting reliable digital reproductive health information and strengthening digital health literacy. Future longitudinal studies should examine this relationship with additional sociocultural factors.

Recommendations: Future studies should also include religious beliefs, political orientation, and gender norms.

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Authors' Contribution:

SA, BU, MB and TBC: Conceptualization, methodology, writing, review and supervision.
SA: Formal analysis, responsible for the accuracy of the study.
All authors have read and approved the final version of the study.