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Knowledge, Attitudes, and Self-Efficacy as Predictors of Preparedness for Oncology Clinical Trials: A Mediation Model

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Abstract

Objective—This study used the Ottawa Decision Support Framework to evaluate a model examining associations between clinical trial knowledge, attitudinal barriers to participating in clinical trials, clinical trials self-efficacy, and clinical trial preparedness among 1256 cancer

patients seen for their first outpatient consultation at a cancer center. As an exploratory aim, moderator effects for gender, race/ethnicity, education, and metastatic status on associations in the model were evaluated.

Methods—Patients completed measures of cancer clinical trial knowledge, attitudinal barriers, self-efficacy and preparedness. Structural equation modeling (SEM) was conducted to evaluate whether self-efficacy mediated the association between knowledge and barriers with preparedness.

Results—The SEM explained 26% of the variance in cancer clinical trial preparedness. Self-efficacy mediated the associations between attitudinal barriers and preparedness, but self-efficacy did not mediate the knowledge-preparedness relationship.

Conclusions—Findings partially support the Ottawa Decision Support Framework and suggest that assessing patients' level of self-efficacy may be just as important as evaluating their knowledge and attitudes about cancer clinical trials.

Keywords

Cancer clinical trials; Ottawa Decision Support Framework; cancer patients

Cancer is a leading cause of death in the United States, second only to heart disease (1). Decisions about the efficacy and effectiveness of new treatments for cancer are typically accomplished by conducting clinical trials to evaluate promising new therapies in comparison with standard therapies. Despite the fact that clinical guideline development and progress in the treatment of cancer is dependent on the completion of clinical trials, less than half of cancer patients who are eligible and offered participation enroll in these trials (2–3). Low accrual rates have a negative impact on the progress of new treatments for cancer because they can prolong the duration of trials, delay the analysis of results, and lead to early closure of studies.

Enrollment in a clinical trial is voluntary, and represents a decision on the part of patients. There have been a number of studies evaluating reasons for patients' non-enrollment in cancer clinical trial studies. Barriers can be at the patient, medical professional, family, community, and system levels. With regard to patients and medical professionals, we and others have documented a variety of both practical and attitudinal factors (4). In the present study, we focus on patient-related factors. Patient-related factors include practical barriers such as a lack of insurance coverage and expense, ineligibility factors such as disease status or medical issues (which may also partially be a medical professional-related barrier); (5) and time constraints (6–7). Attitudinal barriers include discomfort with the research process (e.g., fears about randomization) (8–9), fear of side effects (2, 4, 7), and fear that non-participation may have a negative effect on relationship with the physician (8).

Decision making about clinical trials may be complicated by the fact that decisions are being made during a vulnerable point in time, at the time of initial diagnosis of early stage cancers or in response to more advanced disease, thereby increasing patient distress and reducing the ability to focus on and process critical information. In a patient-centered approach to medical decision making, preparing patients to make well-informed, high quality decisions is a primary goal. Our work has been guided by the Ottawa Decision Support Framework

(10–13). The Ottawa Decision Support framework (OSF) is based upon expectancy value theory, decisional conflict theory, and health behavior theories such as the Health Belief Model (HBM; 14–16) and the Theory of Planned Behavior (17–18). The OSF outlines key variables which may contribute to more well-informed medical decisions and suggests that improving patient's preparedness with regard to making treatment decisions should be a primary goal for medical professionals (9). According to this framework, preparing patients to make more informed decisions is accomplished by addressing contributors to decisional uncertainty. Although the model outlines a number of factors contributing to improving support for decision making, the key contributors to decisional uncertainty include: 1) a lack of knowledge about the purpose and goals of the treatment or research trial as well as benefits and risk of enrollment and treatment options; 2) others' opinions and social pressure; 3) attitudinal factors such as perceived barriers, values, and expectations, that may interfere with effective decision making, and 4) lack of personal resources to make and implement decisions (12–13). One key personal resource is the person's level of confidence to obtain and act on information, which is defined as self-efficacy (12). Ultimately, higher levels of knowledge, more positive attitudes and realistic expectations, and improved self-efficacy result in greater preparedness for making a medical decision (12).

Although aspects of decision support have been studied, little is known about the associations between constructs in the OSF, particularly as they relate to preparing to make a decision about enrolling in cancer clinical trials. A greater understanding of the role of OSF constructs in the cancer clinical trials context may lead to the development of better decision support aids and enhance informed decisions. Indeed, studies of decision making about clinical trials in oncology and other medical settings report that providing patients with information about clinical trials may help them feel more prepared to make a decision (19–20). With regard to association between constructs in the OSF, Miller and colleagues (21) assessed a possible mediating role for clinical preparedness in the associations between cancer clinical trials knowledge and self-efficacy and decisional conflict in a sample of oncology patients. That is, more knowledge and efficacy lead to improved preparedness, which, in turn, lead to less decisional conflict. Results supported the contention in that cancer clinical trials preparedness mediates the associations between knowledge and self-efficacy on decisional conflict in a sample of cancer patients receiving a brief educational intervention about cancer clinical trials. This study supports the importance of preparedness to make a decision about cancer clinical trials as an important outcome in the decision making process.

In the present study, our goal was to advance our prior work on evaluating the OSF in the cancer clinical trial decision making process. We based our work on elaborations of the HBM that include self-efficacy (22), work suggesting possible linkages amongst variables in the HBM (22), and the OSF. We focused on self-efficacy as a mediator between both knowledge and attitudinal barriers with cancer clinical trials preparedness. We included attitudinal barriers in the model because this is a key factor in OSF. The attitudinal barriers measure was developed based partially on the Cognitive-Social Health Information Processing Model (C-SHIP; 23) which postulates that health goals and values and emotions should be assessed as key attitudinal barriers to making health decisions. Thus, the measure includes both traditional logistical barriers included in clinical trial barriers measures as well

as health goals/values and affective barriers. We proposed that fewer perceived barriers would contribute to greater self-efficacy, which, in turn, should be associated with increased clinical trials preparedness. Prior studies of health behavior have suggested that barriers are a predictor of less self-efficacy (e.g., 24). We also proposed that greater knowledge would lead to higher self-efficacy, which would, in turn, increase clinical trial preparedness. Prior studies of predictors of self-efficacy regarding other health behaviors have illustrated a link between knowledge and self-efficacy (e.g., 25).

The proposed meditational model is illustrated in Figure 1. As an exploratory analysis, we also examined whether demographic factors, including gender, race/ethnicity, and education, and medical factors such as metastatic status moderated the associations in our mediational model. We considered whether particular affective factors interact with cognitive factors to affect preparedness. As noted previously, in the oncology context, patients are traditionally approached for cancer clinical trials when they are newly diagnosed or have been found to have worsening of their disease, when levels of distress are high. Higher levels of psychological distress can interfere with knowledge uptake (26), and distress has also been associated with higher levels of decisional conflict (27–28). Moreover, psychological distress has been associated with greater perceived barriers to enrollment in clinical trials (9). Based on this research, as an exploratory aim, we evaluated whether distress moderated the effects of knowledge and attitudinal barriers on preparedness. This approach allowed us to evaluate whether the associations between attitudinal barriers or knowledge as predictors of cancer clinical trial preparedness would be significantly different for those patients who vary in distress associated with the diagnosis of their cancer. The data for this study were collected as part of the baseline assessment for the PRE-ACT study, which is a randomized clinical trial evaluating the efficacy of an online oncology clinical trials decision making tool (29).

Methods

Participants

Eligible patients were scheduled for their first outpatient consultation with a medical oncologist at one of the five participating sites. Eligibility included: a) a diagnosis of either advanced (metastatic) or early stage (e.g., appropriate for adjuvant therapy) cancer, b) scheduled for their first medical oncology visit at the study center, c) able to read and verbally communicate in English, d) at least 18 years of age, e) able to provide electronic informed consent, and f) have high-speed (DSL or Cable) Internet at home if they choose to complete the survey at home, or willingness to complete the study in the office before their oncologist visit. Participants were drawn from five cancer centers in the Northeastern and Midwestern US.

Procedures

Site research staff reviewed physician schedules and patient records to ascertain patients who met the eligibility criteria. Before patient contact, permission for patient contact was obtained from the scheduled physician. Potential participants were contacted by phone by site personnel and offered participation. A phone script was used to ensure consistency in

this process. All participants provided electronic informed consent before gaining access to the baseline assessment. This procedure allowed participants to complete the survey without waiting for mailed consent forms. Participants were provided with a toll-free phone number to call for technical support and to answer any questions the participant had about the consent process or the study.

3859 patients were contacted and offered participation in the PRE-ACT study. Of these, 1291 patients declined participation. The most common reasons for refusal were: No home computer access or uncomfortable using the computer at home and not willing to use the computer or meet with study personnel at the cancer center to complete the study ($N = 339$), too busy ($N = 235$), not feeling well physically ($N = 152$), relative declined for the patient ($N = 145$), feeling too overwhelmed or anxious to participate ($N = 144$), and did not feel the study was useful ($N = 33$). 2568 patients were provided access to the password-protected study website, and 1256 provided consent and provided data for this study. Thus, the acceptance rate from the number of subjects who were contacted and offered participation was 32.5% ($1256/3859$). A comparison of the 1256 study participants with the 1291 patients who declined participation on available data suggested that study participants were significantly younger ($t(2530) = 12.7$, $M_{\text{participants}} = 59.0$ ($SD = 11.8$), $M_{\text{refusers}} = 65.1$ ($SD = 12.3$), more likely to be Caucasian (84.3% of participants; 73.7% of refusers; Chi-square (2) = 38.0, $p < .001$), and more likely to be married (70.6% of participants; 56% of refusers; Chi-square (2) = 46.3, $p < .001$).

Because the sample was large, and the amount of missing data was small (25 participants had missing data on the preparedness measure, 45 participants had missing data on the barriers measure, 47 participants had missing data on the self-efficacy measure, and 32 participants had missing data on the knowledge measure), we took a list-wise deletion approach. Using this approach, the sample for our primary analysis included 1205 participants with no missing data on the key variables. Power analyses indicated that this sample size provided power of .80 to assess small effects (i.e., $r = .081$) using a two-tailed test with $\alpha = .05$.

A comparison of the 1205 participants used in the primary analyses with the 51 participants who were excluded due to missing data on baseline constructs and available medical and demographic information indicated two differences: Participants completing measures were significantly younger ($t(1254) = -2.26$, $M_{\text{complete data}} = 57.8$, $M_{\text{missing data}} = 61.2$) and participants completing all measures reported significantly higher levels of clinical trial preparedness ($t(1228) = 2.4$, $p < .05$, $M_{\text{complete data}} = 39.2$, $M_{\text{missing data}} = 34.9$).

Measures

Demographics—Demographics include age, gender, ethnicity, race, education, marital status, current living situation, employment status, and health insurance status.

Diagnosis and Treatment History—This information was gathered from clinical charts and included cancer diagnosis, prior treatment, date of diagnosis, reason for visit, and previous participation in a clinical trial.

Predictors

Knowledge about Cancer Clinical Trials—This 19-item knowledge survey was adapted from Davis et al. (30) and modified based upon our prior work (4, 31). Patients were asked to indicate “agree”, “disagree”, or “not sure” for each item. Items included: “Standard treatments are the best treatments currently known for a cancer” and “If I were to join a clinical trial, I could decide to stop at any time.” Responses marked as unsure were coded as incorrect responses. The percentage of items answered correctly was used in the analyses. Internal consistency as calculated by Cronbach’s alpha was .75.

Attitudinal Barriers to Participation in Cancer Clinical Trials—We used a 28-item scale based on our previous research using focus groups, statewide surveys, and a literature review of common cancer clinical trial barriers (4, 31). As mentioned previously, the C-SHIP model (23) was used to guide measure development in that health values and goals and affective barriers were assessed. Items were rated on a 5-point scale (5= *strongly agree*, 4= *agree somewhat*, 3= *neither agree nor disagree*, 2= *disagree somewhat*, 1= *strongly disagree*). Barriers addressed logistical barriers (“I wouldn’t be willing to travel extra distance to take part in a clinical trial.”), health values and goals (“I’m afraid that taking part in a clinical trial would make me sicker than I am now”, “I’m worried my medical care won’t be as good if I join a clinical trial”), affective barriers (e.g. “I am afraid of the side effects I’ll have on a clinical trial”), and mistrust of the medical system and concerns about physician conflict of interest (e.g., “I don’t trust drug companies.”). Internal consistency as calculated by Cronbach’s alpha was .92.

Mediator

Cancer Clinical Trials Self-Efficacy—This construct was measured using the 11 item Ottawa Decision Self-Efficacy scale, which measures the patient’s confidence in their ability to obtain relevant decision making information and engage in relevant behaviors important to decision making about clinical trials such as asking the doctor questions (32–33). Sample items include “I am confident that I can get the facts about clinical trials that are available to me” and “I feel confident that I can ask questions without feeling dumb.” Participants rated each item using a five-point Likert rating scale with ratings from *Not at all confident* (1) to *Very Confident* (5). Internal consistency as calculated by Cronbach’s alpha was .92.

Outcome and Moderator

Cancer Clinical Trials Preparedness—Preparation for consideration of clinical trials was assessed using the Ottawa Preparation for Decision Making scale modified to address cancer clinical trials (33–36). This 10-item scale included items concerning decision making and preparation for physician visit. Sample items are “You are prepared to make a decision about taking part in a clinical trial?” and “You can identify questions you want to ask your doctor?” Items were rated on a 5-point Likert scale (1 = *Not at all*, 5= *A great deal*). Internal consistency as calculated by Cronbach’s alpha was .84.

Cancer-Specific Psychological Distress—Participants completed the Impact of Events Scale (IES; 37) which is a 15-item self-report measure focusing on intrusive and avoidant ideation associated with a stressor, in this case, cancer and its treatment. The IES

has been widely-used in studies of cancer patients as a measure of cancer-specific psychological distress (38–39). Using a 4-point Likert scale (0 = *Not at all*, 1 = *Rarely*, 3 = *Sometimes*, 5 = *Often*), participants rated how true each statement had been for them during the past week. Cronbach's alpha was .91.

Statistical Approach

The primary analysis was conducted using a structural equation modeling (SEM) approach, and evaluation of indirect effects was based on 95% confidence intervals derived from bootstrapping (41). As an exploratory aim, we examined the extent to which medical and demographic factors each moderated the associations in the mediational model. We conducted each of these analyses using a two-group approach in SEM, and used chi-square difference tests to evaluate the extent to which the set of paths in the model differed across groups. The final exploratory analyses evaluated whether the associations between attitudinal barriers, knowledge, and preparedness were weaker for patients who reported higher cancer-specific distress. To examine this issue, we grand-mean centered attitudinal barriers, psychological distress, and knowledge and then created interaction scores based on these centered variables. We then conducted a moderated multiple regression analysis predicting preparedness.

Results

Descriptive Information about the Sample

Characteristics of the sample are shown in Table 1. Means, standard deviations, and zero-order correlations of the study variables are presented in Table 2. The average level of accurate knowledge about cancer clinical trials was 61.7%. The level of cancer clinical trials self-efficacy was relatively high, with an average score of 48.1 on a scale that has a maximum score of 55. Indeed, the average item score was 4.37 on a 5-point scale (5 = *Very confident*). The negative skew coefficient, although not statistically significant, was on the high side at -1.2 , reflecting the presence of a ceiling effect for this measure of efficacy. Levels of cancer clinical trial preparedness were also relatively high, with an average scale score of 39.1 on a scale with a maximum score of 50. Finally, although there is no validated cutoff for the IES, the scale's author, Horowitz (40), suggested that a score greater than 19 is indicative of an elevated stress response. Using this benchmark, a relatively high proportion of the sample (70%) evidenced a significant level of cancer-specific distress.

Primary Analyses—Results from the SEM for the mediational model that included both direct and indirect effects are presented as standardized path coefficients in Figure 2. Taken together, knowledge, attitudinal barriers, and self-efficacy accounted for 26.4% of the variance in preparedness, and knowledge and attitudinal barriers accounted for 9.1% of the variance in self-efficacy, although the partial effect of knowledge on self-efficacy, controlling for attitudinal barriers, was not statistically significant. The direct effects of knowledge and barriers indicate that more knowledgeable participants and participants with fewer perceived barriers were more prepared to consider participation in a clinical trial. There was also evidence that the effect of attitudinal barriers was partially mediated by self-efficacy, as the standardized indirect path coefficient was $\beta = -.075$, $se = .013$, $p < .01$, 95%

CI $-.102$ to $-.053$. This result is consistent with the proposition that one reason attitudinal barriers may affect decisional preparedness is that individuals with greater attitudinal barriers report lower self-efficacy and this lower self-efficacy may then reduce preparedness. In contrast, there was no evidence that the knowledge-preparedness association was mediated by self-efficacy ($\beta = .013$, $se = .010$, $p = .184$, 95% CI $-.003$ to $.030$).

As an exploratory aim we examined the extent to which medical and demographic factors each moderated the associations in our mediational model. There was no evidence that the paths differed for patients whose cancer had versus had not metastasized, $\chi^2(5) = 5.22$, $p = .390$. Likewise, there was little evidence of moderation by ethnicity (contrasting white-non-Hispanic participants vs. others), $\chi^2(5) = 4.92$, $p = .426$, or by education (contrasting participants with college degrees versus others with less education), $\chi^2(5) = 7.08$, $p = .215$. Finally, the test of whether the paths differed by gender was also non-significant, $\chi^2(5) = 10.02$, $p = .075$. Thus, it appears that the path coefficients presented in Figure 2 are a reasonable representation across levels of these demographic and medical factors.

Our final exploratory analyses evaluated whether the associations between attitudinal barriers, knowledge, and preparedness were weaker for patients who reported higher cancer-specific distress. The results of the moderated multiple regression analysis predicting preparedness, and results from this analysis are presented in Table 3. As can be seen in the table, knowledge was a significantly positive predictor of preparedness and both attitudinal barriers and distress are significant negative predictors of preparedness. Moreover, the interaction between barriers and distress predicted preparedness. A simple slopes analysis (using plus/minus one standard deviation for distress) showed that when distress was high the association between attitudinal barriers and preparedness was strong, $b = -.121$, $\beta = -.361$, $t(1192) = 8.74$, $p < .001$, but when distress was low the association between barriers and preparedness was significantly weaker, $b = -.083$, $\beta = -.248$, $t(1192) = 6.26$, $p < .001$. Contrary to expectations, the interaction between clinical trials knowledge and preparedness was not moderated by distress.

Discussion

The results of the current investigation illuminate the associations between knowledge, attitudes, self-efficacy, and preparedness among cancer patients who may be offered participation in a cancer clinical trial. The current study also adds to a growing body of literature which uses sophisticated statistical approaches to evaluate the Ottawa Decision Support Framework (10, 42). In particular, this study adds to the research that elucidates factors contributing to decision making regarding cancer clinical trials (21). The structural equation model explained approximately 26% of the variance in cancer clinical trial preparedness, suggesting that the Ottawa Decision Support Framework may significantly foster our understanding of how knowledge and attitudinal barriers influence cancer clinical trial preparedness. Our study yielded four key findings.

First, as noted above, self-efficacy partially accounted for the association between clinical trial attitudinal barriers and clinical trials preparedness. With some recent exceptions (43),

previous research on methods of improving interest in enrolling in clinical trials has focused primarily on improving patients' knowledge (44). Our work suggests that improving knowledge alone may not be sufficient to improve preparedness; tailoring interventions to address attitudinal barriers may also be an effective way to improve self-efficacy and ultimately facilitate greater preparedness for decision making. As noted by Miller and colleagues (21) the construct of self-efficacy has received relatively little empirical attention as a construct to explain decision making for clinical trials. Although instilling confidence is a key component of the Ottawa Decision Support Framework (10) and is included as an outcome that has shown intervention effects in many decision aid intervention studies (45–47), little is known about how perceived barriers may ultimately influence decisional self-efficacy. Our data suggest that fostering a sense of self-efficacy through reducing perceived barriers should be an important goal for decision aids.

Second, self-efficacy did not account for the association between clinical trial knowledge and clinical trials preparedness. Rather, greater knowledge was directly associated with greater preparedness. Although this finding is in contrast to our original hypothesis, it suggests that knowledge has a direct role in preparedness and is consistent with meta-analyses of decisional support interventions suggesting knowledge directly impacts decisional preparedness (48).

Third, exploratory analyses of our proposed moderators yielded interesting findings. We initially predicted that the links between knowledge, attitudinal barriers, self-efficacy, and preparedness would be weaker among distressed patients because affective distress interferes with effective decision-making and processing. Our findings were partially consistent with this hypothesis, at least when attitudinal barriers were considered. When cancer-related distress was low, the indirect effect of attitudinal barriers on preparedness was relatively strong, and, when distress was high, the indirect effect of attitudinal barriers on preparedness was smaller. However, cancer-related distress did not moderate the effects for clinical trials knowledge on clinical trials preparedness via clinical trials self-efficacy. Other proposed moderators, metastatic status and race/ethnicity, gender, and education did not show evidence of moderating effects. These findings are the first to suggest that associations between constructs in the Ottawa Decision Support Framework may differ based on the level of distress patients endorse. Thus, in order to foster greater preparedness, decision support aids should emphasize attitudinal barriers for more distressed patients.

Fourth, distressed patients reported more attitudinal barriers, lower levels of self-efficacy, and less preparedness. However, distressed patients did not report significantly lower levels of cancer clinical trials knowledge. Overall, about half of our sample reported high levels of distress about their cancer diagnosis. Thus, distress is an important consideration in the decision making process for cancer clinical trials that should not be overlooked in decision support aids.

In conclusion, preparing patients to make informed decisions about cancer clinical trials is an important patient-level and societal goal. Our findings suggest that assessing patients' level of self-efficacy may be just as important as evaluating their knowledge and attitudes about cancer clinical trials. This study is the first to examine and report moderating effects

for distress, gender, and education on associations between key constructs in the Ottawa Decision Support Framework. A key strength of this study was the very large sample of cancer patients studied as well as the fact that data were collected at a key time point for clinical trial decision making, making the results particularly relevant. Limitations of the present study include the cross-sectional design, which precludes conclusions regarding the directionality of effects, the fact that the sample was comprised primarily of Caucasians, and the fact that the sample was highly educated. The 32.5% acceptance rate into the study is relatively low. Given that study participants were significantly younger, more likely to be Caucasian, and more likely to be married than refusers, study results are less able to be generalized to older, minority, and unmarried cancer patients. Our results also suggest bias in terms of the types of patients completing all measures: patients completing all measures were younger and reported greater clinical trial preparedness. Our results may have been biased in other ways that we do not know about. For example, it is possible that the fact that a portion of the patients who refused participation stated they were overwhelmed resulted in a sample who was less distressed than the general cancer population. Other constructs could have been included in the model, including health care provider attitudes. Finally, a different measure of illness-related distress which was not focused solely on traumatic stress responses, such as the Illness Distress Scale (45) could have been used.

Further research is necessary to evaluate whether the model would be similar when a more diverse population is studied. Ongoing analyses of the PRE-ACT intervention (Clinical Trials Registration #00750009) will elucidate whether one can predict which patients will benefit most from text-based or tailored video educational tools (29).

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Figure 1. Hypothesized Mediation Model of Cancer Clinical Trials Knowledge, Attitudinal Barriers, Self-Efficacy, and Preparedness. **Figure note.** There are other variables which may mediate the associations between knowledge and barriers and preparedness. They are not included in this model.

Figure 2. Standardized Path Coefficients for the Direct and Indirect Effects of Cancer Clinical Trials Knowledge and Attitudinal Barriers on Decision Preparedness Treating Self-Efficacy as a Mediator

Table 1

Descriptive Information on the Study Sample

Variable	<i>M</i>	<i>SD</i>	<i>N</i>	(%)
Age (years)	57.8	(11.7)		
Gender				
Female			736	(58.6)
Male			520	(41.4)
Education				
< High school			27	(2.2)
High school			252	(20.9)
Some college			358	(33.0)
College degree			527	(43.7)
Missing			1	(0.1)
Marital Status				
Married			858	(71.2)
Divorced/separated			146	(12.1)
Widowed			56	(4.6)
Not Married			144	(12)
Missing			1	(0.1)
Employment status				
Employed			546	(37.8)
Not employed			69	(7.6)
Homemaker			84	(7.0)
Student			6	(0.5)
Retired			387	(32.1)
Unable to Work			112	(9.3)
Missing			1	(0.1)
Race				
Caucasian			1066	(88.5)
Black			108	(9.0)
Asian			17	(1.4)
Native Hawaiian/Pacific Islander			1	(0.1)
American Indian			1	(0.1)
Mixed Race			8	(0.7)
Other			4	(0.3)
Metastatic Status				
No			601	(49.9)
Yes			509	(42.2)
Missing			95	(7.9)

Table 2

Means, Standard Deviations, and Correlations Among the Study Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.
1. Preparedness	-								
2. Barriers	-.40**	-							
3. Knowledge	.34**	-.42**	-						
4. Self-Efficacy	.37**	-.30**	.16**	-					
5. Metastatic Status	.01	-.07*	-.07*	.06*	-				
6. Gender	-.04	-.06*	-.17**	.03	.11**	-			
7. Race	-.02	-.06*	.10**	-.06	-.01	.06*	-		
8. Education	.10**	-.10**	.29**	.04	-.09**	-.06*	.07*	-	
9. Cancer-specific Distress	-.12**	.24**	-.01	-.16**	.02	-.21**	.02	-.04	-
Mean	39.17	71.22	61.78	48.11				4.18	34.75
SD	6.13	18.31	19.60	7.08				0.85	9.67

Note.

* $P < .05$,

** $P < .01$.

Gender was coded 1 = men, -1 = women and the sample included 707 women and 498 men. Race was coded as 1 = white, not latino, -1 = non-white and/or latino. The sample included 1043 white non-latino patients and 162 non-white non-latino patients. Metastatic status was coded 1 = metastasized, 0 = not. The sample included 509 patients with metastasized cancer and 601 patients with non-metastasized cancer. Values for Cancer-Specific distress are based on 1198 participants.

Table 3

Moderated Regression Results Predicting Clinical Trials Decisional Preparedness Treating Psychological Distress as a Moderator of the Effects of Knowledge and Attitudinal Barriers

	<i>b</i>	β	<i>t</i> (1192)
Knowledge	.067	.214	7.46**
Attitudinal Barriers	-.102	-.303	10.34**
Cancer-specific Distress	-.034	-.054	2.00*
Knowledge X Cancer-specific Distress	-.002	-.047	1.72
Attitudinal Barriers X Cancer-specific Distress	-.002	-.056	2.02*
	<i>R</i> ²	<i>F</i> (5,1192)	<i>MSE</i>
	.204	60.95	30.07

Note.

* $P < .05$,

** $P < .01$.

Tabled R^2 value is the unadjusted value. Adjusted R^2 was .200.