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ARAŞTIRMA MAKALESİ / RESEARCH ARTICLE

Segmentation Using the Situational Theory of Publics: Breast Cancer Publics in Turkey*

Kamuların Durumsal Kuramı ile Segmentasyon: Türkiye Meme Kanseri Kamuları Örneği

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Abstract

This study aims to segment the breast cancer publics in Turkey based on their communication behavior. In addition to this purpose, the study seeks to identify reason-based behaviors that may affect communication behavior. Based on the Situational Theory of Publics (STP) and the Theory of Reasoned Action (TRA) as research models, this study analyses how the attitudes, intentions, and subjective norms of female participants towards breast cancer affect their active communication behavior. In terms of methodology, a questionnaire was carried out to measure breast cancer publics' communicative behavior in Turkey by eventually obtaining data for 500 valid and complete questionnaires. A cluster analysis identified three breast cancer public types to exist in Turkey: Indifferent (n = 191), Conscientious (n = 144), and Moderate (n = 159). As a result, combining STP with TRA was found to be a valid model in segmenting breast cancer publics in Turkey. This article further analyzed that subjective norms are the strongest predictor of health behavior.

Keywords: Public Segmentation, Situational Theory of Publics, Theory of Reasoned Action, Health Communication, Breast Cancer.

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Öz

Bu çalışma, Türkiye'deki meme kanseri kamularını, iletişim davranışlarına göre segmente etmeyi amaçlamaktadır. Bu amaca ek olarak çalışma, iletişim davranışını etkileme olasılığı olan, nedene dayalı davranışları da tespit etmeyi hedeflemektedir. Araştırma modeli olarak Kamuların Durumsal Kuramı (KDK) ve Neden Dayalı Eylem Teorisi'ne (NDET) dayanan bu çalışma, kadın katılımcıların meme kanserine yönelik tutumlarının, niyetlerinin ve öznel normlarının onların aktif iletişim davranışlarını nasıl etkilediğini analiz etmektedir. Metodolojik olarak, Türkiye'deki meme kanseri kamularının iletişimsel davranışını ölçmek için bir anket uygulaması gerçekleştirilmiş, gerçekleştirilen uygulama sonucunda 500 geçerli ve eksiksiz anket verisi elde edilmiştir. Gerçekleştirilen kümeleme analizi sonuçlarına göre, Türkiye'de var olan üç meme kanseri türü tespit edilmiştir: Kayıtsız kamular (n = 191), Bilinçli kamular (n = 144) ve Dengeli kamular (n = 159). Sonuç olarak, Kamuların durumsal kuramı ile Nedene dayalı eylem teorisinin bir araya getirilmesiyle elde edilen modelin Türkiye'deki meme kanseri toplumlarını segmentlere ayırmada geçerli bir model olduğu görülmüştür. Bu araştırma ayrıca, öznel normların sağlık davranışının en güçlü tahminleyicisi olduğunu da göstermektedir.

Anahtar Kelimeler: Kamu Segmentasyonu, Kamuların Durumsal Kuramı, Nedene Dayalı Eylem Teorisi, Sağlık İletişimi, Meme Kanseri

Introduction

Cancer is a disease that, in recent years, has threatened human health, even becoming a leading cause of death. With 4.1 million new cancer cases in 2012, the number of people dying from cancer has reached 18.2 million. An additional 2 million new cases were diagnosed in 2018. By 2030, 22 million new cancer cases, corresponding to a 75% increase, are expected to emerge. With 1.82 million cases, lung cancer is the most diagnosed type of cancer worldwide, followed by breast cancer with 1.36 million cases, and then by colon cancer with 1.36 million cases (Bray et al, 2015). Breast cancer is the most common type of cancer among women and is the most frequently diagnosed type of cancer in 24 member countries of the International Agency for Research on Cancer (IARC, 2018). In 2014, breast cancer was the most frequently diagnosed type of cancer in all age groups at 24.9%. Moreover, the Republic of Turkey's Ministry of Health (RTMH, 2014) has found that one in four cancer diagnoses is for breast cancer.

Given the numbers, breast cancer is undoubtedly a major issue affecting the lives of many women. Yet, an even greater problem than cancer itself is late diagnosis. Diagnosing cancer in its late stages condemns many people to unnecessary suffering and early death. Luckily, however, breast cancer has a high chance of survival when diagnosed early. Still, early diagnosis requires preventative care, self-examination, and a well-informed and active public. For the above-mentioned reasons, public awareness of breast cancer is vital for health care authorities. A knowledgeable public consistently helps health awareness campaigns achieve their goals. Developing successful health awareness campaigns requires an appreciation of public perceptions, attitudes, and intentions toward the disease. In this regard, knowing whether the target audiences perceive the situation as a problem is essential because people refrain from engaging in active communication unless the issue is public. Therefore, this study uses the Situational Theory of Publics (STP) to segment large groups of people into what are called publics in the context of

breast cancer and uses Theory of Reasoned Action (TRA) to understand their attitudes and intentions toward breast cancer.

STP and TRA have been combined to measure particular subjects, such as attitudes toward herbal products (Xu & Chen, 2016), support for the arts (Gallant, 2014), and perception toward water reclamation (Voss, 2009). However, neither the validity of STP by itself nor STP and TRA combined in encouraging public health and segmenting different types of publics in health behavior intention has not been amply explored. Thus, the aim of the paper is to segment breast cancer publics in Turkey to fill the gap in the existing literature. The study answers two basic questions supported by hypotheses: (1) Is integrating STP with TRA valid for segmenting breast cancer publics in Turkey? and (2) Are significant differences found among public types? The study also attempts to understand the attitudes, subjective norms, and intentions of women toward breast cancer. Understanding these variables will provide insight into how people communicate about breast cancer. To contribute to the health communication literature, this paper is organized as follows: the first section examines STP on different subjects, the second section presents the theoretical framework, the third section presents a method, research model, measures, and hypothesis, the fourth section showcases the statistical estimates and findings, and the fifth section is the discussion.

Literature Review

The current study follows a public segmentation approach to reach its research goals. Segmenting means drawing borders that divide individuals into different homogeneous groups based on certain criteria (Kim, Ni, & Sha, 2008). The first step toward active communication is segmenting publics consistent groups; it provides an extensive figure of these groups, which can be considered as the ground for identifying the most relevant and strong publics (Grunig, 1989; Grunig & Repper, 1992). STP has been used for various subjects in many studies to test its validity. The validity of the theory covers very broad topics and has been applied to many different issues.

The literature implicates that STP works for segmenting cultural identity. For instance, (Sha, 2006) showed respondents who claim a non-White racial/ethnic singularity to be more likely to become active on racial/ethnic issues, which suggests cultural identity to be an antecedent variable in STP. On the other hand, a study measured trust levels in 19 European countries and reported the underserved inactive majority (low income and education) to have the lowest levels of trust in governmental institutions (Hong, Park & Park, 2012). Another study examined how different types of publics have varying levels of trust in the federal, state, and local governments, revealing a significant impact on the combined levels of public trust in government for different types of publics (Kim, 2015, p. 3). Conducting a research on climate-change deniers, (Xifra, 2015) found STP not only to be a valid theory but also to portray denialists as experts acting as a firewall against seeking information, processing information, and broadening the practical value of the theory. Another study revealed that STP is a useful framework for collapsing message elements into usable theoretical concepts working together to produce intent to amend prenatal health

(Aldoory, Roberts, Assini-Meytin, & Bushar, 2016). A study on public health communication revealed that 26 of the 30 cases specifically have linked potential health risks to situational problems (Meng, Pan, & Reber, 2016) Finally, Chen (2020), segmented politicized consumer activism and found three segments: the inactive unprivileged group (Cluster 1), the moderate elites (Cluster 2), and the active middle class (Cluster 3). According to the study, activism levels are lowest in Cluster 1 and highest in Cluster 3. The above-mentioned studies indicate that STP has been frequently used for many different issues, including health issues. Yet, this study uses STP for a health issue, thereby compounding TRA.

Theoretical Framework

The conceptual scope of this research is based on two main theories: The Situational Theory of Publics (STP) and the Theory of Reasoned Action (TRA). STP (Grunig, 1966; 1989) reveals whether people perceive a situation to be a problem and their tendency to engage in communication about it. Previous studies have proven STP to be valid (Grunig, 1978; 1979; 1983; Grunig & Ipes, 1983) (Grunig & Childers, 1988; Grunig & Repper, 1992; Sriramesh, Moghan, Wei, & Kwok, 2007; Aldoory, 2001) and to be a widely accepted theory in the literature. It has already been applied in different countries, such as the USA (Hamilton, 1992), Singapore (Sriramesh, Moghan, Wei, & Kwok, 2007), Croatia (Tkalac-Verčič, 2008). Although STP is often considered useful solely for public relations practices, it originated from a theory about information use and decision making, making its applicability and utility much more comprehensive (Kim & Grunig, 2011, p. 123).

According to STP, publics have two dependent variables (i.e., seeking information and processing information) and three independent variables (i.e., problem recognition, level of involvement, and constraint recognition). The theory states that having high problem recognition and low constraint recognition increases active communication and that involvement increases information seeking. According to (Grunig & Repper, 1992), four types of publics are found: active publics, latent publics, aware publics, and non-publics (inactive). Although STP is able to explain communication behavior, it is less successful in evaluating attitudes. In order to improve preventive health behaviors through better communication, campaign leaders should recognize their targets' attitudes. Attitude is difficult both to measure and to change. Many theories are found on measuring attitudes in the literature (e.g., Fishbein & Ajzen, 1975; Tesser, Whitaker, Martin & Ward, 1998; Zajonc, 1968)

As the other conceptual framework of this research, TRA has been postulated by Fishbein and Ajzen, was useful for allowing one to learn about people's intentions. The goal of TRA is to predict and understand an individual's behavior (Fishbein, 1967). The theory presumes that people make choices and conclusions based on logical grounds (Fishbein & Ajzen, 1975). The concept of intention is substantial in theory, claiming that intention is the most important determinant of behavior. Behavior is based on two variables, namely attitudes toward behavior and subjective norms. The relative weight of these two variables reveals one's intention toward a behavior (Fishbein & Ajzen, 1975).

In TRA, attitudes are defined as negative or positive feelings about an individual's intended behavior. Attitude is the first determinant of one's intention to act individually. According to Ajzen and Fishbein (1980), one's attitude toward a particular behavior is an estimate of positive or negative self-assessment associated with that behavior. Therefore, attitude constitutes an individual's beliefs about whether the result of his behavior will be positive or negative (Albarq & Alsughayir, 2013, p. 13). Subjective norms refer to the person's perceptions of the social pressures to execute or not execute the behavior (Petty & Cacioppo, 1996). Social pressure usually comes from significant others. More specifically, since we care about the ones we loved, we consider their opinions. Thus, the opinions of others will appear positively on the intended behavior, motivation to perform the terminal behavior, and vice versa.

This study therefore uses TRA to measure people's attitudes and intentions toward preventive health behaviors. This theory is used to gain a better understanding of what motivates women to seek a medical examination in order to suggest what kinds of efforts health ministries should undertake to encourage preventive health behaviors. TRA (Ajzen & Fishbein, 1975; 1980; Fishbein, 1963; 1967; 1980) not only offers an important framework for predicting and understanding a person's behavior but also states that subjective norms and attitudes determine behavior.

Aim and Method

This study aims to segment breast cancer publics based on STP. The survey was conducted using two different methods. The first, a web-based questionnaire, was distributed to members of cancer groups on social media. The web-based questionnaire aimed to reach a population that either has breast cancer or a relative with breast cancer. A paper-and-pencil form of the questionnaire was then distributed to a random sample consisting of 550 people and resulting in valid data for 500 of this sample. A pilot questionnaire was distributed to 50 respondents before the measurement's formal implementation.

This study has sought to shed light on breast cancer publics in Turkey. To this end, a model was developed to explain the publics and communication behaviors regarding breast cancer. Both TRA and STP were combined and tested in the model (Figure 1) to determine whether there existed a significant relationship between the variables of these two theories.

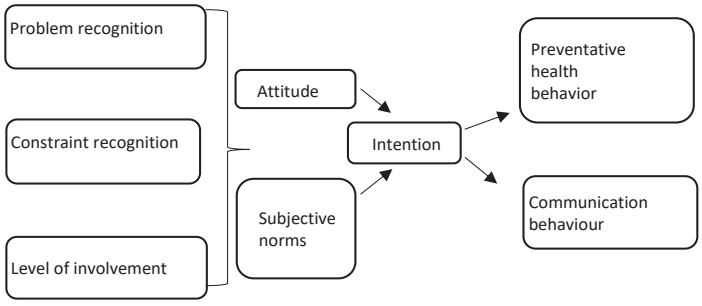

Figure 1. Model of the research: Integrating STP and TRA.

Integrating STP and TRA

The current paper combines STP and TRA. STP is able to predict how people will communicate with each other based on their problem recognition, constraint recognition, and levels of involvement. However, STP is not a theory able to estimate how a person will behave based on his communication behavior (Gallant, 2014, p. 20). Here, TRA makes up for this deficiency by testing the directions of attitudes. By combining STP and TRA, this study, therefore, aims to clarify that the independent variables of STP work as a perception and motivation tool influencing women's attitudes and subjective norms, which is very useful in explaining both communication and preventive health behavior.

This study considers STP as a perception and motivation tool influencing people's attitudes and subjective norms. Therefore, STP and TRA were combined, and STP's variables are considered as the framework for attitudes and intentions. This was tested by integrating TRA's constructs, which explain publics' attitudes, intentions, and subjective norms toward breast examinations, with the variables of STP. Since this is the first study in which that this theory has been used for segmenting the publics of a health issue, the results are substantial to the health communication literature.

Measures

Publics: Using STP to define breast cancer publics, we prepared an 18-item STP-based scale consisting of three factors: *problem recognition* (e.g., I am at risk of getting breast cancer), *constraint recognition* (e.g., Regular check-up is costly and time-consuming), and *level of involvement* (e.g., I am interested in attending training/seminars on breast cancer). Cronbach's alpha was $\alpha = .81$ for these three items.

The dependent variables identified in the theory aim to point out whether people communicate actively or passively about a topic. Active communication is assessed according to two questions: "How often do you seek information about breast cancer?" and "How often do you share information about breast cancer? Passive communication behaviors are measured by the following statements: (i) "The media are the source of some of my knowledge about breast cancer," (ii) "The media has an effect on my perception of breast cancer," and (iii) "I pay attention to breast-cancer content on the media." Cronbach's alpha for seeking information is $\alpha = .77$. Passive communication behaviors consist of processing information, and Cronbach's alpha for this variable is $\alpha = .78$.

Attitudes, subjective norms, and intentions: We used TRA to gain an understanding of participants' attitudes and intentions toward preventive health behaviors, including self-examination. In order to measure participants' attitudes toward self-examination, the respondents were asked to complete a 5-point semantic differential scale using the following endpoints: negative/positive, bad/good, unfavorable/favorable, and unhealthy/healthy. The statement is: "I think self-examination for breast cancer is…"

We used two statements to comprehend the impact of social pressure. These two statements were: (i) "Some of my friends see a doctor for breast examinations" and (ii) "I'm encouraged by my acquaintances' breast ultrasound examinations." Whereas the statement "I plan to go for a breast examination very soon" measured intention, the following two statements were used to measure actual behaviors: (i) "I have yet to see a doctor for a breast examination" and (ii) "I have never self-examined my breasts before." Cronbach's alpha for these four items was found to be .78.

Hypotheses

Research Question 1 (RQ1): Is integrating STP with TRA valid for segmenting Turkey's breast cancer publics?

The rationale set forth by the model tests the following hypotheses:

H1: Problem recognition positively impacts active communication.

H2: Constraint recognition negatively impacts active communication.

H3: Level of involvement positively impacts active communication.

H4: A positive correlation exists between problem recognition and attitude.

H5: A positive correlation exists between the level of involvement and attitude.

H6: There is a negative correlation between constraint recognition and attitude.

H7: A positive correlation exists between problem recognition and subjective norms.

H8: A positive correlation exists between the level of involvement and subjective norms.

H9: A negative correlation exists between constraint recognition and subjective norms.

H10: A positive correlation exists between seeking health information and intention.

Research Question 2 (RQ2): Does a significant difference exist between public types in terms of seeking information, information processing, and behavior?

The following hypotheses were tested to analyze RQ2.

H11: A difference exists between public types and seeking information.

H12: A difference exists between public types and processing.

H13: A difference exists between public types and behavior.

Results

Demographic Features

Before proceeding to the analysis, it would be beneficial to share the demographic characteristics of the sample. The age distribution is as follows: 18-25 years old (n = 128, 25.3%),

26-35 (*n* = 144, 26.2%), 36-45 (*n* = 145, 26.4%), 46-55 (*n* = 65, 11.8%), and 55+ (*n* = 20, 8.1%). Education levels are as follows: primary school education (*n* = 16, 2.9%), high school diploma (*n* = 63, 11.5%), associate's degree (*n* = 50, 9.1%), bachelor's degree (*n* = 149, 33.1%), Master's (*n* = 269; 48.9%), and PhD (*n* = 104, 18.9%). Occupations vary, with 119 (21.6%) being students, 61 (11.1%) being workers, 173 (31.5%) being officials, 65 (11.8%) being housewives, and 41 (7.5%) working freelance.

After having provided the hypotheses to be used in the study, this section will attempt to analyze whether the hypotheses are valid. In order to test the structure validity of STP's variables, we first conducted a principal component analysis. The factor loadings of the basic structure were subjected to Varimax orthogonal rotation, resulting in a total of three factors explaining 58.979% of the total variance. A single factor explaining 81.796% of the total variance was obtained for the variable *seeking information*. Finally, the variable for *processing information* was revealed to have a single factor explaining 70.135% of the total variance.

In order to answer RQ1, the related hypotheses required testing. A regression analysis was conducted to test hypotheses H1, H2, and H3 because they intended to assess the relationships between problem recognition, constraint recognition, level of involvement, and active communication. The results of the regression analysis are presented in Table 1.

Table 1: Multiple Regression Analyses of the Effects of STP's Variables on Active Communication

Coefficients					
Model	*B*	*SE*	ß	*t*	*p*
(Constant)	0.396	0.303		1.306	0.192
Constraint Recognition	-0.126	0.049	-0.106	-2.561	0.011
Level of Involvement	0.271	0.050	0.245	5.411	0.000
Problem Recognition	0.342	0.071	0.219	4.835	0.000
Dependent Variable: Active Communication					

According to the results of the regression analysis, the problem recognition and level of involvement have a positive, statistically significant ($p < 0.01$) impact on active communication. This finding indicates that the hypotheses H1 and H3 are valid. Constraint recognition, however, was revealed to have a negative, statistically significant ($p < 0.05$) impact on active communication. As participants' constraint recognition level increased, they became less active in engaging in communication about breast cancer, thereby substantiating the validity of hypothesis H2. In another saying, participants consider breast cancer as a significant situation and willing to communicate about the topic. The low constraint recognition on the topic determines active communication.

After testing hypotheses H1 through H3, hypotheses H4 through H10 were tested. The relationships between TRA and STP are shown in Figure 1. Since hypotheses H4 to H10 sought to analyze the relationships among variables, we conducted a correlation analysis to test these hypotheses. Prior to performing the correlation analysis, however, we conducted the

Kolmogorov–Smirnov, and Shapiro–Wilk tests to test for normal distribution of the variables. Since the results of the normality test revealed that the variables were not normally distributed, we conducted a Spearman correlation test to analyze the relationships among variables, the results of which are presented in Table 2.

Table 2: Results of the Correlation Analysis for TRA and STP Variables

Spearman's Correlation								
	TRA1	**TRA2**	**TRA3**	**TRA4**	**STP1**	**STP2**	**STP3**	**STP4**
TRA1	1	0.187**	0.239**	0.382**	0.260**	-0.151**	. 0.232**	-0.291**
TRA2	0.187**	1	0.185**	0.123**	0.156**	-0.107*	0.204**	0.097*
TRA3	0.239**	0.185**	1	0.460**	0.294**	-0.163**	0.341**	0.270**
TRA4	0.382**	0.123**	0.460**	1	0.397**	-0.185**	0.360**	0.479**
STP1	0.260**	0.156**	0.294**	0.397**	1	-0.068	0.367**	0.367**
STP2	-0.151**	-0.107*	-0.163**	-0.185**	-0.068	1	-0.020	-0.117**
STP3	-0.232**	0.204**	0.341**	0.360**	0.367**	-0.020	1	.365**
STP4	-0.291**	0.097*	0.270**	0.479**	0.367**	-0.117**	0.365**	1

TRA1: preventive health behavior TRA2: attitude TRA3: subjective norm TRA4: intention
STP1: problem recognition. STP2: constraint recognition. STP3: level of involvement. STP4: seeking information

** *Correlation is significant at p < 0.01 (2-tailed).*
* *Correlation is significant at p < 0.05 (2-tailed).*

As expected per H4 and H5, the correlation test demonstrated that a positive correlation exists between problem recognition, level of involvement, and attitude. Moreover, a negative correlation exists between constraint recognition and attitude, as expected per H6.

Whereas problem recognition and level of involvement were concluded to be positively correlated with the subjective norm, constraint recognition was negatively correlated. These results indicate hypotheses H7, H8, and H9 to be valid. The attitudes of people with a high perception of constraint for breast cancer are built on this perception of constraint or vice versa.

In order to answer RQ2, the publics first needed to be segmented according to the model. This study uses a two-step cluster analysis for this purpose. Two-step cluster analyses either clarify the types of groups present or identify unknown groups in data sets. Three clusters were obtained as a result of the cluster analysis, resulting in one major segment (Cluster 3, n = 191) with the rest being divided into two clusters (Cluster 1, n = 144; Cluster 2, n = 159). Publics are homogeneously clustered in Table 3.

Table 3: Cluster Analysis Results

Predictor	***Cluster 1* Indifferent** ***n* = 191**	***Cluster 2* Conscientious** ***n* = 144**	***Cluster 3* Moderate** ***n* = 159**
Problem Recognition (0.21)	μ = 3.9	μ = 4.6	μ = 4.2
Constraint Recognition (0.09)	μ = 2.6	μ = 2.1	μ = 2.4
Level of Involvement (0.23)	μ = 3.2	μ = 4.3	μ = 3.8

Attitude (0.05)	μ = 3.8	μ = 4.3	μ = 4
Subjective Norm (1.0)*	μ = 3.1	μ = 4.3	μ = 3.8
Intention (0.72)	μ = 2.6	μ = 4.6	μ = 3.6

**Subjective norm is the most important predictor*

A careful look at the predictors reveals subjective norms and intention to be the most substantial predictors. Therefore, the following examination of predictors centers mainly on subjective norms, which are defined as the perceived social pressure to perform or not to perform the behavior (Ajzen, 1991, s. 188). As such, the main issue among clusters is whether a public cares about what society thinks of its behavior.

Cluster 1 has the lowest values of all variables apart from constraint recognition. This public has both high and low constraint recognition simultaneously and is understood to give little value to what others think. Consequently, Cluster 1 is referred to as the indifferent publics. Since the members of Cluster 1 are unwilling to be involved in anything concerning breast cancer, their attitudes, subjective norms, and intentions are unaffected by any external influence. Therefore, the indifferent publics would not be inclined to speak about breast cancer, it can be said. Contrary to Cluster 1, Cluster 2 has the highest levels of problem recognition and level of involvement. Since they seem to like being active, they have been named the conscientious publics. Conscientious publics tend to be more likely to communicate about breast cancer characteristics. Since Cluster 3 has, compared to the other two clusters, average values, they have been named the moderate public. Compared to the segments described in (Grunig, 1997), Cluster 1 resembles non-publics (low problem recognition and level of involvement) whereas Cluster 2 (conscientious) resembles active publics (high problem recognition and low constraint recognition). Thus, moderate publics take place between indifferent publics and conscientious publics.

To finalize the significant differences, we conducted separate ANOVAs with Tukey's post-hoc test. Whereas a significant difference was found to exist among the groups in terms of information seeking and behavior, no significant difference was found to exist in terms of information processing. Tukey's post-hoc test was used to determine the location of the difference between groups. Accordingly, the highest value for information seeking was found to have been obtained from the active public, with all groups differing significantly from one another. For behavior, the indifferent public was found to differ from the active and moderate publics, and no significant difference was found for the active and moderate publics with regard to behavior. Table 4 shows characteristics of publics.

Table 4: Characteristics of Publics.

Cluster	Information Seeking	Information Processing	Preventive Health Behavior
Indifferent (*n* = 191)	$2.11^{a,b}$	3.47	$3.05^{a,b}$
Conscientious (*n* = 144)	$3.08^{a,c}$	3.51	4.10^{a}
Moderate (*n* = 159)	$2.58^{b,c}$	3.58	3.89^{b}
Total (*N* = 494)	2.54	3.52	3.63
***F* Statistics**	45.52^{***}	0.75	34.59^{***}

*** *p* < .001. *Means with the same superscripted letters have a significant difference of at least 0.05.*

In table 4, A one-way ANOVA was implemented to determine whether a significant difference existed in the questions constituting the clusters. The one-way ANOVA revealed that the mean for each variable differed with respect to the three clusters and that a statistically significant difference exists among the clusters. Therefore, we may infer that STP is a valid theory for segmenting Turkey's breast-cancer publics. The meaning of this test result is that the disintegration of each cluster is based on certain differences. In other words, a participant included in one group is not included in another and has characteristics representing his cluster.

Conclusion and Discussion

The purpose of the study is to segment breast cancer publics based on STP. The results of this study are important in helping to reveal how women perceive breast cancer, the most frequently diagnosed type of cancer among them. The present study found that STP is a valid theory for segmenting Turkey's breast-cancer publics and the problem recognition level is high (min. 3.9, max. 4.6). As discussed in Section 1, many public segmentation studies reveal that STP has historically been applied to many different subjects. Yet, STP has neither dealt with health behavior intentions nor has it been combined with TRA on a health issue before. The present study found that subjective norms are a very strong predictor of segmenting breast cancer publics. For these reasons, the paper offers a novel approach to the literature.

Moreover, a significant relationship was found between STP and TRA variables. Conscientious publics are the most prone to seek information and demonstrate preventive health behaviors. This finding is not surprising given that their problem recognition and level of involvement are high and their constraint recognition is low. Since their intention to engage in preventive health behaviors is also high, this group is the most likely of publics to seek breast examinations. The willingness of this public type to seek information about breast cancer indicates that health intervention campaigns will be able to reach this public type with greater ease. Indifferent publics are the least likely of groups to seek information about breast cancer. They have the lowest problem recognition levels among publics and, as expected, lack a strong intention to adopt preventive health behaviors. This breast cancer public group needs to increase its perception of problems and reduce its perception of constraints.

The findings of this study reveal subjective norms to be a strong predictor of health behaviors. Since health information is not the type of information easily reached, people generally refer to others for information. Subjective norms also work for risky health behaviors. According to a study, subjective norms moderate the attitudes and intentions toward drinking behaviors (Park, Klein, Smith, & Martell, 2009). However, another study has shown that the level of involvement is the strongest predictor of attaining information (Xu & Chen, 2016), meaning that behavior predictors can change depending on the terminal behavior. Since subjective norms matter for all three publics, it is possible to encourage preventive health behaviors on the large scale.

Given that subjective norms are important for breast cancer publics, several inferences can be made based on the findings. Previous studies (Finlay, Trafimow, & Jones, 1997; Ahn & Kahlor,

2020) have also found that subjective norms are particularly important in the health domain. Since, as mentioned above, subjective norms represent social pressure (Petty & Cacioppo, 1996), social pressure can be used as a persuasion tool in health intervention campaigns to encourage people to adopt preventive health behaviors. This is an important issue for future interventions, as in many health intervention campaigns, messages appealing to fear are used (Soames-Job, 1988; Nabi, Roskos-Ewoldsen, & Dillman-Carpentier, 2008; Nabi & Myrick, 2019). This particular finding can be used to design health messages that incorporate subjective norms/social press without referring to fear, which would be effective for the breast cancer publics. Health communication campaigns can be prepared more effectively after determining what is necessary to reverse indifferent publics' perceptions of constraints.

With regard to breast cancer, it was understood that women are highly perceptive toward problems. Additionally, by reducing the number of restrictions perceived by women and increasing their interest levels, indifferent and moderate publics will be turned into conscientious publics, which will help determine the strategic communication content to be prepared for preventing breast cancer.

It should be recognized that the findings of this research is highly related to the Turkish cultural context. In Turkey, apart from attitudes, subjective norms and, intentions there are some factors affecting communication behavior in the context of the STP. For example, the relationship between culture and the independent variables of STP is significantly affected how communication behavior will result. A study demonstrated the profile of the active, aware, and latent publics in Turkey by segmenting the situational theory of publics in the context of fee charges by banks. The study found that culture is a determinant of the communicative behavior (Gök Demir, 2016; Gök Demir & Karakaya Şatır, 2018).

Various health communication programs on breast cancer are held every year across the world and in Turkey. Women are the target demographic of these promotions. The goal of each initiative is to reach more women. The public segments gathered in this research add to both the health communication literature and health professionals by providing effective recommendations about how to best communicate with women about breast cancer. The current study states that conscientious publics are the most prone and indifferent publics are the least willing to engage in active communication. Additionally, the study found that social norms are the strongest predictor. Based on these findings, we suggest that health communication campaigns use public types and subjective norms. Nevertheless, the study does not contain any analysis on how indifferent publics could be more actively engaged in communication, a gap that can be filled in future studies. In addition, the findings of the analysis pose other concerns. For example, which communicating strategies can be used to minimize problem recognition levels towards breast cancer? or What might be the ways to boost the level of involvement? These topics have led to health interventions and can be addressed in future research. Thus, health programs will be able to improve even further.

Study Limitations

The study has certain limitations. One of the most frequently mentioned weak points of TRA is precisely the very weak relationship between subjective norms and intentions. (Ajzen, 1991), who developed the Theory of Planned Behavior (TPB), explained this by emphasizing that intentions are heavily influenced by personal factors, such as attitudes. Despite this, previous studies have shown subjective norms to significantly moderate the relationship between attitudes and intentions (Ham, Jeger, & Frajman-Ivković, 2015; Al-Swidi, Huque, Hafeez, & Shariff, 2014). Another limitation of the current study is that the findings represent Turkey-specific aspects. The study, therefore, does not portray a comprehensive picture. The final limitation is that motivation is not included among STP and TRA variables, meaning that the study does not directly measure motivations for behaviors.

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