Health Communication, 00: 1–10, 2014

ISSN: 1041-0236 print / 1532-7027 online
DOI: 10.1080/10410236.2014.889555

Routledge
Taylor & Francis Group

Talking About End-of-Life Preferences in Marriage: Applying the Theory of Motivated Information Management

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The theory of motivated information management (TMIM) provides one framework to examine information-seeking behaviors, especially in conversations involving sensitive or difficult information such as preferences for end-of-life (EOL) care. The spouse plays a significant role in decision making surrounding EOL care. Consequently, individuals need information about spouses' EOL preferences in order to ensure carrying out those desires. Our findings support the value of TMIM as a framework to understand factors that influence couples' EOL care information-seeking behaviors. In support of the theory, we provide factors that influence the initiation or avoidance of EOL conversations between spouses.

The end of life (EOL) represents a costly and disempowering experience for patients and families. In 2009, Medicare spent $50 billion on medical interventions during the last 2 months of patients' lives, and estimated that 20–30% of those expenditures had "no meaningful impact" (CBSNews, 2010, para. 3). Furthermore, even though 80% of patients prefer to die at home, most older adults die in a hospital (Johnson, Wang, & Metz, 2010). The discrepancy between where patients prefer to die and where death occurs constitutes an important concern because the EOL experience in hospitals reflects a decreased quality of life (Zhang, Nilsson, & Prigerson, 2012). Therefore, effective communication about EOL wishes becomes crucial to ensure individuals receive the care desired in the preferred setting.

For married couples, the spouse has an integral role in helping a partner manage the EOL experience: On an emotional level, many couples look to their spouse as a source of social support (Thomas, Morris, & Harman, 2002). On a practical level, a spouse is often appointed the durable power of attorney for health care (DPAHC) (Carr & Khodyakov, 2007a; Hopp, 2000), and may be responsible for making health care decisions on an individual's behalf when that individual is incapable (Kass-Bartelmes & Hughes, 2004; Moorman & Hauser, 2009; Scott & Caughlin, 2012).

Ideally, preemptive conversations should occur between spouses about EOL preferences; however, one-third of married individuals report avoiding discussions about EOL issues with their spouse (Pew Research Center, 2006). The lack of conversation may result from stress associated with the dying experience (Gardner, 2008), fear of burdening or upsetting a spouse (Coyne & Smith, 1991), or perceptions that a spouse may offer unhelpful or disapproving responses (Dakof & Taylor, 1990). In addition, dynamics within the marital relationship influence whether spouses discuss EOL preferences. Moorman (2011) found that couples reporting a higher quality of marriage feel more understood during EOL conversations, increasing the likelihood of appointing the spouse as DPAHC.

Although initiating EOL conversations may be challenging, couples that discuss EOL preferences report less fear and anxiety about EOL care than those who do not (Kass-Bartelmes & Hughes, 2004). Decreased fear and anxiety is associated with a greater ability to implement effective care when needed and increased comfort for both the patient and spouse. When couples fail to share EOL preferences, decision errors become more prevalent. Moorman and Hauser (2009) found that for couples avoiding EOL conversations, the spouse with decision-making authority assumed his or her own personal preferences for EOL choices of the patient.

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How marital partners seek and avoid EOL conversations can be examined using the theory of motivated information management (TMIM) (Afifi & Morse, 2009; Afifi & Weiner, 2004). TMIM posits that the discrepancy between what an individual actually knows and what that individual desires to know about a topic may elicit certain emotions that either motivate or preclude information seeking. The theory is particularly useful in examining information-seeking behaviors related to sensitive or difficult topics, such as EOL conversations between parents and adult children (Fowler & Afifi, 2011). The theory may be extended to examine EOL information seeking between spouses by examining relational quality indicators within the context of marriage (e.g., marital quality, marital satisfaction, communicative responsiveness, and empathy) that may highlight other factors that motivate or dissuade marital partners from EOL information seeking.

THEORY OF MOTIVATED INFORMATION MANAGEMENT

TMIM assesses the process through which individuals in close relationships manage difficult, sensitive, or threatening information, such as EOL preferences (for reviews, see Afifi, 2009a, 2009b; Afifi & Afifi, 2009). The theory offers theoretical expectations for predicting information seeking and avoidance behaviors (Afifi & Afifi, 2009). TMIM outlines information management as an iterative, three-phase process: (a) interpretation phase, (b) evaluation phase, and (c) decision phase (see Figure 1).

In the interpretation phase of the TMIM process, individuals recognize their desire for information and assess uncertainty. An individual's level of uncertainty discrepancy, the difference between the amount of information desired about a topic and the amount of information known, is compared (Afifi & Morse, 2009). Higher levels of uncertainty discrepancy produce emotional responses (e.g., anxiety, see Figure 1, path A) influencing evaluations made in the next phase of the process (Afifi & Afifi, 2009; Afifi & Morse, 2009; Fowler & Afifi, 2011).

In the evaluation phase, emotional responses to uncertainty discrepancy predict how an individual appraises information management. Information management is influenced by two primary factors: outcome expectancy (path B1) and efficacy judgments (path B2). Outcome expectancy, an individual's belief about the benefits and costs of seeking additional information about the issue, influences efficacy judgments (path C). Efficacy judgments function as assessments of the ability of an individual to enact a particular behavior (communication efficacy) and to cope with the outcome of future interactions (coping efficacy), as well as the ability of the target person to achieve the outcome in question (target efficacy). Higher efficacy judgments impact on the desire to seek additional information (Afifi & Afifi, 2009). Assessments in the evaluation phase influence the outcome in the decision phase, as well as subsequent evaluations about whether to seek or avoid further information.

In the decision phase of TMIM, individuals determine whether to enact or refrain from information seeking. Information seekers will choose one of three options: seeking, avoidance, or reappraisal. Individuals can seek relevant information and adopt a communication strategy to obtain information (e.g., ask the person directly; path D1). In cases of avoidance (path D2), individuals perceive the information as too risky due to outcome expectancies and/or efficacy beliefs and choose to avoid the situation or individuals related to the perceived negative interaction. If avoidance does not occur, individuals can initiate a cognitive reappraisal to reduce anxiety or other emotions and to reappraise "the perceived level of issue importance, the desired level of uncertainty, and the meaning of uncertainty" (Afifi & Weiner, 2004, p. 183). Cognitive reappraisal compels a decision to seek information or avoid the discussion.

TMIM has been used in both interpersonal and health contexts to understand how individuals manage difficult and sensitive information (for a review, see Afifi & Morse, 2009). Across these different contexts, the theory has demonstrated some predictive success in intentions to seek sensitive or difficult health information, including information-seeking behaviors among college students about sexual health (Afifi & Weiner, 2006) and family discussions about organ donation (Afifi et. al., 2006). Most recently, Morse and

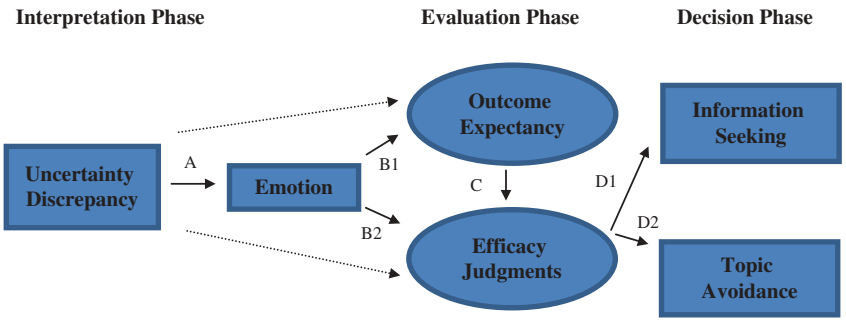

FIGURE 1 Model of TMIM predictors.

colleagues (2013) found TMIM to explain information management surrounding illicit stimulant drug use; individuals' level of efficacy toward information seeking and perceptions about their social network were influenced by anxiety and outcome expectancies. Across these studies, the role of anxiety and efficacy in information management related to sensitive health issues is emphasized.

TMIM AND END-OF-LIFE CONVERSATIONS

TMIM has many diverse applications in health, including information management and avoidance regarding EOL communication. Fowler and Afifi (2011) found TMIM useful in explaining adult children's pursuit of information about their aging parent's caregiving needs and preferences prior to parental dependency on the adult child. However, unlike previous research using TMIM (Afifi & Weiner, 2006), delaying discussions of eldercare arrangements appeared to have few negative consequences, most likely because eldercare was not perceived as urgent, and adult children perceived aging parents to have robust health (Fowler & Afifi, 2011). Participants' lack of uncertainty about EOL conversations mirrored previous research indicating adult children's tendency to assume they understand a parent's eldercare preferences (Cicirelli, 1993) even when conversations have not occurred.

For married individuals, EOL conversations are more likely to occur with a spouse than with other family members (Carr & Khodyakov, 2007b). In this study, we conceptualize spouse as the partner of a married individual as defined in previous research (e.g., Moorman & Hauser, 2009). A preemptive EOL conversation with a spouse that begins during mid-adulthood needs to occur in order to ensure that conversations are helpful and meaningful (Sudore & Fried, 2010). Despite the importance of preemptive EOL conversations, one-third of married individuals report avoiding EOL discussions with their spouse (Pew Research Center, 2006). Conversation avoidance is associated with inaccurate decisions about patients' EOL preferences (Moorman & Inoue, 2013) and can indicate a lack of sophistication in completing task goals (e.g., seeking EOL information; Caughlin & Scott, 2010). Conversely, engagement in EOL conversations is associated with decreased symptoms and improved communication that leads to quality care (Teno, Grunier, Schwartz, Nanda, & Wetle, 2007). The significant role of the spouse in EOL decision making, coupled with the importance of preemptive EOL conversations, demonstrates the need to examine the information management process of EOL communication in marriage. To examine how EOL information seeking is managed or avoided between spouses, principles from TMIM are tested in the current investigation. We expand on work initiated by Fowler and Afifi (2011) in two ways: (a) testing the theory in a different relational context (i.e., marriage) and (b) incorporating four relational variables (i.e., marital quality, marital satisfaction, empathy, and communicative responsiveness) into the model.

H: TMIM will explain spousal information seeking or avoidance about EOL preferences.

In suggesting ways to improve future research on TMIM and EOL communication, Fowler and Afifi (2011) highlight the need to consider the influence of empathy and communicative responsiveness in the EOL information-seeking process. Individuals who believe they are more empathic and communicatively responsive may foster an environment where EOL preferences can be easily shared with a partner. Considering these discursive features within EOL conversations is important because the *quality* of the EOL conversation is shown to be more important than the *quantity* of conversations (Scott & Caughlin, 2012). In addition to examining the discursive features within the EOL conversation, perceptions about the relational state (e.g., marital quality and marital satisfaction) are likely to influence EOL information seeking and avoidance. Scott and Caughlin (2012) found that effective EOL communication adheres to the task of discussing EOL care while also considering the identity and relational components to these conversations. In the context of marriage, beliefs about marital quality influence whether a spouse feels understood about EOL preferences and indicates the desire to choose a spouse as DPAHC for health care decisions (Moorman, 2011). Because discursive and relational factors significantly influence EOL communication, we examine four relational quality variables in the EOL information management process to understand whether spouses serving as decisional surrogates seek the necessary information to understand their partners' EOL wishes.

RQ: How do relational quality indicators (i.e., marital quality, marital satisfaction, empathy, and communicative responsiveness) influence a spouse's level of uncertainty discrepancy about seeking EOL information from a marital partner?

METHOD

Sample

In total, 170 married participants completed the online survey, with females comprising 58.8% of the sample. The average age of the sample was 56.5 years ($SD = 6.7$), with ages ranging from 50 to 91. The average age of participants' spouses was 56.51 years ($SD = 7.4$) and ranged from 37 to 86. The sample was primarily of White/Caucasian ethnicity (84.6%), followed by Asian (8.3%), African American (4.7%), Hispanic (1.8), and Native American (0.6%). Length of the marital relationship spanned from 2 to 55 years ($M = 26.93$, $SD = 9.91$). Overall, the majority of the sample was highly educated: 19% possessed a master's degree, 32.7%

reported a college degree, 13% had completed some college education, and 17% possessed a high school degree or equivalent. The average reported pretax household income of participants was $118,151.

Procedure

A convenience sample was recruited through targeted listservs: volunteer listervs at two nonprofit organizations, graduate and faculty listservs at a large Midwestern university, and an e-mail listserv managed by the National Communication Association. Additionally, students in undergraduate communication courses at a large Midwestern University were offered extra credit if they recruited eligible individuals to complete the survey. Eligible participants completed a 28-item online survey and were entered into a drawing to win a $30 gift card.

Given the protected legal authority that individuals who are married have regarding EOL decision making, participants had to be currently married and at least 50 years old. The age of 50 was selected as a minimum age because 50 marks a time when physicians recommend that patients receive regular or increased health screenings (e.g., colonoscopy for adults ages 50–75, and biennial mammography for women ages 50–75) as a form of preventative care (Agency for Healthcare Research and Quality [AHRQ], 2012). The need for annual health screenings for this population may prompt conversations about health status and preferences, which then may lead to preemptive conversations about EOL wishes. Furthermore, media efforts such as National Healthcare Decisions Day (2012) and The Conversation Project (n.d.) are encouraging younger adults to have these conversations now. Preemptive conversations among younger, working married adults are shown to be more helpful and meaningful for the future (Sudore & Fried, 2010). Therefore, we wanted to examine the prevalence of EOL conversations among this population, and the information management practices that influence information seeking and avoidance.

Measures

The current study examined factors that influence the decision to seek or avoid information about spouses' EOL preferences, and serves as an extension to research on TMIM (Afifi & Morse, 2009; Afifi & Weiner, 2004). Measures from previous TMIM research underwent adaptation to examine information-seeking behaviors within the context of marriage. Table 1 includes a list of TMIM measures (name, reliability score, mean, standard deviation, items, and scale) that were adapted for the purposes of the study. The next section describes some additional variables added or adapted for the current investigation.

End-of-life preferences. Information gathered from the Five Wishes (Aging With Dignity, 2011) advance directives website was used to assess whether participants have engaged in discussions with their spouse about EOL preferences. Participants were given a list of five topics associated with EOL preferences and asked to check each topic that had been discussed. Topics included: (a) "The person your spouse wants to make decisions on his/her behalf when he/she is unable to do so," (b) "The kind of medical treatment your spouse does or does not want at the end of life," (c) "How comfortable your spouse wants to be at the end of life," (d) "How your spouse wants to be cared for at the end of life," and (e) "What your spouse wants loved ones to know at the end of life." The number of total checked items was computed to create a composite EOL preference discussion score, with a higher score indicating more topics discussed related to spouse's EOL preferences.

Topic avoidance. Previous measures of topic avoidance as an outcome variable in TMIM research depart substantially from topic avoidance related to EOL preferences. Afifi and Afifi (2009) measured topic avoidance with a specific emphasis on adolescents' avoidance of conversations about parental relationships. Therefore, the researchers developed a scale that was context specific to EOL conversation avoidance in marriage. The researchers generated a list of three questions deemed conceptually similar. Topic avoidance items included "I plan to avoid talking about my spouse's end-of-life preferences," "I'd rather not talk to my spouse about his/her end-of-life preferences," and "I don't really want to know about my spouse's end-of-life preferences." Items were measured using a 7-point Likert scale, with higher scores suggesting more topic avoidance (1 = *strongly disagree*, 7 = *strongly agree*). Reliability for these three items was relatively high ($\alpha = .92$).

Communicative responsiveness. Responding to Fowler and Afifi (2011), the researchers included Stiff's communicative responsiveness scale (Stiff, 1984; Stiff, Dillard, Somera, Kim, & Sleight, 1988). We adapted the measure to examine participants' level of communicative responsiveness with their spouse. The measure included four items (e.g., "I usually respond appropriately to the feelings and emotions of my spouse"). A 7-point Likert scale was used to measure the items (1 = *strongly disagree*, 7 = *strongly agree*), with higher scores signaling increased levels of perceived communicative responsiveness. Reliability for the measure was adequate ($\alpha = .86$).

Empathy. The study examined participants' level of empathic concern toward their spouse. Empathy was measured using five items (e.g., "I often have tender, concerned feelings for my spouse"). Responses were scored using a 7-point Likert scale (1 = *strongly disagree*, 7 = *strongly agree*). Higher scores reflected increased perceptions of empathy toward a spouse. Consistent with previous

TABLE 1
TMIM Measures

Name	α	M	SD	*Items*	*Scale*
Issue importance (Fowler & Afifi, 2011)	n/a	6.45	0.89	1. It is important that I know my spouse's preferences for end of life care.	7-point Likert: 1 = *strongly disagree*, 7 = *strongly agree*
Uncertainty discrepancy (Fowler & Afifi, 2011)	n/a	0.81	1.28	1. How certain are you about your spouse's preferences for their care at the end of life? 2. How certain do you want to be about your spouse's preferences for their care at the EOL?*	7-point Likert: 1 = *completely uncertain*, 7 = *completely certain*
Anxiety (Afifi & Afifi, 2009)	.90	3.07	1.54	1. When you compare how much you want to know and how much you actually know about your spouse's end-of-life preferences, how anxious does it make you? 2. How anxious does it make you to think about how much/how little you know about your spouse's end-of-life preferences? 3. The size of the similarity/difference between how much I know and how much I'd like to know about my spouse's end-of-life preferences is	(1, 2) 7-point Likert: 1 = *not at all anxious*, 7 = *extremely anxious*; (3) 1 = *not at all anxiety producing*, 7 = *extremely anxiety producing*
Outcome expectancy (Afifi & Afifi, 2009)	.95	5.49	1.42	1. Talking to my spouse directly about his/her end-of-life preferences would produce: 2. Asking my spouse about his/her end-of-life preferences would produce: 3. Approaching my spouse to ask about his/her end-of-life preferences would produce:	7-point scale (–3 to +3): –3 = *a lot more negatives than positives*, 0 = *about as many negatives as positives*, +3 = *a lot more positives than negatives*
Communication efficacy (Afifi & Afifi, 2009)	.96	6.00	1.20	1. I am able to ask my spouse what s/he thinks about end-of-life preferences. 2. I could approach my spouse to ask about his/her beliefs about end-of-life preferences. 3. I am able to approach my spouse to talk about end-of-life preferences.	7-point Likert: 1 = *strongly disagree*, 7 = *strongly agree*
Target efficacy (Afifi & Afifi, 2009)	.94	6.06	1.12	1. My spouse would be completely honest about this issue. 2. My spouse would give me truthful information about this issue. 3. My spouse would be completely forthcoming about this issue. 4. If approached, my spouse would be upfront about this issue.	7-point Likert: 1 = *strongly disagree*, 7 = *strongly agree*
Coping efficacy (Afifi & Afifi, 2009)	.78	5.81	1.02	1. I feel confident that I could cope with whatever I discover about my spouse's end-of-life preferences. 2. I couldn't deal with what I might find out about my spouse's end-of-life preferences. (R) 3. I can handle whatever I would find out about my spouse's end-of-life preferences. 4. I would not be able to deal with what I might find related to spouse's end-of-life preferences. (R)	7-point Likert: 1 = *strongly disagree*, 7 = *strongly agree*
Information seeking (Fowler & Afifi, 2011)	.90	4.49	1.63	1. After taking this survey, how much information do you plan to seek from your spouse about his/her end-of-life preferences? 2. How many questions do you plan to ask your spouse regarding his/her preferences for care at the end of life?	7-point Likert: 1 = *none*, 7 = *a lot*

*The difference between the two items was computed to create a composite uncertainty discrepancy score.

research (Davis, 1983), the measure reported high internal consistency ($\alpha = .83$).

Quality of marital relationship. Marital quality (Moorman, 2011) was examined using two survey items: "How close would you say you are to your spouse?" and "To what extent do you and your spouse share a similar outlook on life?" Responses were scored using a Likert scale (1 = *not at all*, 4 = *very*), with higher scores indicating higher perceptions of marital quality. Reliability for these two items was acceptable ($\alpha = .80$).

Marital satisfaction. Marital satisfaction was measured using the three-item Kansas Marital Satisfaction (KMS) scale (Crane, Middleton, & Bean, 2000). The scale included three questions: "How satisfied are you with your marriage?," "How satisfied are you with your [husband/wife/partner] as a spouse?," and "How satisfied are you with your relationship with your spouse?" Items were measured on a 7-point Likert scale (1 = *extremely dissatisfied*, 7 = *extremely satisfied*). Higher scores suggested higher levels of marital satisfaction. Consistent with previous research (Mitchell, Newell, & Schumm, 1983; Schumm, et al., 1986), reliability for these three items was good ($\alpha = .97$).

RESULTS

The sample overwhelmingly reported (91.2%) that EOL preferences are important issues to discuss with a spouse. Participants reported that they had discussed the EOL topics listed in the survey ($M = 3.0$, $SD = 1.7$), with a majority (62.6%) discussing three or more topics with their spouse. Nearly half the sample (48.8%) reported no uncertainty discrepancy between current information and desired information. The other half (48%) indicated that a discrepancy existed between actual and desired information (3.2% indicated they knew more information than they desired to know). A majority of the sample (57.7%) reported planning to seek "a lot," "quite a bit," or "some" information about a spouse's EOL preferences ($M = 4.5$, $SD = 1.6$). Participants reported high marital quality ($M = 6.1$; $SD = 0.96$); marital satisfaction ($M = 6.2$; $SD = 1.1$); communicative responsiveness ($M = 5.4$; $SD = 1.1$); and empathy ($M = 5.5$; $SD = 0.91$).

A second-order analysis examined whether or not the derived scales had relationships that would be better represented as a second-order factor. The initial structure provided by what would appear as unidimensional scales formed a series of ordered predictable relationships (Anderson, Gerbing, & Hunter, 1987). The underlying relational pattern can take the identified scales to determine whether a higher order underlying factor pattern exists (Gerbing, Hamilton, & Freeman, 1994; Rindskopf & Rose, 1988). Accordingly, the test evaluated the suitability of whether an underlying second-order factor could explain the relationships among observed scales (Levine & McCroskey, 1990).

A chi-squared test examined whether the three measures of efficacy (e.g., communication, target, and coping) formed a second-order model. The model demonstrated a second-order structure where each of the individual errors was less than expected by chance, $p > .05$, and a test of the overall fit of the model demonstrated a nonsignificant value, $\chi^2(3, N = 170) = 1.41$, $p > .05$, indicating the model was an adequate explanation for the relationships among the variables. As a result, in all subsequent analyses, the three efficacy constructs (e.g., communication, target, and coping) were treated as a single entity, efficacy judgments.

A second chi-squared test examined whether the four relational quality measures (e.g., marital quality, marital satisfaction, communicative responsiveness, and empathy) formed a second-order model. The model demonstrated a second-order structure where one of the six individual errors was greater than expected by chance, $p > .05$, and a test of the overall fit of the model demonstrated a nonsignificant value, $\chi^2(6, N = 170) = 2.32$, $p > .05$, indicating the model was an adequate explanation for the relationships. Accordingly, all subsequent analyses using the relational constructs (e.g., marital satisfaction, marital quality, communicative responsiveness, and empathy) were treated as a single entity, relational quality.

The results indicated that the data were consistent with principles from TMIM, $\chi^2(13, N = 163) = 12.77$, $p > .05$. All the paths in the figure were statistically significant, $p < .05$ (see Figure 2) when topic avoidance was used as the outcome measure. However, when information seeking (see Table 1) was entered into the model no significant paths were generated. Therefore, the model suggested general support for most TMIM predictions regarding avoidance toward seeking a spouse's EOL preferences. In accordance with the premises of TMIM, the model suggested avoidance most likely results when the issue is considered of low importance, the person reports a high level of uncertainty, and the person believes that the conversation is unlikely to generate an effective outcome (e.g., obtaining desired information about a spouse's EOL preferences).

Tests based on the procedures outlined by Sobel (1982) were conducted to consider the impact of mediating effects for each sequence path within TMIM. For any sequence of three variables where A causes B causes C, the mediating effect of variable B should be considered significant. The Sobel tests demonstrated significance for all mediating effects (see Table 2). Consequently, the Sobel test indicated that all the mediating variables act as significant ($p < .05$) sources of mediation between the variables in the model.

DISCUSSION

The study was designed to examine factors that influence an individual's intention to seek information about a spouse's EOL preferences. In addition, we extended TMIM by examining four relational-quality variables that may

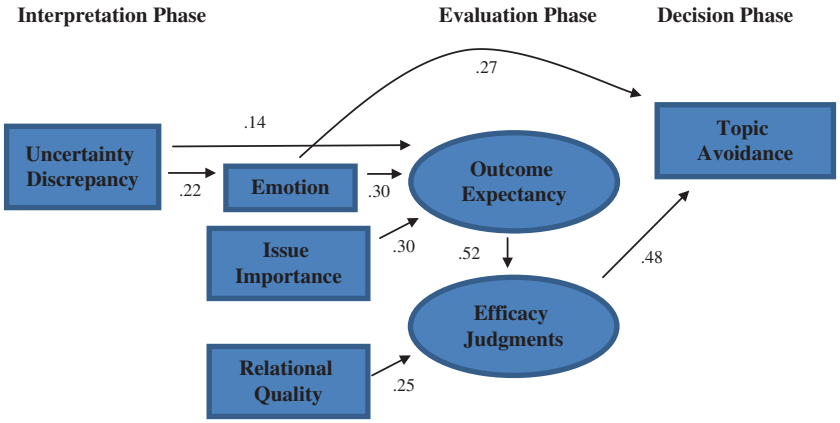

FIGURE 2 Outcome of tested model. All paths significant at $p < .05$.

TABLE 2
Mediation Results (Sobel Test) for H*

Predictor	*Mediator*	*Outcome*	*Test Statistic*
Uncertainty discrepancy	Outcome expectancy	Efficacy judgments	1.83
Uncertainty discrepancy	Emotion	Outcome expectancy	2.47
Issue importance	Outcome expectancy	Efficacy judgments	3.90
Relational quality	Efficacy judgments	Topic avoidance	3.90
Outcome expectancy	Efficacy judgments	Topic avoidance	6.16

*$p < .05$.

influence an individual's plan to seek EOL information from a spouse. Two primary insights about spouses' EOL information-seeking behaviors emerged from the study: (a) TMIM provides an adequate theoretical framework to explain spouses' intentions to avoid EOL information, but not information-seeking behaviors; and (b) relational-quality variables may be significant in influencing the context in which EOL conversations occur.

TMIM in the Context of Spouses' EOL Discussions

TMIM is useful for predicting spouses' intentions to manage information about their partners' EOL preferences. In accordance with TMIM, uncertainty discrepancy, the importance of the issue, and anxiety all predicted outcome expectancy (see Figure 2). In addition, uncertainty discrepancy predicted anxiety: Higher levels of uncertainty discrepancy were associated with higher levels of anxiety. Furthermore, anxiety influenced expectations about the outcome of an EOL conversation: increased anxiety was associated with more negative appraisals about the potential for negative consequences to occur when seeking information, and thus led to conversational avoidance. Finally, beliefs about outcome expectations predicted a spouse's overall efficacy (i.e., communication, coping, and target) to engage in a future EOL conversation. However, it is important to note that each independent conceptualization and operationalization of efficacy was not significantly predictive in the model until all three variables of efficacy were collapsed into one variable, efficacy. Previous research (Afifi, Dillow, & Morse, 2004; Afifi et al., 2006; Afifi & Weiner, 2006) has identified similar limitations with some efficacy-judgment variables (i.e., communication efficacy). While efficacy is typically conceptualized as a cognitive variable, perhaps efficacy judgments may be more influenced by emotions than what the model suggests. Some uncertainty-management theories (e.g., problematic integration theory [Babrow, 2007] and uncertainty management [Brashers, 2007]) emphasize the need to consider a more emotional approach to uncertainty, which may be particularly salient for sensitive conversations, such as EOL care.

A second point is that for certain difficult conversations, TMIM may be more theoretically predictive of avoidance behaviors than information-seeking behaviors. Although the majority of individuals (62.9%) reported discussing three or more topics about EOL care, a test of the TMIM model significantly predicted only topic avoidance and not information seeking; outcome expectations influenced efficacy beliefs about intentions to avoid initiating an EOL conversation with a spouse (see Figure 2). In addition, a combination of efficacy beliefs and anxiety led spouses to engage in either increased or decreased avoidance of EOL information. Thus, our study suggests that in the context of EOL communication, TMIM is more theoretically useful for predicting avoidance behaviors rather than information-seeking behaviors. The reason for this finding may be twofold. First, in the United States, the process of dying has become more agonizing (Callahan, 2000), leading to a culture of avoidance about death and dying (Nuland, 1993). Topic avoidance has negatively influenced communication about death (Callahan, 2000), including palliative care literature, a field that typically emphasizes the need to move beyond the biomedical approach to death and dying (for a review,

see Ragan, Wittenberg-Lyles, Goldsmith, & Sanchez-Reilly, 2008). Consequently, negative or avoidant discourses about death are likely to pervade interpersonal interaction, and thus negatively affect how spouses communicate EOL preferences. Second, TMIM is limited to understanding uncertainty management in situations where individuals are motivated to manage their uncertainty (Afifi & Matsunaga, 2008). A majority of our sample (62.7%) reported discussing three or more topics pertaining to EOL care; therefore, motivation to manage uncertainty seems less imperative because many spouses already know some information about their partner's EOL preferences. Because our sample encompasses individuals who are high information seekers, there is less need for these individuals to manage their uncertainty through information seeking because a large uncertainty discrepancy does not exist. This lack of discrepancy may be attributed to the demographic variables of our sample: More educated and higher socioeconomic status (SES) individuals are more likely to be information seekers (Johnson & Case, 2012).

The Role of Relational-Quality Variables on Information Seeking

We extended the theory by examining four relational quality variables (i.e., marital quality, marital satisfaction, empathy, and communicative responsiveness) and the potential influence of these variables on information seeking and avoidance. Our results suggest that the nature of the spousal relationship in conjunction with assessments about interpersonal communication skills plays a crucial role in understanding whether couples avoid conversations about EOL care. In particular, our model suggests that efficacy is directly influenced by these relational-quality variables and mediates the relationship between relational quality and conversational avoidance. Therefore, it is important to consider the context of the marital relationship when analyzing information-seeking and -avoidance behaviors. Couples who are not satisfied with their spouse or marriage may avoid EOL discussions because EOL conversations are sensitive issues, and relational context and quality influence an individual's ability to have these challenging and difficult conversations (Moorman, 2011). On the other hand, individuals in marriages perceived to be healthy and strong may feel competent to handle a sensitive EOL conversation, even if the interaction leads to stress or anxiety.

In addition to relational variables, assessments of a person's communication skills (empathy and communicative responsiveness) influence intentions to seek information. Individuals who perceived themselves to be more empathic and responsive felt an increased comfort in seeking information about a spouse's EOL preferences and were less likely to avoid the conversation. Conversely, partners who felt less empathic and communicatively responsive toward a spouse had reduced efficacy beliefs about the conversation going smoothly, which was associated with topic avoidance. The significance of these relational quality variables suggests that the EOL conversation is highly contextual, and thus the model must consider the relational context within the EOL conversation.

Limitations and Future Research

The design of the study led to some limitations. Participants completed an online survey where they self-reported answers about their information-seeking behaviors regarding their spouse's EOL preferences. Given the self-reported nature of the survey, participants may have overestimated reports on certain variables (e.g., marital quality and marital satisfaction) in order to appear more positive. In addition, the cross-sectional design only captures individual responses from a single moment and limits our analytic ability to infer causal conclusions about the relationships between variables. Furthermore, EOL preferences are often dynamic and may change throughout the duration of one's life, especially as an individual ages and health declines (i.e., an individual may prefer more aggressive treatments earlier in life and less aggressive treatments later in life; Stangelberger, Waldert, & Djavan, 2008). Therefore, future research must consider the salience, importance, and urgency of EOL preferences to examine whether spouses are continuing to seek information throughout the duration of the marriage and life span in order to ensure that a spouse's plans have not changed.

Limitations also resulted from the operationalization of information-seeking measures. Participants were only asked whether they plan to seek or avoid conversations about EOL preferences with their spouse. Future research should examine individuals' actual EOL conversations to determine whether individuals' plans to seek and avoid information are consistent with individuals' actions. Nonetheless, some health behavior change models (e.g., goal-plan-action model [Dillard & Schrader, 1998] and theory of planned behavior [Ajzen, 1985]) suggest that intentions sequentially influence actions, and thus the findings about individual's conversation intentions may illuminate whether spouses actually seek or avoid EOL conversations.

Finally, limitations in convenient sampling affect the generalizability of the results, and thus results may be representative of only certain populations (Keyton, 2001). The majority of the sample was of White/Caucasian ethnicity, highly educated, and wealthy. Participants rated spouses as healthy and reported discussing at least three of the five EOL topics listed in the survey. These information-seeking behaviors are typically associated with more educated and higher SES populations (Johnson & Case, 2012). An older sample with more immediate health concerns also needs to be examined to determine whether EOL conversations are occurring at an older age when individuals are closer to the end of life.

Regardless of the limitations, the present study illuminates that the decision to seek EOL information is a highly contextual conversation influenced by individuals'

perceptions of the relational quality and efficacy judgments. The findings yield useful insights about the applicability of TMIM in explaining a spouse's intention to seek or avoid information about EOL preferences. Understanding a spouse's EOL information-seeking intentions is significant because partners often prefer their spouse to initiate the conversation (Freeman & Berger, 2009), and an individual must seek information from his or her spouse in order to ensure that EOL wishes are understood and respected. By sampling middle-aged married couples, we were able to conduct a communication-based study of marriage later in life, which is scarcely studied in our discipline (Harwood, Rittenour, & Lin, 2013). In addition, we are able to examine the EOL conversation at a time when these conversations are considered most helpful and meaningful (Sudore & Fried, 2010). Spouses reported discussing three of five EOL topics listed in the survey. This finding suggests spouses may find it necessary to engage in preemptive EOL discussions out of precaution. Perhaps participants have sought out EOL conversations in response to consciousness-raising media efforts, such as National Healthcare Decisions Day (2012) and The Conversation Project (n.d.), which emphasize the importance of sharing EOL preferences now. These interventions that promote information seeking about EOL care may be significant innovations, as the demand for quality of life during the dying process has increased.

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