Attitudes Toward Breaking Bad News Among Physicians in Türkiye

Türkiye'de Hekimlerin Kötü Haber Vermeye Yönelik Tutumları

Araştırma
Research

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Abstract

Objective: In medical communication, bad news is conceptualized as any information that can significantly alter patient's outlook on their future. Physicians are often the ones responsible for delivering such news, and this process can be emotionally challenging for both patients and doctors. Moreover, attitudes toward breaking bad news and the skills involved in doing so may vary among physicians. This study's main aim is to investigate physicians' attitudes toward delivering bad news through conducting the Turkish validity and reliability analysis of the 15-item Breaking Bad News Attitudes Scale (BBNAS). The study also sought to identify the key predictors of physicians' attitudes on breaking bad news.

Method: A total of 203 physicians and senior medical students (111 women, 92 men) working at Selçuk University Faculty of Medicine participated in the research.

Results: As a result of the analyses, one item was removed due to low factor loading, and two items were excluded to reduce multicollinearity. The final 12-item Turkish version, consisting of two dimensions (SPIKES Adherence and BBN Training) demonstrated a good model fit. Internal consistency coefficients (Cronbach's α=.81 and .82) for the two dimensions indicated that the Turkish form of the scale is reliable. To assess construct validity, correlations were examined with related measures. The scale was found to be positively associated with interpersonal communication competence and general self-efficacy and negatively associated with perceived stress. This study's results indicated that the Turkish form of BBNAS is a valid and reliable measure for evaluating medical doctors' breaking bad news attitudes.

Conclusion: The results shed light on physicians' attitudes toward breaking bad news and on the factors that facilitate or hinder these attitudes.

Keywords: truth disclosure; breaking bad news; self efficacy; empathy; psychological stress; communication; physician-patient relations

Özet

Amaç: Tıbbi iletişimde kötü haber, hastanın geleceğine dair bakışını önemli ölçüde değiştirebilecek bilgiler olarak tanımlanır. Hekimler, bu tür haberleri sıklıkla ileten kişiler olup, bu süreç hem hastalar hem de hekimler için duygusal açıdan zorlayıcı olabilir. Ayrıca, kötü haber verme tutumları ve bu konudaki beceriler hekimler arasında farklılık gösterebilir. Bu çalışmada hekimlerin kötü haber vermeye ilişkin tutumlarını incelemeye yönelik geliştirilen 15 maddelik Kötü Haber Verme Tutumları Ölçeği'nin (KHVTÖ) Türkçe geçerlik ve güvenirlik çalışması yapılmış ve hekimlerin kötü haber vermeye ilişkin tutumlarının belirleyicileri anlaşılmak istenmiştir.

Yöntem: Çalışma kapsamında Selçuk Üniversitesi Tıp Fakültesi'nde görev yapmakta olan 203 hekime ve ileri sınıf Tıp Fakültesi öğrencisine (111 kadın, 92 erkek) ulaşılmıştır.

Bulgular: Analizler sonucunda 1 madde düşük faktör yükü, 2 madde de çoklu doğrusal bağlantıyı azaltmak amacıyla çıkarılmış ve 12 maddelik 2 boyutlu (kötü haberlerin verilmesine yönelik tutumlar, kötü haber vermeye ilişkin eğitim almaya dair tutumlar) Türkçe formun veriye iyi bir uyum sağladığı görülmüştür. İki boyutun iç tutarlılık katsayıları (Cronbach α=,81 ve ,82) da ölçeğin Türkçe formunun güvenilir olduğuna işaret etmektedir. Ölçeğin yapı geçerliğini incelemek adına ilişkili olabileceği düşünülen ölçüm yöntemleriyle ilişkisi incelenmiş ve ölçeğin kişilerarası iletişim yetkinliği ve genel öz yeterlik ile pozitif yönde, algılanan stres ile ise negatif yönde ilişkili olduğu görülmüştür. Bu bulgular ölçeğin Türkçe formunun geçerli ve güvenilir bir ölçüm yöntemi olduğuna işaret etmektedir.

Sonuç: Sonuçlar hekimlerin kötü haber vermeye ilişkin tutumlarına, bu tutumları teşvik eden ve önünde engel oluşturan faktörlerin anlaşılmasına ışık tutmaktadır.

Anahtar Sözcükler: gerçeği açıklama; kötü haber iletimi; öz yeterlik; empati; psikolojik stres; iletişim; doktor-hasta ilişkileri

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Introduction

"Any information which adversely and seriously affects an individual's view of his or her future" can be conceptualized as bad news. Communicating a diagnosis (e.g., cancer), the threatening development of a disease, failure to respond to treatment, and loss of life are some examples of bad news. After receiving bad news, patients and/or their relatives may give negative emotional reactions such as anxiety, sadness, or anger (1). Research on delivering bad news in medical settings has predominantly focused on oncology, as life-threatening diagnoses such as cancer are common in this context. However, bad news can also include chronic illnesses, insurance problems, and other conditions that reduce quality of life (1). Although the content of bad news varies across medical specialties, physicians often exhibit similar emotional reactions and act in accordance with the norms of their field. Nonetheless, in medical professions, bad news has not gotten much attention beyond the field of oncology (2). The present study seeks to investigate variables associated with delivering bad news in medical contexts (e.g., general self-efficacy, interpersonal communication competence, perceived stress) among Turkish physicians, and to adapt the Breaking Bad News Attitudes Scale (BBNAS) into Turkish culture.

Receiving bad news is inherently stressful, and when such news is delivered carelessly by professionals (e.g., physicians), it can intensify the patient's distress and further heighten its emotional impact. Research conducted with cancer patients indicates that they have various expectations regarding how bad news should be communicated. These include the professional competence of the delivering specialist, the preference for patient-centered communication, openness and directness in the interaction, and consideration of the patient's preferences in information sharing (3). In addition, the use of structured communication protocols has been found to be positively associated with better recall of the conversation content, decreases in anxiety and depression levels, along with enhancements in overall quality of life (4).

Although it is an essential and inevitable part of medical practice, breaking bad news can be emotionally demanding. Doctors often have to deliver unpleasant news to patients early in their careers. In fact, 7 out of 10 doctors deliver bad news for the first time while still medical students or interns (5). The way patients receive bad news can deeply influence both their lives and those of their families, shaping their emotions and perspectives on the future (3). Delivering bad news might be made much more challenging by these far-reaching consequences. Many healthcare professionals also report feeling insufficiently prepared to take on the responsibility of delivering such news (6-8). As an example, a qualitative study from Türkiye (9) showed that end-of-life communication with children in pediatric intensive care is often marked by avoidance of direct discussions about death and difficulties responding to children's questions. It was also highlighted that nurses need training and structured support, and that culturally sensitive guidelines are required to strengthen child- and family-centered care.

Effectively delivering bad news requires a combination of communication skills and personal qualities (10). Regardless of their medical specialty (e.g., oncology) physicians tasked with communicating such news take on a demanding responsibility and often experience undesirable outcomes such as stress (8,11-12). Meeting the demands of establishing a trust-based relationship with the patient or their family and preparing the setting/context for the conversation is not equally easy for every physician (13). Effective communication is also a core element of physician-patient relations, especially when conveying bad news or discussing end-of-life issues. A recent study (14) demonstrated that communication that is timely, honest, structured, and emotionally responsive helps families understand the situation, participate in decision making, and better cope with highly stressful experiences.

If bad news is conveyed ineffectively, it can result in consequences such as the patient rejecting the recommended treatment, losing hope regarding the course of their illness, or expressing anger toward the physician. According to earlier research (11-12,15), doctors who break bad news to patients may also feel anxious, depressed, guilty, like they've failed, and burned out. Healthcare professionals also

reported that coping with patients' and families' emotional reactions, as well as their own feelings, was the most challenging aspect of delivering bad news (16).

Effective communication of bad news by medical professionals can help patients or their families. Conversely, poor communication may contribute to the development of depressive symptoms (17). Professionals with better communication skills typically feel less negative when breaking bad news, according to another study (18). To deal with the stress that comes with delivering such news, doctors may employ strategies like using unambiguous terms and cooperating as a medical team (19–20). At this point, empathy serves as both a powerful communication tool and a preventative measure against burnout (3,21). A recent study (22) also demonstrated that utilization of structured communication frameworks about delivering bad news was associated with higher levels of empathy among Romanian medical residents. Therefore, training programs that focus on delivering bad news could enhance physicians' communication skills and, in turn, help them better manage their negative emotions.

Stress represents a significant barrier to effectively delivering bad news, but it's also directly related to how confident doctors are in their ability to communicate. Therefore, to understand how doctors feel about breaking bad news, it is necessary to assess their communication skills and levels of self-efficacy. Relationship-oriented dynamics such as maintaining professional communication, managing uncertainty, and preserving emotional awareness are also included (23). These elements are associated with clinical knowledge, a strong sense of self-efficacy, and advanced communication skills. Doctors' communication skills are influenced by their life experiences as well as their professional training. Research indicates that when delivering bad news, communication competence (8,24–27) and self-efficacy (28–29) are critical. Another study conducted with Polish healthcare professionals (30) highlighted the importance of practical communication skills in enabling them to handle emotionally demanding interactions effectively. However, many physicians tend to overestimate these skills prior to training (31), which may make it harder to identify the need for such training. A study (32) demonstrated how simulation-based training enhances self-efficacy and highlights the importance of experiential elements like role-playing, observation, and feedback, which are based on social cognitive theory (33). Furthermore, another study (34) discovered that perceived competence in delivering bad news is more strongly correlated with age and clinical experience. Together, these findings demonstrate the need for more experiential, reflective, and specialty-specific training approaches.

A growing body of recent research shows that specialized training in breaking bad news enhances doctors' self-awareness and communication skills, which in turn influences how they manage this situation (25,31–32,35). To address the challenges associated with this task, a six-step structured communication model called "Setting, Perception, Invitation, Knowledge, Empathy, and Summarize/ Strategize (SPIKES)" was developed. This method emphasizes the doctor's sharing of clinical information as well as understanding the patient's viewpoint, offering emotional support, and actively involving the patient in treatment planning in order to foster a collaborative communication process. Skills like demonstrating empathy, identifying patients' emotional responses, and carefully communicating available interventions are the core components of the model (36–37). Positive patient outcomes are linked to communication abilities like empathy that are incorporated into the SPIKES framework (3). These abilities are also linked to improved stress management techniques and protective factors against physician burnout (32,35). Yet, structured communication training and opportunities for supervised practice must be incorporated into medical curricula in order to fully reap the benefits of the SPIKES protocol (7). Furthermore, determining how well doctors' attitudes toward delivering bad news fit the guidelines of this protocol is crucial to comprehending Turkish medical practices today and determining the possible effects of focused training initiatives.

In order to improve students' proficiency in the psychosocial facets of medical care, medical education programs in Türkiye incorporate

both theoretical and practical courses, such as medical ethics and communication techniques. Even though communication skills are officially covered in the curriculum, research indicates that students' confidence and readiness in this area can be improved by more hands-on, experience-based training that focuses specifically on breaking bad news. A Turkish study found that SPIKES protocol-based training was beneficial for medical students (38). However, despite the growing interest in communication training, there are still comparatively few empirical studies addressing doctors' experiences and attitudes regarding breaking bad news in Türkiye. One of the main challenges in this area is the lack of reliable and valid Turkish-language assessment tools to determine attitudes regarding the dissemination of bad news. Such tools must be developed in order to support relevant research, assess the success of training programs, and improve clinical communication skills.

Culture is another important consideration when delivering bad news to patients, as they may have different cultural needs and expectations regarding who receives the information first and how openly it is communicated. Individualistic cultures place a high value on patient autonomy, and physicians typically consult with patients directly before involving family members. Conversely, collective cultures view the patient as a part of a broader social group and strongly value family involvement (39). Information is typically communicated less explicitly in nations like Japan and Iran, where family-centered methods and cultural and religious beliefs are common influences (25,40–41). Given the cultural context of Türkiye, which combines individualistic and collectivist values, a more comprehensive understanding of the cultural demands and expectations surrounding the methods of breaking bad news is necessary.

The Present Study

The present study aims to adapt a scale measuring attitudes toward delivering bad news into Turkish and seeks to move beyond viewing communication solely within a biomedical framework. Delivering bad news is a complex interpersonal process that is influenced not only by medical knowledge but also by physicians' general communication competencies, stress levels, and self-efficacy perceptions. This remains true even though a significant amount of the work that is currently in publication focuses on evaluating the method of breaking bad news through physiological stress, clinical expertise, and specialty-specific skills. Therefore, this study aims to evaluate the broader psychological and relational skills that assist physicians deliver bad news by choosing variables like communication competence, perceived stress, and self-efficacy. In this way, the study not only fills a gap in the literature by providing a more comprehensive framework that places medical communication within contexts of interpersonal competence and emotional well-being, but it also addresses the lack of a reliable instrument to measure attitudes toward bad news in the Turkish population.

Furthermore, a survey of the relevant research indicates that most existing studies have been conducted in Western nations, such as the United States and the United Kingdom. Only 14% of doctors felt competent in breaking bad news, according to Yurdakul and colleagues (42) one of the few studies examining physicians' attitudes toward doing so in the Turkish context. Approximately 70% of doctors said they had no training in breaking bad news. Notwithstanding this conclusion, the study also revealed that half of the doctors reported experiencing anxiety during the delivery process, and three out of four had previously delivered bad news. Considering Türkiye's unique cultural and social dynamics (e.g., societal values and expectations), physicians' challenging working conditions (e.g., long working hours, shifts), physical environment, and the psychological stress experienced due to these factors, it is reasonable to expect that doctors' attitudes toward bad news and their experiences in effectively delivering such news may differ in the country.

Material and Methods

Participants and Data Collection

A total of 203 respondents (111 females, 92 males, M_{age}=31.5) took part in the study, including medical students in their fourth, fifth, or sixth year at Selçuk University Faculty of Medicine and graduate physicians. The data for this study were collected between October and December 2024. Participants were selected using purposive sampling based on their direct

involvement in patient care. The inclusion criteria comprised physicians who actively interacted with patients and senior medical students in their 4th, 5th, or 6th years of study at the Medical Faculty. These criteria ensured that all participants had relevant clinical experience and exposure to real patient interactions, which was essential for the aims of the study. Of the sample, 19.2% were interns, 6.4% were fourth or fifth-year students, 15.8% were faculty members, and 58.6% were resident doctors. Among physicians with specialties, 94.5% worked in clinical fields, while 4.1% were in basic medical sciences. Physicians in the basic sciences were also included, as they have patient interactions during their training. The Ethics Committee at Selçuk University granted ethical approval for the study. Doctors and medical students with direct patient contact were recruited through convenience sampling, both online and in person.

Measures

Demographic Questions

Participants were asked to provide the following personal information: age, gender, specialty (e.g., clinical sciences, basic sciences), and professional title (e.g., intern, faculty member).

Breaking Bad News Attitudes Scale (BBNAS)

In this study, BBNAS, originally developed by dos Santos and colleagues (43), was adapted into Turkish to assess physicians' attitudes toward the bad news delivery process and their adherence to the SPIKES protocol. Each item was rated by participants on a 5-point Likert scale, with 1 indicating "Strongly Disagree" and 5 indicating "Strongly Agree". The original scale is composed of 15 items and is divided into two subscales: SPIKES adherence (e.g., "I only report bad news after establishing a relationship of trust with the patient") and training (e.g., "The transmission of bad news is a skill that can be trained and stimulated"). After obtaining the necessary permissions for the adaptation of the scale, the items were independently translated into Turkish by the authors. Then, three specialists from different disciplines back translated the Turkish version into English to ensure conceptual equivalence. All translated forms were reviewed by the authors, and necessary revisions were made. The final Turkish version of the scale was established after this review process. The Turkish version of the scale contains 12 items. Details regarding the removal of three items are presented in the results section. The internal consistency coefficients of the Turkish form are at acceptable levels (Cronbach's α=.81 for the SPIKES adherence, and .82 for the training subscale).

Interpersonal Communication Competence Scale (ICCS)

Developed by Huang and Lin, this 15-item scale measures four core communication skills: listening (e.g., "In conversations with friends, I know what topics we talk about"), social relaxation (e.g., "It is not difficult for me to get along well with new people"), empathy (e.g., "While talking to others I always think about how they feel"), and expression (e.g., "I can express myself clearly while interacting with others") (44). Participants respond to the items on a 5-point scale ranging from 1 (=not at all characteristic of me) to 5 (=very characteristic of me). Higher scores indicate greater interpersonal communication competence. The scale was adapted into Turkish by Çıkrıkçı and Çinpolat (45). In the current study, the internal consistency coefficients were found to be .82 for listening skills, .82 for social relaxation skills, .70 for empathy skills, and .58 for expression skills.

Perceived Stress Scale (PSS)

The 14-item Perceived Stress Scale (PSS), originally developed by Cohen and colleagues, was used to assess the extent to which situations in participants' lives were perceived as stressful (46). The scale has two subdimensions: perceived insufficient self-efficacy (e.g., "In the last month, how often have you found that you could not cope with all the things that you had to do") and perceived stress/distress (e.g., "In the last month, how often have you been upset because of something that happened unexpectedly?"). Participants respond to the items on a scale ranging from 0 (=never) to 4 (=very often). Higher scores indicate greater perceived stress. The scale was adapted into Turkish by Eskin and colleagues (47). In this study, the internal consistency coefficients (Cronbach's α) were found to be .86 for the perceived insufficient self-efficacy subdimension and .84 for the perceived stress/distress subdimension.

General Self-Efficacy Scale (GSE)

The scale, originally developed by Schwarzer and Jerusalem, assesses individuals' perceived self-efficacy in coping with challenging situations (48). Participants respond to the items on a scale ranging from 1 (=not at all true) to 4 (=exactly true). Higher scores indicate higher levels of self-efficacy. Adapted into Turkish by Aypay (49), the scale consists of two subdimensions: effort and persistence (e.g., "It is easy for me to stick to my aims and accomplish my goals") and ability and confidence (e.g., "I can always manage to solve difficult problems if I try hard enough"). In the current study, Cronbach's α values were found to be .90 for the effort and persistence subdimension and .78 for the ability and confidence subdimension.

Statistical Analysis

The dataset obtained for this study was analyzed using SPSS (v.27) and Jamovi software. Initially, skewness and kurtosis statistics were reviewed to assess whether the variables satisfied the normality assumption. Subsequently, confirmatory factor analysis was conducted in Jamovi to determine whether the scale exhibited a two-factor structure in the present sample. Once the bi-dimensional structure was confirmed, reliability testing was performed to evaluate the internal consistency of the scale. Finally, to examine the construct validity, correlation analyses were carried out to explore the associations of the scale with other variables expected to show positive or negative relationships.

Results

Preliminary Analyses

Prior to examining the factorial structure of the Turkish version of BBNAS, preliminary analyses were conducted to evaluate the assumption of normality. The results (Table 1) demonstrated that the absolute values of skewness and kurtosis fell within the acceptable range of |1.5|, indicating a normal distribution (50).

Factorial Structure of the Turkish Form of BBNAS

A confirmatory factor analysis was carried out employing Jamovi to examine whether the bi-dimensional structure of the BBNAS was also valid in the Turkish physician sample. Goodness-of-fit results showed that the model did not fit the data well; $\chi 2$ (n=203, df=89)=231, $\chi 2/df$=2.60, p<.001, CFI=.87, TLI=.84, RMSEA=.09, 90% CI [.08,.10], SRMR=.07. An examination of the factor loadings revealed that Item 13 ("Medical empathy can help in the transmission of bad news") had a standardized loading below .40 (.33) on its respective factor. This low loading indicated that the item did not sufficiently represent the underlying construct, and thus it was excluded from further analysis.

Additionally, the residual correlation matrix was examined to identify item pairs whose relationships were not adequately accounted for by the model (Table 2). Following the recommendations of Kline (51) and Knekta et al. (52), among item pairs with residual

Table 1. Descriptive Statistics

	Mean	Standard Deviation	Minimum/ Maximum	Skewness	Kurtosis
SPIKES Adherence	4.10	.62	2.00/5.00	-.70	.68
BBN Training	4.31	.71	1.75/5.00	-1.21	1.18
Listening (ICC Factor 1)	3.38	.62	1.00/4.00	-.97	.85
Social Relaxation (ICC Factor 2)	2.94	.79	.25/4.00	-.60	.15
Empathy (ICC Factor 3)	2.95	.67	.75/4.00	-.32	.02
Expressiveness (ICC Factor 4)	2.75	.70	.33/4.00	-.29	.17
Effort and Persistence (GSE Factor 1)	2.87	.61	1.33/4.00	-.10	-.40
Ability and Confidence (GSE Factor 2)	3.07	.55	1.75/4.00	-.04	-.64
Low Perceived Self-Efficacy (PSS Factor 1)	2.60	.57	1.00/4.43	.01	.04
Perceived Stress/Discomfort (PSS Factor 2)	3.20	.64	1.29/4.71	-.27	.31

Note. BBN = Breaking Bad News, ICC= Interpersonal Communication Competence, GSE= Generalized Self-Efficacy, PSS= Perceived Stress Scale.

correlations of |.10| or higher and conceptually similar content (i.e., Item 4 and 6, and Item 7 and 8), only the items with the higher factor loadings (Item 4 and Item 7) were retained in the model, while the others were excluded. This decision was made to reduce redundancy in the model and enhance the clarity with which the construct is represented. Retaining items with higher factor loadings was also deemed more appropriate in terms of conceptual representation (for item content and initial factor loadings, Table 3). After the removal of these three items, the model showed improved fit to the data and met acceptable fit criteria. In particular, increases in CFI (.94) and TLI (.93), a decrease in RMSEA (.07), and an SRMR value of .05 indicated improvement in model fit; χ^2 (n=203, df=53)=102, χ^2/df=1.93, p<.001, CFI=.94, TLI=.93, RMSEA=.07, 90% CI [.05, .09], SRMR=.05. Figure 1 displays the standardized loadings associated with the two-factor model.

Reliability Analysis

After the validation of the two-factor structure of BBNAS, internal consistency coefficients were calculated for the sub-dimensions of SPIKES Adherence and BBN Training. Internal consistency coefficient (Cronbach's α) was .81 for the first dimension and .82 for the second dimension. These values indicate that the Turkish version of the measure is reliable.

Construct Validity

To examine the construct validity of BBNAS, the relationships between BBNAS dimensions (i.e., SPIKES Adherence, BBN Training) and subfactors of generalized self-efficacy, interpersonal communication competence, and perceived stress were examined. Bivariate correlation analyses demonstrated that the first dimension of BBNAS (i.e., Attitudes Towards the SPIKES Strategy for Breaking Bad News) positively correlated with all dimensions of ICCS and GSE. The correlation coefficients (i.e., r) were found as .45 (p<.001) for listening, .31 (p<.001) for social relaxation, .50 (p<.001) for empathy, and .40 (p <.001) for expressiveness. In terms of GSE, the first dimension of BBNAS was positively correlated with effort and persistence (r=.39, p<.001), and ability and confidence (r=.36, p<.001) dimensions. SPIKES Adherence dimension of BBNAS (i.e., first factor of BBNAS) negatively correlated with the first factor of Perceived Stress Scale (PSS) (i.e., low perceived self-efficacy) (r=-.30, p<.001).

Results also yielded that the second factor of BBNAS (i.e., Attitudes Towards Training for Breaking Bad News) was associated with three dimensions of interpersonal communication competence (ICC). Specifically, it was positively

Table 2. Residuals for Observed Correlation Matrix

	1	2	3	4	5	6	7	8	9	10	11	12	14	15
1		.03	.04	.07	-.02	.02	-.05	.01	-.04	-.08	-.04	-.03	-.11	.06
2			.15	-.04	-.01	-.18	-.03	-.04	.09	-.04	.02	-.01	-.08	.07
3				-.04	.06	-.13	.00	-.08	.01	-.07	.03	-.04	-.11	.09
4					.03	**.18**	-.10	-.02	-.06	.02	.07	-.01	.08	.02
5						-.02	.05	-.01	-.09	-.05	-.05	-.01	-.05	.03
6							.03	.03	.05	.05	.17	.04	.13	.16
7								**.16**	-.04	.01	-.03	-.04	-.16	.06
8									-.02	.06	-.00	-.16	-.13	-.04
9										.10	.12	-.00	.01	.08
10											.09	.05	.17	.01
11												.01	-.00	-.03
12													.01	-.00
14														.02
15														

Note. Correlations above .10 between theoretically similar items are highlighted in bold.

Table 3. Item Contents and Initial Factor Loadings		
Item Number	**Item Contents**	**Standardized Factor Loading**
Factor 1		
1	"I prepare a suitable place when I need to transmit bad news."	0.64
2	"After reporting bad news, I try to answer the questions without inhibiting this moment of unpredictable reactions."	0.65
3	"I try to understand if the patient was informed about his or her prognosis."	0.67
4	"I only report bad news after establishing a relationship of trust with the patient."	0.60
5	"It is important to know if the patient wants to discuss his pathology and consequences."	0.60
6	"I organize some strategy in advance to convey bad news.*"	0.57
7	"After giving bad news, I answer the patient's questions showing support, respect and understanding."	0.64
8	"I end the communication of the bad news proposing a plan of future goals for follow-up.*"	0.62
9	"After communicating the bad news, I encourage the patient to express their feelings and clarify their doubts."	0.57
10	"I always inform the family that there will be psychological support when necessary."	0.47
13	"Medical empathy can help in the transmission of bad news.*"	0.33
Factor 2		
11	"I believe there should be improvements and/or more investment in improving communication skill of bad news."	0.78
12	"It would be desirable to receive training to report bad news."	0.82
14	"I am interested in courses and training on bad news information."	0.74
15	"The transmission of bad news is a skill that can be trained and stimulated."	0.71
Note. Item 13 was omitted because of its weak loading on the factor (<.40), while Items 6 and 8 were removed after examining the correlation matrix to reduce multicollinearity.		

associated with listening ($r=.33$, $p<.001$), social relaxation ($r=.19$, $p=.01$), and empathy ($r=.35$, $p<.001$). Similarly, it was positively correlated with all dimensions of generalized self-efficacy (GSE), namely effort and persistence ($r=.15$, $p=.03$), and ability and confidence ($r=.16$, $p=.02$). However, no relationships were observed for this dimension with subfactors of the Perceived Stress Scale (PSS). In addition, the first factor of the BBNAS was found to be positively associated with their age ($r=.27$, $p<.001$). Besides, several independent samples t-tests and one-way ANOVA tests were performed to determine whether participants' scores obtained from the subscales of BBNAS differed according to gender, physicians' specialty (i.e., clinical medical sciences, basic medical sciences, and their titles (e.g., faculty member, intern). The analysis revealed no meaningful variation between genders or among specialties. One-way ANOVA findings showed that faculty members have higher scores in BBNAS SPIKES than intern doctors ($M_{diff}=.71$, $p=.004$) and research assistant doctors ($M_{diff}=.67$, $p=.003$). Faculty members also had higher scores in BBNAS Training than intern doctors ($M_{diff}=.69$, $p=.03$).

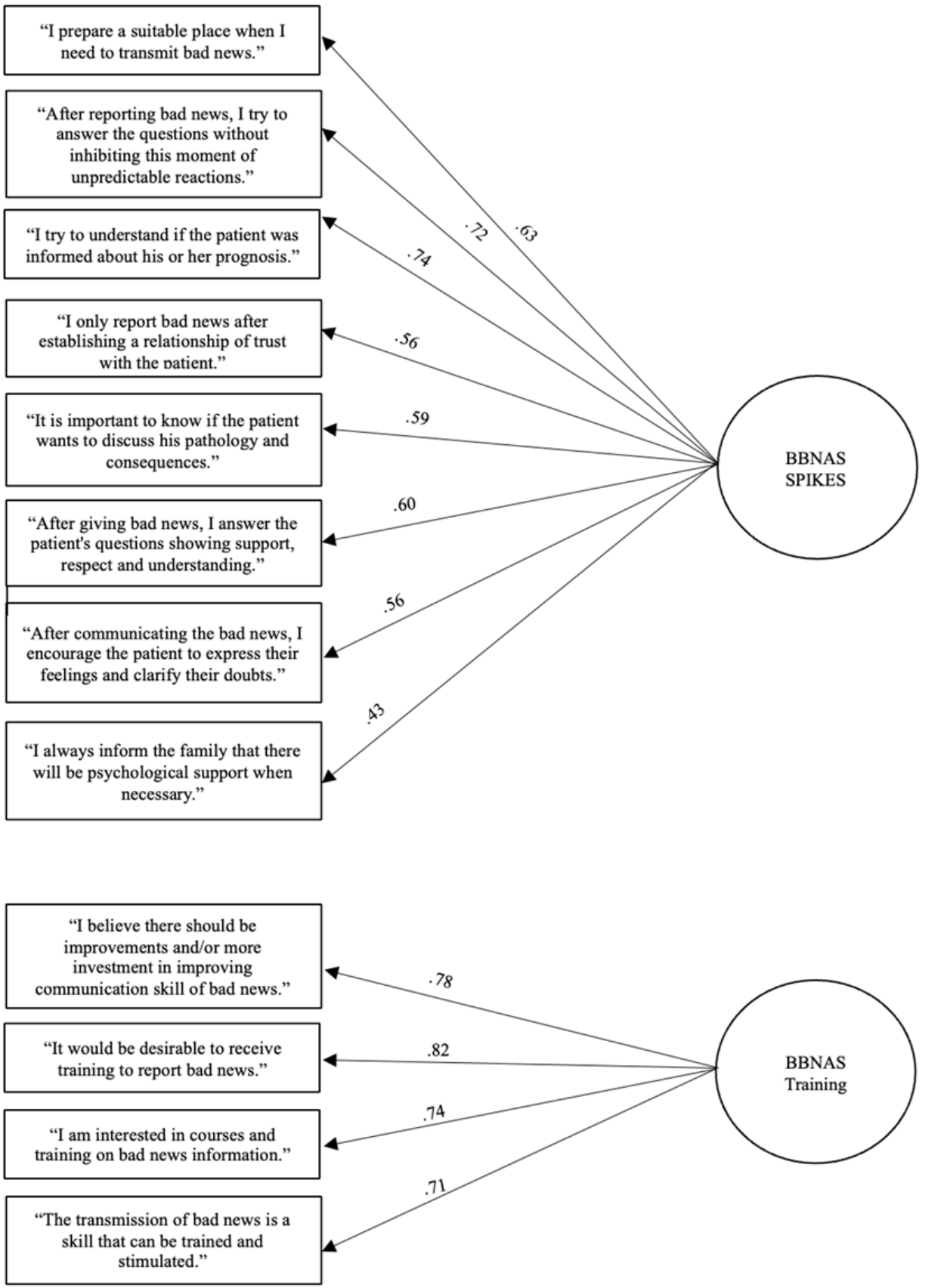

Figure 1. Two-factor model of BBNAS and standardized parameter estimates.

Table 4. Bivariate Correlations Between Study's Variables

	1		2		3		4		5		6		7		8		9		10		11
1. SPIKES Adherence (BBNAS Factor 1)	—																				
2. BBN Training (BBNAS Factor 2)	.41	***	—																		
3. Listening (ICC Factor 1)	.45	***	.33	***	—																
4. Social Relaxation (ICC Factor 2)	.31	***	.19	**	.41	***	—														
5. Empathy (ICC Factor 3)	.50	***	.35	***	.53	***	.41	***	—												
6. Expressiveness (ICC Factor 4)	.40	***	.12		.38	***	.44	***	.31	***	—										
7. Effort and Persistence (GSE Factor 1)	.39	***	.15	*	.32	***	.41	***	.25	***	.40	***	—								
8. Ability and Confidence (GSE Factor 2)	.36	***	.16	*	.26	***	.32	***	.26	***	.35	***	.82	***	—						
9. Low Perceived Self-Efficacy (PSS Factor 1)	-.30	***	-.13		-.19	**	-.26	***	-.26	***	-.30	***	-.52	***	-.43	***	—				
10. Perceived stress/discomfort (PSS Factor 2)	-.12		-.06		-.21	**	-.17	*	-.08		-.25	***	-.24	***	-.16	*	.48	***	—		
11. Age	.27	***	.13		.10		.23	**	.24	***	.13		.25	***	.22	**	-.24	***	-.26	***	—

Note. * p< .05, ** p< .01, *** p< .001

Discussion

This study, which sought to adapt the BBNAS into Turkish culture and examine its psychometric properties in a sample of medical students and physicians, found that the 12-item, two-factor Turkish version of the scale is a reliable and valid measurement tool for the Turkish physician population (see confirmatory factor analysis, reliability analysis, and correlation analyses). Developing a valid and culturally adapted instrument to assess doctors' attitudes toward and training in breaking of bad news fills an important gap in the Turkish healthcare literature. The findings provide initial evidence of the scale's validity and reliability, laying the groundwork for future research and educational programs.

The original factor structure was maintained in the Turkish adaptation, but three items were eliminated for cultural and psychometric reasons. Despite being included in the SPIKES adherence subscale in the original version, item 13 ("Medical empathy can help in the transmission of bad news") had a low factor loading in the Turkish version and was therefore removed. Furthermore, it was discovered that certain items shared conceptual and statistical overlap, indicating that participants had a similar perception of these items. In order to eliminate semantic redundancies and improve the conceptual clarity of the factor structure, two items (Items 6 and 8) were removed from the model, as explained in the findings section, in accordance with the suggestions of Kline (51) and Knekta et al. (52).

The theoretical robustness of the original scale was supported by the Turkish sample's largely confirmed two-factor structure of the BBNAS (43). This sample, which comprised doctors with a range of specialties and levels of experience, confirmed earlier studies showing that SPIKES adherence and the idea that breaking bad news is a teachable skill (36) are applicable in a variety of clinical and cultural contexts. This study supports the universality of SPIKES as a standard for sensitive information delivery by demonstrating the model's efficacy across a larger and more diverse group of physicians, whereas previous research frequently concentrated on a single specialty (37). As cross-cultural research shows that information-sharing practices vary according to societal norms and expectations, the removal of some items to improve model fit may reflect how communication behaviors are perceived through linguistic and cultural differences (39-40).

As shown by the correlation analyses, self-efficacy and interpersonal communication competence were positively correlated with attitudes that followed the SPIKES protocol, whereas perceived stress was significantly correlated negatively with these attitudes. These findings align with earlier research that has highlighted the relationship between emotional control, communication abilities, and self-assurance in handling challenging clinical situations (8,11,30,32). The lack of a significant correlation between perceived stress and attitudes toward bad news delivery training indicates that doctors understand the value of this type of training, however managing stress seems to be more closely linked to skill development and practical experience (22,31).

The current study also examined the relationship between doctors' perceived stress levels and their attitudes toward breaking bad news. According to previous research, stress is often measured using physiological markers and is generally thought of as a task-related reaction that occurs when bad news is being delivered (12). Nonetheless, the results indicated that attitudes toward breaking bad news could be more widely associated with stress levels. While doctors may experience increased stress when they have to break bad news, the constant stress of working in the healthcare system may also negatively impact their attitudes toward this process. These results highlight the importance of viewing stress as a two-way variable rather than a reciprocal and reinforcing process. This perspective emphasizes the importance of taking into account more extensive occupational pressures when evaluating physicians' clinical communication practices and provides an essential direction for future research in Türkiye. In addition, the fact that faculty members have higher scores on the BBNAS than trainees and residents supports the idea that positive attitudes toward structured processes and training increase with professional maturity and experience (53).

This study has some limitations, which are

especially relevant given the nature of research in a busy healthcare setting. These restrictions do, however, offer helpful direction for further studies on attitudes toward breaking bad news. First of all, due to their demanding schedules and time constraints of healthcare professionals, participation rates among doctors and advanced medical students (fourth, fifth, and sixth years) were lower than desired. Another limitation of the study is that a proportion of the sample consisted of senior medical students who do not yet hold a medical degree and whose clinical experience is more limited than that of fully licensed physicians. Therefore, their responses may not fully reflect the attitudes and behaviors of independently practicing doctors, and the findings should be interpreted with this in mind. The distribution of participants was unbalanced, with notably low representation from the basic medical sciences, despite the fact that the sample comprised individuals from a variety of medical specializations (such as clinical and basic medical sciences). This imbalance limited the ability to compare different specialty groups. Furthermore, only doctors and medical students from Selçuk University Faculty of Medicine were included in the sample, which may limit the generalizability of the findings to all doctors in Türkiye. To improve the representativeness and generalizability of the findings, future research would benefit from employing a more balanced sample in terms of specialties and gathering data from other institutions across Türkiye.

Furthermore, social desirability bias poses a risk associated with the current research's dependence on self-reported metrics. The results, in particular, are based on the assertions of the participants, who may have used different self-presentation techniques to present themselves in a more positive light. They may also have made an effort to be consistent in their answers, even if they did not accurately reflect their actual attitudes.

Instead of using scales exclusive to the medical setting, this study employed general psychological measures (such as self-efficacy, perceived stress, and interpersonal communication ability). This was a deliberate, theory-driven choice, as delivering bad news is not only a clinical skill but also an emotionally draining interpersonal activity influenced by a variety of psychological resources (27). Future research could more extensively examine attitudes and actions related to breaking bad news by combining general and medicine-specific assessments.

Despite these limitations, this study presents the first validated Turkish instrument for assessing attitudes toward delivering bad news, offering a strong foundation for additional research and evaluations of communication training programs. Methodological and contextual limitations must be acknowledged in order to enhance measurement tools and produce research that better captures the complexity of delivering bad news. By demonstrating that attitudes toward breaking bad news are associated with psychological and interpersonal elements in addition to technical skills, the results support holistic models that view this process as both a technical and emotional skill (24,27). Furthermore, the study contributes to the literature on cross-cultural issues by showing that although structured frameworks, such as SPIKES, are generally applicable across cultural boundaries, local clinical realities require careful contextualization and linguistic adjustment. Institutions and educators can utilize the Turkish version of the BBNAS to evaluate the effectiveness of communication training programs and identify gaps in medical education. The connections between SPIKES adherence, self-efficacy, and communication competence show that theoretical knowledge alone is not enough; training programs should also include emotional coping mechanisms, empathy development, and experience-based confidence-building techniques.

In order to improve representativeness and test measurement invariance across specialties and experience levels, future research building upon this preliminary validity study should strive to replicate findings with larger and multi-center samples. A more thorough assessment of doctors' attitudes and behaviors regarding breaking bad news in Türkiye could be possible with mixed-method studies that combine self-report, simulated patient interviews, and observational evaluations. The way attitudes change during medical school and the effects of

interventions on SPIKES adherence, self-efficacy, and stress management techniques may be better understood through longitudinal research.

Furthermore, by separating context-specific aspects from universal ones of breaking bad news, comparative cross-cultural studies can aid in the development of globally flexible communication training models. Additionally, the findings might support the Turkish healthcare system by identifying the educational needs of Turkish physicians regarding the delivery of bad news, enhancing the allocation of resources for these needs, and encouraging more effective doctor-patient/family communication.

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