Diverse responsiveness to cancer patient expressions of emotion

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Sheldon, L., Ellington, L., Barrett, R., Dudley, W., Clayton, M., & Rinaldi, K. (2009). Nurse responsiveness to cancer patient expressions of emotion. Patient Education & Counseling, 76(1), 63-70. doi:10.1016/j.pec.2008.11.010

Abstract:

Objective

This theoretically based study examined nurse responses to cancer patient expressions of emotion using a videotaped, simulated cancer patient.

Methods

This study used an experimental crossover design with a videotaped patient expressing anger, sadness, and neutral emotion to elicit nurse responses. Seventy-four nurses from eight sites participated. Responses were coded using Roter interaction analysis system. Correlations explored relationships between variables that impact communication (age, gender, work experience, trait anxiety, work stress, self-efficacy). Regression models explored the effect of variables on nurse affective responsiveness.

Results

Patient expressions of sadness elicited more affective responses than anger. Expressions of anger or neutral emotion elicited more instrumental behaviors than sadness. Variables such as age, work stress and work experience were significantly correlated. No variables predicted affective responsiveness to patient expressions of anger or sadness.

Conclusion

Nurse communication showed significant variation in response to patient emotional expressions. Understanding the relationships between demographic, personality, and work variables, and identification of new variables that influence nurse–patient communication, has implications for interventional studies.

Practice implications

Over 90% of the participants indicated that the videotape simulation would be a useful method for teaching and practicing communication skills with patients expressing emotions.

Keywords: Nurse–patient communication; Oncology; Patient emotions; Video; Simulated patients

Article:

1. Introduction

Communication skills are essential to providing comprehensive care in the oncology setting [1], [2], [3], [4] and [5] M.A. Stewart, Effective physician–patient communication and health outcomes: a review, CMAJ 152 (1995), pp. 1423–1433.[5]. Many oncology patients develop psychological comorbidities [2], with up to 58% of patients experiencing depression at some point over the course of their illness [6]. Patient–provider communication in oncology affects patient outcomes such as mental health and well being [3], [5], [7] and [8]. Unfortunately, underdetection of patient emotional concerns is common [1], [8], [9], [10] and [11]. Because distressed patients do not always disclose their concerns, healthcare providers need to actively elicit emotional concerns [12]. Disclosure of these feelings is associated with decreased patient distress [13]. Providers can utilize specific communication behaviors to facilitate patient disclosure [14]. For example, when cancer patients express emotional concerns, empathetic responses from providers may reduce psychological morbidity [15] and [16].

Careful exploration of patient concerns is a vital component of oncology care. Because of the unique position that nurses occupy in the healthcare system, they often spend extended periods of time interacting with patients. Many of these conversations are spontaneous, arising during routine care, and may involve patient expressions of emotion. Attention to patient emotional cues by nurses suggests to patients that their concerns are valued and worthy of attention [14]. The more nurses show empathetic behaviors, the more patients disclose their concerns [17], which has implications for patient emotional adjustment [13].

Patient expressions of anger and sadness have been perceived as more difficult interactions by nurses [18]. Unfortunately, patient expressions of emotion have also been shown to prompt the use of inhibitory behaviors (e.g., blocking) by healthcare providers to decrease their own anxiety and/or prevent further exploration of patient concerns [10] and [19]. Less effective communication patterns are also associated with more work stress [10] and [20] and "burnout" [21] for nurses. Additionally, less work experience is associated with more work stress [22] and more self-doubt in handling emotional issues [23]. Newer nurses may experience more stress and less confidence, impacting their ability to elicit and respond to patient emotional concerns.

The importance of good communication skills is fundamentally acknowledged as a key element to providing high quality care in oncology [10], [11], [24] and [25]. Leaders in oncology are calling for more theoretically based and experimental research in communication. Bensing et al. [23] recommend the further use of theory-driven, experimental designs to study patient–provider communication in oncology [26]. One theory, the Crick and Dodge Model of social-information processing, provides a useful framework for examining the cognitive processes involved in response generation [27]. This Model was originally developed to explain the development of social-information processing by children and adolescents, but its constructs are consistent with concepts in healthcare communication and nursing theory [28]. For example, in the Model, self-efficacy is described as a necessary component during the generation, selection, and enactment of responses. Self-efficacy has also been described as a useful construct in evaluating the confidence of healthcare providers to respond to patient concerns [1] and [10].

The application of the Crick and Dodge Model may clarify the effect of previously identified variables that impact communication and may influence nurse responsiveness to patient concerns. The literature reveals several variables that may contribute to nurse responses, including age, education, work experience, work stress, self-efficacy, and anxiety [10], [17], [19], [23] and [25]. The proposed model for this study is seen in Fig. 1. In the model, the solid lines indicate previously identified variables that influence nurse–patient communication. The dotted lines indicate unanalyzed relationships. Nurse responses are seen as influenced by the emotional nature of a patient's statements and individual differences between nurses in work stress, age, education, work experience and anxiety.

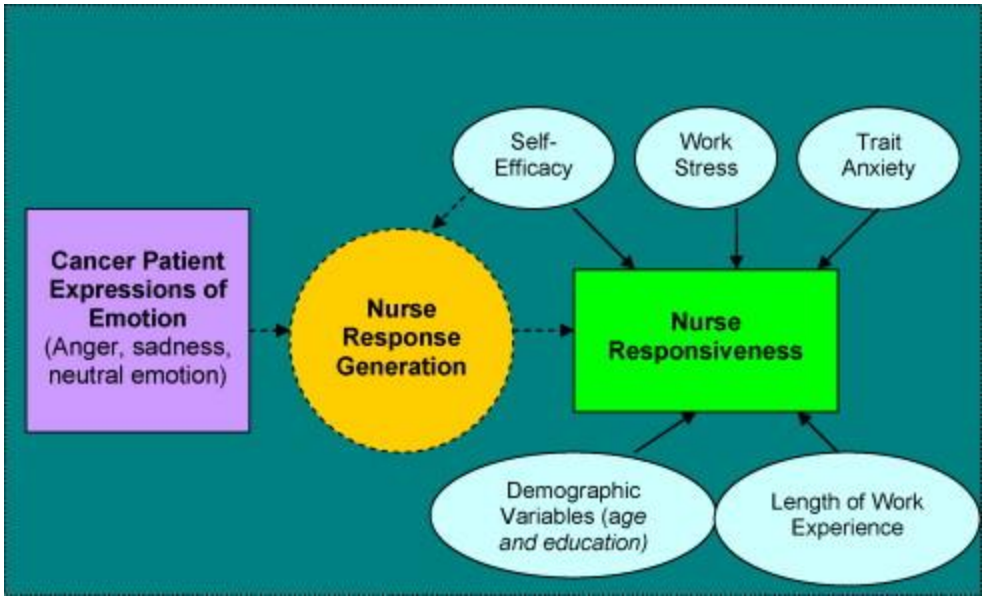

Fig. 1. Proposed predictors of nurse responsiveness to cancer patient expressions of emotion.

The Roter interaction analysis system (RIAS) [29] and [30], originally created for capturing communication during physician–patient interactions, has increasingly been used in research with other healthcare providers, including nurses [26], [31], [32] and [33]. RIAS categories have been found useful in examining links between provider behaviors and patient outcomes such as satisfaction [34] and [35], treatment adherence [36], and disease outcomes [37]. The RIAS codes have shown utility in coding oncologic consultations [38] L.M.L. Ong, M.R.M. Visser, I.P.M. Kruijver, J.M. Bensing, A. van den Brink-Muinen, J.L. Stouthard, F.B. Maemes and J.C.J.M. de Haes, The Roter interaction analysis system (RIAS) in oncologic consultations, psychometric properties, Psychooncology 7 (1998), pp. 387–401. Full Text via CrossRef (64)[38] and may be applied to audiotaped nurse responses to cancer patient statements. The 42 RIAS codes may be clustered prima facie regarding the nature of each utterance: affective, instrumental or other utterances, to further explore the nature of provider responses (see Table 1).

Table 1. RIAS codes and clusters: Frequencies and Interrater Reliabilties.

RIAS clusters and codes	Number	Reliability coefficients (Pearson)
Affective/facilitative cluster	**277**	
Concern	52	.99
Approve	0	
Compliment	0	
Agree	7	.89
Empathy	34	.98
Legitimizing statements	18	.71
Partnership	86	.97
Self-disclosure	24	.48
?Reassurance	0	
[?]Psychosocial	14	.99
Counsels-lifestyle/psychosocial	32	.99
?Psychosocial	4	
Gives psychosocial	4	
Instrumental cluster	**194**	

RIAS clusters and codes	Number	Reliability coefficients (Pearson)
Orient	3	
Check	1	
?Understand	0	
?Bid	2	
?Opinion	8	.99
?Permission	0	
[?]Medical	4	
[?]Therapy	4	
[?]Lifestyle	2	.99
?Other	8	
Counsels medical/therapy	83	
?Medical	2	
?Therapy	0	.99
?Lifestyle	0	.99
Gives medical	23	
Gives therapy	50	
Gives lifestyle	4	
Other cluster	**185**	
Disapprove	0	.87
Criticism	0	
Personal	48	
Laughs	0	.98
Back channel	0	
Transition words	133	
?Services	0	
Unintelligible	4	

? = open-ended question [?] = closed-ended question.

Using a theoretically based, experimental design, the present study examined nurse responses to patients expressing emotions employing a novel method of role-playing with a videotape of a simulated oncology patient. The identification of interacting and predictive variables that affect nurse responses to patient concerns has implications for future interventional studies and communication skills training programs.

1.1. Specific aims

The study had two specific aims:

Examine variation in nurse responses across three patient emotional states: anger, sadness, and neutral emotion.

Hypothesis 1.1

There will be significantly more nurse affective behaviors in response to patient expressions of sadness than in response to patient expressions of neutral emotion.

Hypothesis 1.2

There will be significantly more instrumental behaviors in response to patient neutral emotion than to patient expressions of anger or sadness.

2. Examine predictors of nurse affective responsiveness (stress, work experience, trait anxiety, and self-efficacy) to three patient emotional states: anger, sadness, and neutral emotion.

2. Methods

2.1. Design

This study utilized an experimental, crossover design to examine nurse responses to a videotape of a simulated cancer patient expressing emotions (anger, sadness, and neutral emotion). Crossover design was utilized to minimize threats to internal validity due to the order of presentation of the emotional conditions. Participants were randomly assigned to order of presentation of the three emotions with neutral emotion always presented first followed by anger or sadness. Neutral emotion was presented first to familiarize the participant with the methodology and to serve as a control when examining predictors of affective and instrumental behaviors to patient expressions of anger or sadness.

2.2. Sample and setting

A convenience sample of nurses and nurse practitioners was obtained at eight sites: four facilities that provide oncology services, two hospices, a graduate school of nursing, and a national meeting of oncology nurses. At each site, data collection was conducted in a private room, separate from patient care or other activities.

Participants with at least 1 year of previous or current oncology experience were contacted through flyers, organizational newsletters, and national organizations for oncology nurses. Sample size was determined using power and precision 2.1 [39]. The sample size calculation for a model using all 7 covariates in a one-phase multiple linear regression was: n = 68, alpha = .05, power = .80.

2.3. Preliminary work: video creation

In previous work, nurses indicated that among the most difficult communication with patients was working with angry patients/families and talking with patients with metastatic cancer [28]. Using these results, the present study focused on two difficult communication scenarios: talking with angry and sad patients with cancer.

A videotape of a simulated cancer patient was created containing nine scenes selected as representative of the desired emotional content by an expert panel: three each for anger, sadness, and neutral emotion (see Table 2). Each scene was approximately the same length (4–7 s), with a set response time after each scene (20 s). At the beginning of the video were two slides: one to introduce the methodology and another to provide a clinical overview of the patient in the video. The patient, derived from an actual case study, was a 42-year-old male with Stage 4 colon cancer describing the physical, socio-emotional and financial issues arising from his diagnosis and treatment.

Table 2. Examples of simulated patient expressions of emotion and nurse responses.

Patient statements	RIAS coding	Nurse responses	RIAS coding
Neutral “It didn’t take anytime to park today.”	Gives other information	“It's nice, sometimes it gets really busy out there, but if you ever have trouble we have the valet services.”	Personal/legitimize/gives other information
Angry Why isn’t my port working? You can never get a blood return.”	Disapprove/disapprove	“They can be very stubborn sometimes. Sometimes it's positional, sometimes it's the way that they were placed, sometimes it's just a bad day. We will get it, we will do whatever we need to do to get it working, there's stuff we	Agree/gives therapeutic information/partnership/gives

Patient statements	RIAS coding	Nurse responses	RIAS coding
		can use called PPA that we can hopefully have it sit in there and get the blood flowing again."	medical information
Sad "I don't think I can take this anymore. I don't have any energy for my wife, my family, my work. I just don't think I can take it anymore."	Concern/concern/concern	"The fatigue is the most common reported symptom that I hear, and there's a lot of things we can do. And the other thing to remember is that we need to focus on how many cycles you're on and what the day to day battles are."	Gives medical information/partner/partner

2.4. Procedures

Institutional Review Board approval was obtained at four sites: two healthcare facilities and two academic institutions. Approval of a national organization was obtained prior to conducting research at a national meeting. A small gift was provided for each participant. The informed consent and data from each participant was collected at one time point. The participants were blind to the full purpose of the study and told they were participating in a study to explore communication with cancer patients. The principal investigator (PI) and one research assistant collected the data using a manual and scripts for consistency in data collection.

Prior to viewing the videotaped patient, demographic variables (age, education, work experience), measures of trait anxiety, work stress, and self-efficacy, were collected at baseline. Measures of RIAS Global affect rating scale and a manipulation check were collected after each emotional condition see Fig. 2). The researchers used practice scenes to familiarize each participant with the methodology prior to leaving the room. The participant was cued by the videotape to respond to the videotaped patient verbally at nine predetermined points (three times per emotional condition). The nurse responses to the videotape were audiotaped, transcribed, and coded using RIAS [40]. After responding to the videotape, the participant completed a Follow-up Questionnaire.

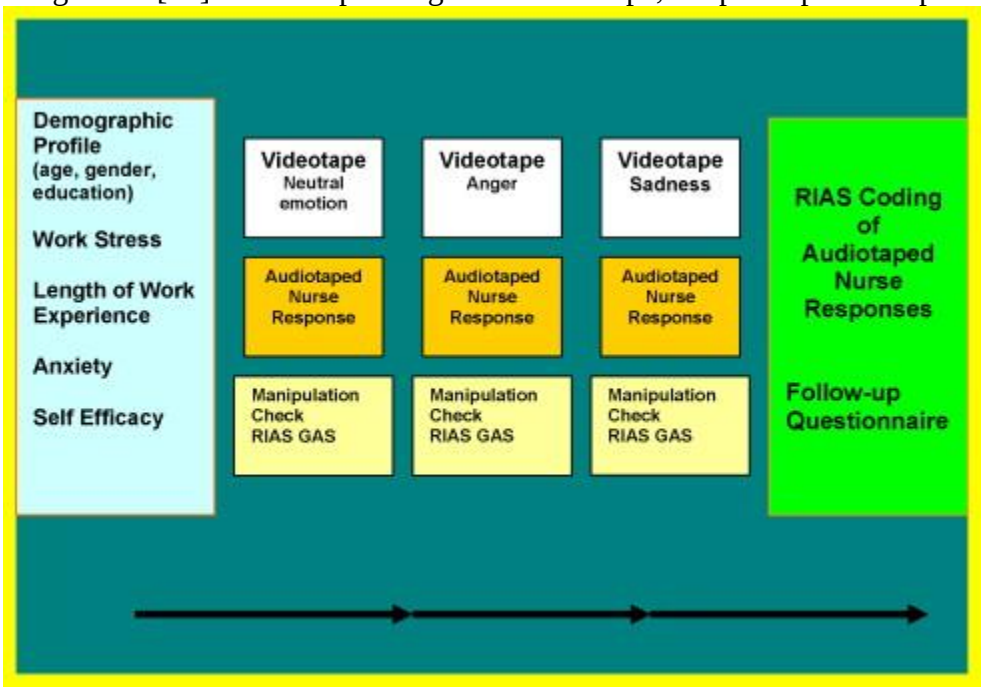

Fig. 2. Procedures.

2.5. Measures

2.5.1. Demographic measures

Demographic measures (age, gender, ethnicity, and education), work experience, self-efficacy, trait anxiety, and work stress were collected before beginning the videotape.

2.5.2. Self-efficacy

Self-efficacy represents a person's estimate of his ability to perform a specific task to achieve a desired outcome as described extensively by Bandura [40], [41] and [42]. Persons with a stronger belief in their abilities are more successful at enacting a behavior and less likely to avoid situations that are difficult. Oncology care may require confidence to respond to a variety of difficult scenarios requiring a specific tool to capture self-efficacy [44]. Following Bandura's work, and consistent with the Crick and Dodge Model, perceived mastery of communication skills, as demonstrated by self-efficacy, will decrease distressing feelings in nurses provoked by emotion-laden interactions with patients and increase the likelihood of facilitative behaviors.

In this study, self-efficacy was measured with the Self-efficacy for Specific Communication Tasks in Oncology [44]. Nine communication tasks were rated on a scale of 0 to 100 (0 = not confident to 100 = completely confident). Overall, participants rated themselves highly on the scale, with a mean score of 81.69 (S.D. = 11.26) and a median score of 85.2. The data were skewed with a range of 54.44–96.11. A Cronbach's alpha for reliability was .88 for this sample, but there was no evidence in the literature on previous reliability estimates.

2.5.3. Nurse anxiety

Communication between nurses and patients may be emotion-laden. Anticipated difficulty with communicating may be associated with increased anxiety and distress in the nurse during patient expressions of emotion and may contribute to the use of inhibitory behaviors. Distress, as measured by anxiety, is distinguished by feelings of apprehension and worry [45].

The Spielberger State Trait Anxiety Inventory (STAI) was used to identify associations between nurse trait anxiety and responses to patient emotional concerns [46]. In this study, the Cronbach's alpha for the measures of STAI was .94. The participants' mean score was 33.85 (S.D. = 7.94) with a range from 20 to 60, with higher scores indicative of more trait anxiety.

2.5.4. Work stress and work experience

Working with patients with a severe illness has been shown to make healthcare work more stressful [47] and oncology care is known as a high-stress work environment [20]. Stress, for nurses, is defined as the cues in the occupational setting that threaten the equilibrium of nurses [47] and [48]. Findings on the relationship between work stress and length of nursing experience indicate that nurses with less work experience have more work stress [23]. Decreasing work stress has been related to increased job satisfaction and improved nurse retention [48].

Work stress was measured using the original version of the 34-item Nursing Stress Scale [49]. Due to clerical error, one item was missing from the final score. The 33 items were scored from 0 to 3 (0 = never to 3 = very frequently). The mean score was 1.04 (S.D. = .31). Nursing Stress scores ranged from .36 to 1.86. In this study, the Cronbach's alpha for the 33 items was .85. The coefficient alpha for reliability was cited as .89 during instrument development [53].

2.5.5. Roter interaction analysis system (RIAS)

The RIAS [29] and [30], originally created for capturing communication during physician–patient interactions, has increasingly been used in research with other healthcare providers, including nurses.
When coding interactions, RIAS is applied to the smallest unit of expression or statement ("utterance") to which

a meaningful code can be assigned, generally a complete thought [40]. For this study, specific RIAS categories were combined into clusters prima facie to reflect affective, instrumental or other utterances (see Table 1).

2.5.6. Global affect scale

The RIAS also includes a Global affect rating scale (GAS) for capturing emotion. The dimensions for affect, such as patient emotional distress/upset, depression/sadness and anger/irritation, are rated on a Likert-type scale from 1 (low/no evidence) to 6 (high). Ratings of global affect are more closely linked to vocal qualities than the actual verbal content, requiring audio- or videotaping to fully capture the responses to the videotape [40]. RIAS categories and GAS were used in two ways for this study. The GAS was used to ensure the validity of the videotaped scenes by rating the overall affective nature of each emotional condition (i.e., anger, sadness, and neutral emotion). RIAS categories were used for coding audiotaped nurse responses to the videotaped scenarios.

2.6. Manipulation check

A manipulation check was collected after the participant viewed each emotional condition. It assessed the participant's perception of the realism of the three segments in the emotional condition, ease of imagining oneself responding to the patient and effort required to respond to the patient expressions, on a scale of 1–5 (1 = low to 5 = high).

2.7. Statistical analyses

All quantitative analyses were done with SPSS Version 12.0 [50]. Descriptive frequencies were used for the independent variables: demographic characteristics (age, gender, and education), work experience, and measurements of anxiety, self-efficacy, and work stress. Correlation coefficients were used to assess the degree of correlation between the independent variables, and between the independent variables and the dependent variable ("affective responsiveness" as measured by affective/total ratios). Repeated measures ANCOVAs controlling for neutral emotion by order were used on the manipulation check items.

The hypotheses in Aim 1 were analyzed with Repeated measures ANOVAs with one within-subjects measure, emotional condition, and one between-subjects condition, order of presentation. The dependent variable was the affective ratio for each emotional condition. Aim 2 was analyzed with hierarchical linear regression models.

3. Results

3.1. Sample

Seventy-four nurses and nurse practitioners participated in the study. A convenience sample was obtained at eight sites: four facilities that provide oncology services (n = 45), two hospices (n = 15), a graduate school of nursing (n = 1), and a national meeting of oncology nurses (n = 13).

3.2. Demographic characteristics

The sample consisted of 72 females and 2 males. The mean age was 45.9 years (S.D. = 9.6, range 26–70), with an average of 21.3 years of experience in nursing (S.D. = 11.7, range 1–50) and 10.5 years in oncology nursing (S.D. = 8.1, range 1–30). Overall, the study sample was similar to the demographics of nurses in the United States reported by the American Nurses Association for 2004 [51].

3.3. RIAS coding

3.3.1. Reliability

The audiotapes were transcribed and coded using the RIAS. Due to faulty recordings, the final sample was 70. Two trained coders applied RIAS directly to the audiotapes supplemented by the transcripts. Nurses' responses were coded utterance by utterance (an utterance being a complete thought) and often included affective, instrumental and other codes in one response. A random sample of 10 sessions was double-coded. Inter-rater reliability was calculated using correlation coefficients for codes with greater than four occurrences (see Table 1). By code, the only correlation coefficient below 0.70 was for self-disclosure, which was 0.48.

3.3.2. RIAS results

Three clusters of RIAS codes were created to achieve Aims 1 and 2: affective, instrumental and other utterances. As seen in Table 3, instrumental behaviors accounted for 28% of all utterances across all emotional conditions, and affective accounted for 41% of all utterances. The affective ratio, that is, the proportion of affective utterances to total utterances, not the total number of statements, served as the dependent variable for Aim 2, affective responsiveness.

Table 3. Comparison of utterances per response by emotional condition.

Emotional condition/RIAS cluster	Mean utterances per response (S.D.)	Range	Ratio (S.D.) utterances/total utterances
Total across conditions			
Affective	2.62 (2.49)	0–15	.41 (.35)
Instrumental	1.36 (1.68)	0–11	.28 (.33)
Other	1.62 (1.50)	0–9	.31 (.30)
Sadness			
Affective	4.51 (2.19)	0–11	.67 (.24)
Instrumental	.66 (1.19)	0–6	.11 (.19)
Other	1.69 (1.43)	0–6	.23 (.16)
Anger			
Affective	3.01 (2.09)	0–12	.49 (.31)
Instrumental	1.67 (1.65)	0–6	.28 (.28)
Other	1.43 (1.35)	0–7	.23 (.22)
Neutral			
Affective	.07 (.31)	0–2	.02 (.07)
Instrumental	1.1 (.96)	0–3	.44 (.38)
Other	1.7 (1.5)	0–7	.54 (.39)

3.4. Manipulation check

The validity and realism of the scenarios was checked in multiple ways. First, after viewing the video, the participants rated the three scenes in each emotional condition on a scale of 1 to 5 (1 = low, 5 = high) on realism and effort required to respond. The emotional conditions in the video did not statistically vary on realism by time or order effects and were rated realistic (Sad M = 4.67 S.D. = .71, Angry M = 4.51 S.D. = .89).

Because the emotional conditions of anger and sadness were randomly presented in the video, the effect of order of presentation on effort was assessed. There was no significant main effect for differences between anger and sadness on perceived effort to generate responses. However, the participants perceived that more effort was required to respond to anger if sadness was presented first than if anger was presented first and followed by sadness $F(1,67) = .37$, $p = .058$.

In a follow-up questionnaire, the participants rated the utility of the video on six items on a Likert-type scale from 0 to 5. Over 75% rated the video as somewhat to very realistic compared to patients they have cared for, but over 80% found it somewhat to very anxiety-producing to respond to a video. Over 90% rated the methodology as useful in teaching communication skills.

3.5. Global affect

The validity of the patient expressions of emotion was assessed using four items from the RIAS GAS.

Participants completed the RIAS GAS after each emotional condition. The scale used a six-point Likert-type scale (1 = no evidence/low to 6 = high) and mean scores were calculated for each item. Participant ratings were consistent with the emotional intent of each of the video scenarios (see Table 4). Anxiety was perceived as significantly higher ($t = 5.51$, d.f. = 69, $p < .00$) when the patient expressed anger.

Table 4. Mean global affect ratings by emotional condition.

Global affect category	Mean (S.D.)		
	Neutral	Anger	Sadness
Anger/irritation	1.41 (.79)	5.71 (.66)	2.05 (1.55)
Anxiety/nervousness	2.42 (1.14)	5.21 (1.20)	4.16 (1.70)
Depression/sadness	1.61 (1.05)	3.27 (1.61)	5.39 (.89)
Emotional distress/upset	1.67 (.90)	5.74 (.53)	5.56 (.75)

3.6. Correlation of predictor variables

The correlations of the variables (age, work experience, education, self-efficacy, trait anxiety, and work stress) were analyzed using correlation coefficients (see Table 5). Gender was excluded because there were only two males in the sample. Work stress scores were inversely correlated with length of work experience ($r = -.41$, $p = 0.001$.) and age ($r = -.29$, $p = 0.01$). Nurses with less work experience also had lower self-efficacy scores and higher stress scores. As in previous research [48], trait anxiety scores in this study were found to be positively correlated with work stress scores ($r = .30$).

Table 5. Correlation of predictor variables across all emotional conditions.

Age	Work	Education	STAI-T	Stress	Self-efficacy
Age	r = .81	r = −.03	r = −.11	r = −.29	r = .27
	(p = .000)**	(p = .79)	(p = .35)	(p = .01)*	(p = .03)*
	ρ = −.81	ρ = −.04	ρ = −.10	ρ = −.30	ρ = .26
	(p = .000)**	(p = .75)	(p = .43)	(p = .01)**	(p = .03)*
Work		r = −.09	r = −.21	r = −.41	r = .28
		(p = .49)	(p = .08)	(p = .000)**	(p = .02)*
		ρ = −.08	ρ = −.243	ρ = −.39	ρ = .28
		(p = .50)	(p = .06)*	(p = −.001)**	(p = .02)*
Education			r = −.32	r = .17	r = −.007
			(p = .007)**	(p = .17)	(p = .96)
			ρ = .31	ρ = .18	ρ = −.02
			(p = .09)*	(p = .12)	(p = .85)
STAI-T				r = .30	r = −.27
				(p = .01)*	(p = .03)*
				ρ = .30	ρ = −.25
				(p = .01)*	(p = .04)*

Age	Work	Education	STAI-T	Stress	Self-efficacy
Stress					r = −.016
					(p = .19)
					ρ = −.14
					(p = .26)

* p < .05 level.
** p < .01 level.

3.7. Hypotheses

3.7.1. Aim 1. Results

Repeated measures ANOVAs with planned comparisons were used to examine Aim 1: variation in nurse responses to patient emotional states. There was one within-subjects factor, emotional condition, with three levels, and one between-subjects factor, order of presentation. Analyses revealed a significant difference in affective behaviors across the emotional conditions $F(2, 69) = 348.50$, $p < .01$. There was also a significant difference in instrumental behaviors across emotional conditions $F(2, 69) = 126.53$, $p < .01$. Results of planned comparisons supported the Aim 1 hypotheses and showed significantly more instrumental behaviors in response to patient neutral emotion than to patient anger or sadness (see Table 6). There were significantly more affective behaviors for patient expressions of sadness than expressions of neutral emotion. There was no order or interaction effect.

Table 6.Aim 1 repeated measures ANOVAs with planned contrasts.

Source	d.f.	F	η	p
Sad versus neutral condition for affective responsiveness				
Contrast	1	781.90	24.63	.000**
Error	69	(.03)		
Sad versus neutral condition for instrumental ratios				
Contrast	1	254.65	8.15	.000**
Error	69	(.03)		
Angry versus neutral condition for instrumental ratios				
Contrast	1	70.80	1.91	.000**
Error	69	(.03)		
Angry versus neutral condition for affective ratios				
Contrast	1	313.06	11.94	.000**
Error		69	(.04)	
Sad versus angry condition for affective ratios				
Contrast	1	54.32	2.27	.000**
Error	69	(.04)		
Sad versus angry condition for instrumental ratios				
Contrast	1	57.58	2.17	.000**
Error	69	(.04)		

** p < .01.

3.7.2. Aim 2. Results

The objective of Aim 2 was to examine the effect of the independent variables (age, education, work experience, self-efficacy, trait anxiety, and work stress) on the dependent variable, affective responsiveness. Bivariate correlations were conducted to examine the relationship among the predictor variables and the outcome variables. No variables emerged as significant predictors of nurse affective responsiveness to either emotional condition.

4. Discussion and conclusion

4.1. Discussion

Communication skills are needed to facilitate patient disclosure and improve nurse responses to patient emotional concerns. This study contributes to the knowledge of nurse–patient communication in three ways. First, it was designed by applying a model of social-information processing, the Crick and Dodge Model [27], to how nurses respond to patients. Although not previously applied to health communication, this Model utilizes concepts that are consistent with priorities in patient–provider communication including self-efficacy. Those nurses who are more skillful at acknowledging patient concerns view an emotion-laden interaction from multiple qualitative and emotional perspectives and arrive at more effective responses [52]. Kruijver et al. [53] have recommended skill development and ongoing support to help nurses learn to address psychosocial problems in cancer patients [53].

Secondly, this study explored how nurses respond to previously identified difficult interactions: patient expressions of anger and sadness. It is known that many oncology patients experience depression at some point in their illness [6] and yet their concerns are often under-recognized leaving patients feeling that their care was less than supportive [54]. In this study, nurse responses were coded using RIAS and analyzed to identify patterns of responses to patient expressions of emotion. For the scenes where the simulated patient expressed sadness, nurses responded with more affective utterances in their response as compared to expressions of anger. How nurses respond to patient cues such as expressions of emotion affects further patient disclosure of concerns [55]. The overuse of instrumental and task-oriented behaviors, while necessary for medical care, may be the result of lack of provider attention to patient socio-emotional concerns [56] and/or the use of distancing behaviors [55].

The inability of the variables to significantly predict affective responsiveness, despite support from the literature, may be due to several factors. First, the variables may not reflect the complexities of nurse–patient communication. Examining provider behaviors is fraught with challenges, and other researchers have encountered similar challenges in predicting behaviors [57]. Further exploration of the effects of personality and work factors on clinical communication is needed to specifically identify the relevant variables.
While the independent variables did not predict affective responsiveness, they were significantly correlated with each other. Nurses with less work experience had higher stress and trait anxiety and lower self-efficacy scores. In the literature, nurses with less work experience often have higher work stress [22] and [23]. Further research is needed to discern if confidence in communicating decreases work stress or, conversely, less work stress increases opportunities for interactions and improves confidence in addressing patient concerns. Understanding the relationship between work, personality and demographic variables has important implications for the timing of educational and supportive programs for nurses.

Finally, this study utilized a novel method for exploring nurse responses to patient expressions of emotion. The videotape of a simulated cancer patient was developed in an intensive four-step process to ensure realism and validity during data collection. The participants rated the videotape as high in realism and utility, acknowledging the importance of videotapes in data collection and in the training of communication skills. Using a videotaped patient allows for the examination of specific provider behaviors without causing patient

distress and facilitates the discovery of patterns of nurse behaviors. Understanding how and why nurses respond or fail to respond to patient expressions of emotion informs future research as well as educational programs. Limitations of the study include issues of generalizability and the clinical relevance of video scenarios. The study used a convenience sample, preset response time (20 s), and no patient feedback, as the video was a one-way interaction. Nurses cited difficulty picking up other cues such as patient nonverbal communication. Several participants noted an inability to touch the patient. The simulated patient was a male expressing strong emotions, and nurses might respond differently to a female patient.

4.2. Conclusion

Based on prior theoretical and conceptual work, this study examined nurse communication during cancer patient expressions of emotion. Although previously identified variables did not predict affective responsiveness, correlations between the variables have general implications for patient–provider communication. The impact of factors such as work stress and anxiety on confidence in communicating with patients requires further research and interventions, such as continuing education in communication skills. Predicting how nurses will respond to patient expressions of emotion requires further identification of the relevant variables and exploration of the interactions between demographic, personality, and workplace factors. Future research is needed to apply models of social-information processing to health communication and methods development in communication research.

4.3. Practice implications

Communication between nurses and patients is a complex process. While patient expressions of sadness may elicit more affective responses from nurses than anger, further exploration is needed to identify the goals of these interactions. Additionally, careful evaluation of patient expressions of sadness and anger are necessary to screen for depression in oncology patients. Patient–provider communication is affected by demographic, personality, and workplace factors. The relationships between these variables requires further exploration to develop new strategies to improve provider responsiveness and patient outcomes.

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☆Grant support was received by the principal investigator from the American Cancer Society and Sigma Theta Tau–Epsilon Tau Chapter, and partial support from an NCI grant to the University of Utah (1R 25CA93831-01, Kathi Mooney, PI).