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Tara G. McManus

University of Nevada, Las Vegas, tara.mcmanus@unlv.edu

Yuliya Yurashevich

Independent Researcher

Courtney McDaniel

University of Kansas

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## Articles

# Explaining How College-Aged Individuals Provide Information to Friends Experiencing Romantic Relational Uncertainty

Tara G McManus<sup>\*a</sup>, Yuliya Yurashevich<sup>b</sup>, Courtney McDaniel<sup>c</sup>

[a] Department of Communication Studies, University of Nevada, Las Vegas, NV, USA. [b] Independent Researcher. [c] Department of Communication, University of Kansas, Lawrence, KS, USA.

## Abstract

College-aged individuals report having difficulty deciding what and how much information to provide to friends, yet they often turn to one another for information when experiencing relational uncertainty in a romantic relationship. Given the central role friendships have in college-aged individuals' lives, identifying ways to decrease the difficulty of providing information is necessary. By framing friends' relational uncertainty conversations as an information management process, the information-provider's cognitions and emotions are highlighted as factors likely influencing the information provided to friends requesting it to manage their relational uncertainty. In an online survey (N = 367), participants recalled their most recent conversation in which a friend requested information to help manage a romantic relational uncertainty. Results showed participants provided a greater amount, more accurate, and more positively valenced information to friends when participants had positive expected outcomes and greater efficacy assessments. However, anxiety had a small negative effect on expected outcomes, efficacy assessments, and the information provided. In addition to the theoretical contributions, results suggest that helping college-aged individuals focus on the positive outcomes of relational uncertainty conversations and improving their efficacy could help them be better information-providers to friends.

**Keywords:** relational uncertainty, friend, information-provider, expected outcomes, efficacy

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\*Corresponding author at: Box 454052, University of Nevada, Las Vegas, 4505 S. Maryland Parkway, Las Vegas, NV 89154, USA. E-mail: Tara.McManus@unlv.edu



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Relational uncertainties, or the doubts, concerns, and questions one has about a romantic relationship (Knobloch & Solomon, 2002a), are a common phenomenon among college-aged dating individuals (Knobloch & Solomon, 2002b). To manage uncertainty, individuals evaluate the information they have then decide whether they desire more information to alter their level of the uncertainty (e.g., Knobloch & Solomon, 2002a). College-aged daters are unlikely to seek information from romantic partners (Knobloch & Solomon, 2002b; Korobov & Thorne, 2007). Instead, they seek information from friends (e.g., Jensen & Rauer, 2014; Korobov & Thorne, 2007). Although friends are third-parties who are not directly involved in the romantic relationship, friends are integral members of college-aged individuals' lives (e.g., Collins & van Dulmen, 2006). Yet, when providing information to uncertain friends, college-aged individuals report having difficulty determining what to share and how to share the information (e.g., McDaniel, 2017). Given the prominence of friendships in college-aged individuals' lives, identifying ways to decrease that difficulty is needed.

Framing friends' conversations about romantic relational uncertainty as an information management process draws attention to several information-provider characteristics that may influence how they respond to uncertain friends. The theory of motivated information management (TMIM) posits that information-providers' outcome expectancies and efficacy assessments influence the information they share (Afifi & Morse, 2009; Afifi & Weiner, 2004). Additionally, emotional responses, such as anxiety, to a situation also may affect information-provision (e.g., Lazarus, 1991; Planalp & Fitness, 1999). Thus, this study tests how information-providers' expected outcomes, efficacy assessments, and anxiety affect how people provide information to relationally uncertain friends. In doing so, this study will test the under-examined role of the information-provider explicated by the TMIM, which can help identify ways to ease the difficulty college-aged individuals experience when having these conversations with friends.

## Relational Uncertainty and Information-Provision in Friendships

Relational uncertainty refers to the doubts, insecurities, or decreased confidence one has about the long-term viability of a romantic relationship (Knobloch & Solomon, 2002a). A common experience in college-aged individuals' romantic relationships (Knobloch & Solomon, 2002b), it may arise when a person experiences romantic jealousy (Theiss & Solomon, 2008), believes they and their partner desire the romantic relationship to differing degrees (Korobov & Thorne, 2007), or when the status of the romantic relationship changes (Dailey, Hampel, & Roberts, 2010; Solomon & Knobloch, 2004). Although uncertainty is not necessarily negative or "bad" (Afifi & Weiner, 2004), relational uncertainty often is negative and episodic (Knobloch & Solomon, 2002b). When experiencing uncertainty (Brashers, Goldsmith, & Hsieh, 2002) or undesirable levels of uncertainty (Afifi & Weiner, 2004), individuals evaluate the information they have and decide whether to seek or avoid additional information or reevaluate it.

When relationally uncertain individuals desire information, it is assumed they will seek it either directly or indirectly from the romantic partner (Knobloch & Solomon, 2002a). However, research suggests this is unlikely (e.g., Knobloch & Carpenter-Theune, 2004; Knobloch & Solomon, 2002b). Instead, they turn to friends for information (Dailey, Brody, & Knapp, 2015; Jensen & Rauer, 2014; Korobov & Thorne, 2007) even though friends are third-parties to the romantic relationship (i.e., they are not a member of the romantic relationship). Friendships are an integral part of college-aged individuals' lives. Friends replace parents as the most salient relationship during this time of life (Collins & van Dulmen, 2006) and are the primary source of information and support (Burluson, 1995; Collins & van Dulmen, 2006; Floyd & Parks, 1995). Thus, it makes sense that friends are information-providers to relationally uncertain individuals.

Relational uncertainty conversations offer an opportunity for friends to manage information together. The relationally uncertain individual requesting information is an information-seeker, and the individual sharing information in response to the perceived request is the information-provider. Information is any "stimuli from a person's environment that contribute to his or her knowledge or beliefs" (Brashers et al., 2002, p. 259). This might include opinions, recommendations, advice, or understanding (e.g., Dailey et al., 2015; Jensen & Rauer, 2014; Korobov & Thorne, 2007). Although a variety of types of information may be provided, college-aged information-providers report struggling deciding what *and* how to provide information in response to friends' requests (McDaniel, 2017).

Part of managing this difficulty involves varying the information along several dimensions. For instance, college-aged individuals report opting to provide very little new information or partially accurate information with friends (McDaniel, 2017). This suggests information-providers vary the *amount* (i.e., the quantity or how much) and *accuracy* (i.e., the degree of truthfulness and precision; Wheeless, 1976) of information. Further, relationally uncertain information-seekers report that some information received from friends is negative and interferes with the romantic relationship (Knobloch & Donovan-Kicken, 2006). This indicates the *valence*, or degree of positivity versus negativity (Wheeless, 1976) of the information likely varies. Overall, this shows information-providers alter the information they share with relationally uncertain friends but does not explain why they alter the information. Identifying factors that explain how they provide information may offer insight into what is important when managing information with relationally uncertain friends.

## The Theory of Motivated Information Management

The theory of motivated information management (TMIM) explicates a process explaining how pairs of individuals manage information (Afifi & Morse, 2009; Afifi & Weiner, 2004). The theory starts with the assumption that information management is a dyadic, interpersonal process. In other words, the information-seeker and information-provider must interact with one another, and the information-provider must perceive the information-seeker to request information. The TMIM identifies a three-phase information management process that unfolds between the two individuals, which includes the initiation, evaluation, and decision phases. However, the TMIM presumes information-providers experience only the evaluation and decision phases (Afifi & Morse, 2009; Afifi & Weiner, 2004).

The evaluation phase is initiated when an information-provider perceives an information-seeker's desire for information (Afifi & Morse, 2009; Afifi & Weiner, 2004). This phase involves making anticipatory estimates about the outcomes and efficacy of providing information. First, an information-provider evaluates the expected outcomes or likely consequences for providing information by weighing the potential positive outcomes (i.e., rewards) against potential negative outcomes (i.e., costs; Afifi & Weiner, 2004). Because friendships are expected to be open and supportive (Burlison, 1995; Floyd & Parks, 1995), positive outcomes may typically be anticipated. Yet, when information-providers think sharing requested information will not change the friend's behaviors or relationship (i.e., they have neutral or negative expected outcomes), they provide less information and are less accurate in the information they do provide (McDaniel, 2017). This is consistent with the TMIM, which posits that negative expected outcomes will decrease information-provision, and positive expected outcomes will increase information-provision (Afifi & Morse, 2009; Afifi & Weiner, 2004). Therefore, we offer the first hypothesis:

**H1:** Information-providers' expected outcomes are positively related to the (a) amount, (b) accuracy, and (c) valence of information they report providing to relationally uncertain information-seekers.

An information-provider's efficacy assessments also affect how information is provided (Afifi & Morse, 2009; Afifi & Weiner, 2004). Bandura (1977, 1993) defines efficacy as one's belief in their ability to successfully engage in a behavior or to achieve a task (assuming they have the necessary skills), and those who lack efficacy avoid challenging tasks. Building on this notion of efficacy, the TMIM argues communication, coping, and target efficacy are important for managing information (Afifi & Morse, 2009; Afifi & Weiner, 2004). Communication efficacy is the extent to which a person thinks they have the ability to express information. Coping efficacy is the degree to which a person thinks they can effectively manage the consequences of providing information. Target

efficacy refers to one's perception the recipient can cope with the information (Afifi & Morse, 2009; Afifi & Weiner, 2004). Along these lines, when college-aged information-providers are unprepared to discuss an issue, exhausted by frequently talking with the friend about the issue, or perceive the information-seeker to be unable to cope with the information, they alter the amount and accuracy of the information they provide (McDaniel, 2017). Given the foregoing, we offer the next hypothesis:

**H2:** Information-providers' efficacy assessments are positively related to the (a) amount, (b) accuracy, and (c) valence of information they report providing to relationally uncertain information-seekers.

The TMIM further argues information-providers' efficacy assessments partially mediate the relationship between their expected outcomes and the information they provide (Afifi & Morse, 2009; Afifi & Weiner, 2004). In other words, information-providers' expected outcomes should influence how they provide information to friends by increasing efficacy assessments, which in turn increases information provision. Limited past research (albeit between romantic partners discussing sexual health) supports this contention. Information-providers' expected outcomes for providing requested information are positively related to beliefs in their own ability and information-seekers' ability to communicate about and cope with the information, which in turn increases the directness of information provided (Dillow & LaBelle, 2014). Based on the foregoing, we pose our third hypothesis:

**H3:** Information-providers' efficacy assessments partially mediate the effects of expected outcomes on the (a) amount, (b) accuracy, and (c) valence of information they report providing to relationally uncertain information-seekers.

## Emotions and Providing Information

Information management also is affected by emotions, or the feelings and affective responses one has to stimuli (Lazarus, 1991; Planalp & Fitness, 1999). Emotions arise from one's personal stake, or vested interest, in the other person and the relationship (Lazarus, 1991). In friendships, a personal stake might develop through past efforts to maintain the friendship (Oswald, Clark, & Kelly, 2004), the care and support exchanged, or concern for the other's well-being (Burleson, 1995). The role of emotions for the information-seeker in uncertainty contexts is well documented (e.g., Brashers et al., 2002; Dillow & LaBelle, 2014). Less consideration has been given to information-provider's emotions. There is evidence that information-providers' negative affect increases the negativity and concreteness of information provided (Forgas, 2011). When providing information (e.g., Planalp & Fitness, 1999) and in the context of uncertainty (e.g., Brashers et al., 2002), one negative emotion often experienced is anxiety, which reflects feelings of unease, worry, and threat (Lazarus, 1991). Anxiety is a self-focused emotion; it stems from a concern for self rather than a concern for the other person. This means that, in the context of managing information with relationally uncertain friends, information-providers who experience anxiety are concerned about how revealing (or conversely not revealing) the information may affect oneself.

Emotions, such as anxiety, function with cognitions to affect decisions and behaviors (Lazarus, 1991; Planalp & Fitness, 1999). According to Lazarus' appraisal theory (Lazarus, 1991), people's recognition of their emotional response to a situation is related to their coping efficacy. Indeed, physiological indicators of anxiety have been consistently, negatively associated with coping efficacy (Bandura, 1988). Further, college-aged individuals providing support to distressed friends who had few negative emotions and greater efficacy were more willing to provide support (Rossetto, Lannutti, & Smith, 2014). As such, anxiety may directly and indirectly influence how

individuals provide information to friends. Because little research has explored the influence of emotions, and anxiety specifically, on information-providers, we offer a research question:

**RQ:** Does information-providers' anxiety about the information they have about the friend's romantic relationship directly or indirectly affect the (a) amount, (b) accuracy, and (c) valence of information they report providing to relationally uncertain information-seekers?

## Methods

### Participants

Three-hundred-sixty-nine college students ( $M = 20.50$  years,  $SD = 2.00$  years, ranging from 18 to 27 years) recalled a friend talking with them about romantic relational uncertainty in the three months prior to participation. Just over half were male ( $n = 195$ ; female:  $n = 174$ ). Sixty-nine were freshmen, 135 were sophomores, 130 were juniors, and 32 were seniors (3 did not respond). About two-fifths identified as Caucasian ( $n = 153$ ), 96 as Asian American, 72 as Hispanic American, 40 as African American, 20 as Pacific Islander, and 22 identified as "other" (participants could select more than one category).

Recalled conversations occurred with similarly aged friends ( $M = 20.61$ ,  $SD = 2.05$ , ranging from 18 to 27 years). Most were with same-sex friends (Female-female friendships:  $n = 160$ ; Male-male friendships;  $n = 147$ ). Forty-eight male participants recalled providing information to relationally uncertain female friends, and 14 female participants provided information to male friends. Most conversations occurred face-to-face ( $n = 268$ ); the remaining occurred via text message ( $n = 52$ ), phone ( $n = 35$ ), or other media ( $n = 13$ ). The recalled conversations were recent: 108 occurred within the week prior to participation, 73 occurred 1-2 weeks before participation, 62 were 3-4 weeks before participation, and 125 occurred 1-3 months before participation (1 did not respond). Participants varied in their experience with the friend's romantic relational uncertainty: 138 had experienced the same romantic relational uncertainty (experienced group), 101 had not experienced the same relational uncertainty but had experienced something similar (similar experience group), and 130 had no personal experience with the romantic relational uncertainty (no experience group).

### Procedures

Undergraduate students were recruited from introductory general education courses at a southwestern U.S. university. Interested individuals were directed to a website where the study was described as seeking to learn how people communicate with friends about the friend's relational or sexual health uncertainty. To participate, students signed up to receive an email containing a unique survey weblink.

Upon opening the weblink, participants provided informed consent and then completed the survey. The survey started with several demographic items. Next, participants indicated if in the previous three months a friend had talked to them about a sexual health uncertainty. If they answered "yes" ( $n = 496$ ) they completed a series of questions focusing on that conversation. If they answered "no," they were asked if in the previous three months a friend had talked to them about romantic relational uncertainty. If they answered "yes", they responded to a series of questions about the most recent conversation involving a friend's romantic relational uncertainty. Individuals who indicated they had not talked with a friend about either topic in the past three months ( $n = 144$ )

were skipped to a final set of questions, which were unrelated to the current study. Because sexual health uncertainties can involve different information behaviors, this study included only participants whose friend talked to them about a romantic relational uncertainty.

Next, participants were directed to “think about the most recent time a friend talked to you about a relational uncertainty or issue. It could be something positive or negative, something big or small.” They were asked to describe the conversation in as much detail as they could recall to encourage them to reflect thoroughly on the conversation (Vangelisti, Young, Carpenter-Theune, & Alexander, 2005) and to increase the likelihood they completed the survey with the specific conversation in mind (Bippus, 2001). Participants then responded to a series of closed-ended measures. After completing the survey, participants were thanked for their time, emailed a copy of the informed consent, and received research credit (no more than 2% extra credit) as compensation.

Participants could access the survey only once and were unable to change their responses after submission. To maximize the response rate, email reminders were sent to those who had not completed the survey two weeks, one week, and one day before the deadline to receive research credit. Participation took an average of 44 minutes (Median = 35 minutes, Mode = 28 minutes).

### Measures

Using AMOS 24, confirmatory factor analyses (CFA) were conducted, and measurement invariance across experience groups was tested. Measurement fit was evaluated using multiple indices; a strong fit was indicated by an insignificant  $\chi^2$ , SRMR  $\leq .08$ , CFI  $\geq .95$ , and RMSEA  $\leq .06$  and a narrow 90% confidence interval (Hu & Bentler, 1999). Item loadings were assessed using a 60/40 standard, size of  $R^2$ , and modification indices (Byrne, 2016). Poorly fitting items were removed individually, and models were re-examined. To test measurement invariance, the change in chi square ( $\Delta\chi^2$ ) and CFI ( $\Delta$ CFI) were evaluated; both compare the unconstrained model to the model that assumes equivalence in factor loadings across the three groups. Invariance was present when  $\Delta\chi^2$  was insignificant or when  $\Delta$ CFI was less than .01 (Byrne, 2016; Cheung & Rensvold, 2002). Results are reported with each measure description. Group and full sample descriptive statistics ( $M$ ,  $SD$ , and  $\alpha$ ) are presented in Table 1.

Table 1  
Descriptive Statistics by Group and for the Overall Sample.

Group	Experienced <sup>a</sup>			Similar experience <sup>b</sup>			No experience <sup>c</sup>			Overall <sup>d</sup>		
	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$
Anxiety	2.67	1.53	.90	2.78	1.54	.88	2.87	1.50	.91	2.77	1.52	.90
Expected outcomes	4.92	1.50	.84	4.37	1.32	.71	4.55	1.56	.83	4.64	1.49	.81
Comm efficacy	5.77	1.01	.87	5.48	1.14	.89	5.29	1.36	.85	5.52	1.19	.87
Coping efficacy	5.71	1.08	.67	5.37	1.16	.58	5.34	1.24	.77	5.49	1.17	.69
Target efficacy	5.34	1.21	.84	4.88	1.22	.82	5.09	1.12	.78	5.12	1.19	.83
Amount			.77			.76			.76			.78
Parcel 1	4.97	1.42		4.80	1.28		4.45	1.33		4.74	1.37	
Parcel 2	5.35	1.18		5.11	1.15		4.73	1.30		5.07	1.24	
Parcel 3	5.23	1.77		5.32	1.39		4.70	1.67		5.07	1.65	
Accuracy			.78			.78			.77			.78
Parcel 1	5.94	1.03		5.78	1.11		5.83	1.04		5.86	1.06	
Parcel 2	5.44	1.25		5.26	1.18		5.24	1.16		5.32	1.20	

Group	Experienced <sup>a</sup>			Similar experience <sup>b</sup>			No experience <sup>c</sup>			Overall <sup>d</sup>		
	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$	<i>M</i>	<i>SD</i>	$\alpha$
Parcel 3	5.66	1.21	.83	5.43	1.11	.83	5.54	1.09	.81	5.55	1.14	.82
Valence												
Parcel 1	4.89	1.31		4.63	1.16		4.69	1.22		4.75	1.24	
Parcel 2	4.99	1.19		4.59	1.23		4.50	1.10		4.07	1.19	
Parcel 3	5.00	1.28		4.88	1.20		4.87	1.20		4.92	1.23	

Note. Comm efficacy = Communication efficacy.

<sup>a</sup>*n* = 136; <sup>b</sup>*n* = 101; <sup>c</sup>*n* = 130; <sup>d</sup>*N* = 367.

## Anxiety

Participants responded to three items regarding “how anxious you felt as the discussion of your friend’s uncertainty started” (e.g., “When you compare how much you wanted to know and how much you actually knew about your friend’s uncertainty, how anxious did it make you?”; Afifi & Afifi, 2009). Participants responded using a 7-point scale with higher numbers reflecting greater anxiety. The unconstrained model was just identified; therefore, overall model fit indices could not be calculated. The model fit indices for the model that assumes items load onto the construct equivalently across groups showed a strong fit ( $\chi^2 = 4.41$ , *df* = 4, *p* > .05; SRMR = .01; CFI = 1.00; RMSEA = .02 with 90% CI [.00, .08]) and invariance across experience groups ( $\Delta\chi^2 = 4.41$ , *df* = 4, *p* > .05;  $\Delta$ CFI = .001).

## Expected Outcomes

Three items captured participants’ anticipated costs versus rewards for discussing the friend’s uncertainty (e.g., “When we first started talking, I thought that discussing this issue would produce \_\_\_\_”; Afifi & Afifi, 2009). Participants responded to the items based on what they were thinking as the conversation started. Response options ranged from *a lot more negatives than positives* (1) to *a lot more positives than negatives* (7), with 4 indicating a neutral point (i.e., “about as many negatives as positives”). Thus, lower scores reflected more negatively valenced expected outcomes, and higher scores reflected more positively valenced expected outcomes. With only three items, the unconstrained model was just identified. The model assuming equivalent factor loadings across groups fit the data ( $\chi^2 = 6.51$ , *df* = 4, *p* > .05; SRMR = .02; CFI = .99; RMSEA = .04 with 90% CI [.00, .10]) and was invariant across experience groups ( $\Delta\chi^2 = 6.51$ , *df* = 4, *p* > .05;  $\Delta$ CFI = .007).

## Efficacy Assessments

Afifi and Afifi’s (2009) efficacy assessments measure captured participants’ communication, coping, and target efficacy. Participants were directed to respond according to what they were thinking as the conversation started. *Communication efficacy* was measured via three items (e.g., “As we started talking about this issue, I felt I was able to tell my friend what s/he needed to know about it”). Three items assessed *coping efficacy*. (e.g., “I couldn’t deal with telling my friend the information s/he wanted.”). Four items captured *target efficacy* (e.g., “As we started talking about this issue, I felt my friend would be able to manage the information I shared.”). Participants responded on a 7-point scale (1 = *Strongly disagree* to 7 = *Strongly agree*). One coping efficacy item was removed because it loaded poorly. The unconstrained second-order factor structure demonstrated good construct validity ( $\chi^2 = 108.18$ , *df* = 73, *p* < .01; SRMR = .05; CFI = .98; RMSEA = .04 with 90% CI [.02, .05]) and measurement invariance ( $\Delta\chi^2 = 12.35$ , *df* = 12, *p* > .05;  $\Delta$ CFI = .001).



## Information-Provision

Participants reported how they provided information via items adapted from *Wheeless' (1976)* Revised Self-Disclosure Scale. Participants were asked to respond according to “how you shared information with your friend during your conversation” using a 7-point scale (1 = *Strongly disagree* to 7 = *Strongly agree*). Five items captured *amount* (e.g., “I often did not talk about this.”). Six items measured *accuracy* (e.g., “The information I shared was a completely accurate reflection of what I knew to be true.”). Seven items assessed *valence* (e.g., “On the whole, the information I shared was more positive than negative.”). The unconstrained second-order factor structure demonstrated poor construct validity:  $\chi^2 = 989.52$ ,  $df = 370$ ,  $p < .01$ ; SRMR = .10; CFI = .78; RMSEA = .07 with 90% CI [.06, .07]), yet no modifications were identified. Multivariate non-normality was present, which can affect overall model fit (e.g., *Byrne, 2016*). So, for each dimension, three parcels were created using random assignment (see *Bandalos, 2002*; *Matsunaga, 2008*). This decreased multivariate non-normality, improved overall fit ( $\chi^2 = 128.84$ ,  $df = 74$ ,  $p < .01$ ; SRMR = .05; CFI = .96; RMSEA = .05 with 90% CI [.03, .06]), and demonstrated invariance ( $\Delta\chi^2 = 7.57$ ,  $df = 12$ ,  $p > .05$ ;  $\Delta CFI = .003$ ).

## Results

Structural equation modeling in AMOS 24 was used. Two participants who did not respond to multiple measures were removed. All three groups evidenced multivariate non-normal kurtosis (experienced:  $\beta_2 = 106.96$ , CR = 17.66; similar experience:  $\beta_2 = 111.89$ , CR = 15.92; no experience:  $\beta_2 = 67.14$ , CR = 10.84), which can interfere with tests of variance and covariance (e.g., *Byrne, 2016*). However, because sample size was small (in relation to the number of variables included in the model), maximum likelihood estimation was used.

A two-step modeling process was followed to assess the measurement and structural model (*Byrne, 2016*; *Kline, 2005*). Both models were tested for group invariance (insignificant  $\Delta\chi^2$  and  $\Delta CFI < .01$ ; *Byrne, 2016*; *Cheung & Rensvold, 2002*). The measurement model had adequate to poor fit ( $\chi^2 = 1288.05$ ,  $df = 758$ ,  $p < .001$ ; SRMR = .11; CFI = .89; RMSEA = .05 with 90% CI [.04, .05]) and group invariance ( $\Delta\chi^2 = 35.64$ ,  $df = 32$ ,  $p > .05$ ;  $\Delta CFI = .001$ ). Step two, assessing the structural level, indicated a similar overall fit ( $\chi^2 = 1328.68$ ,  $df = 772$ ,  $p < .001$ ; SRMR = .10; CFI = .89; RMSEA = .05 with 90% CI [.04, .05]). The low values on these indices were likely due to the data's multivariate non-normal kurtosis. Removing insignificant paths did not improve fit. Invariance between groups ( $\Delta\chi^2 = 16.04$ ,  $df = 12$ ,  $p > .05$ ;  $\Delta CFI = .000$ ) indicated the model fit similarly across groups. Therefore, the invariant structural model was interpreted. [Table 2](#) presents the bivariate correlations for the full sample.

To test indirect effects, nonparametric bootstrapping with 5000 samples drawn and maximum likelihood estimation was used (*Hayes, 2009*). The unstandardized estimates, standard errors, and 90% confidence intervals reported in [Table 3](#) are based on the bootstrapping results, which tend to be less bias than maximum likelihood estimates when the distribution is non-normal (*Byrne, 2016*). Therefore, these were used to test all three hypotheses and answer the research question. The unstandardized scores presented in [Table 3](#) are the same across groups because of structural invariance across groups. The Figure includes standardized scores for each path. Due to how standardized scores are calculated, these can vary by group, so each group's scores are included in the Figure.

Table 2

*Bivariate Correlations for the Overall Sample*

Variable	Anxiety	Exp. outcomes	Comm. efficacy	Coping efficacy	Target efficacy	Amt. parcel 1	Amt. parcel 2	Amt. parcel 3	Acc. parcel 1	Acc. parcel 2	Acc. parcel 3	Valence parcel 1	Valence parcel 2
Exp. outcomes	-.148**												
Comm. efficacy	-.046*	.250**											
Coping efficacy	-.124*	.321**	.547**										
Target efficacy	-.333**	.349**	.191**	.356**									
Amt. parcel 1	-.181**	.215**	.233**	.209**	.291**								
Amt. parcel 2	-.156**	.386**	.445**	.350**	.320**	.561**							
Amt. parcel 3	-.185**	.208**	.382**	.281**	.328**	.604**	.571**						
Acc. parcel 1	-.085	.184**	.437**	.425**	.271**	.274**	.393**	.350**					
Acc. parcel 2	-.191**	.233**	.296**	.330**	.369**	.475**	.462**	.446**	.565**				
Acc. parcel 3	-.136**	.192**	.358**	.369**	.351**	.425**	.514**	.536**	.587**	.593**			
Valence parcel 1	-.147**	.371**	.193**	.202**	.347**	.332**	.336**	.339**	.217**	.321**	.376**		
Valence parcel 2	-.164**	.378**	.132*	.186**	.379**	.226**	.327**	.216**	.146**	.304**	.248**	.628**	
Valence parcel 3	-.204**	.364**	.216**	.225**	.362**	.391**	.367**	.309**	.243**	.407**	.322**	.661**	.598**

Note.  $N = 367$  participants; Exp. outcomes = Expected outcomes; Comm. efficacy = Communication efficacy; Amt. parcel = Amount parcel; Acc. parcel = Accuracy parcel.

\* $p \leq .05$ . \*\* $p \leq .01$ .

The first hypothesis posited positive direct effects from expected outcomes to efficacy and information-provision. This was partially supported (see Table 3). Participants who expected more positive outcomes had greater assessments of communication, coping, and target efficacy. Participants' expected outcomes did not have a direct effect on the information they provided to relationally uncertain friends.

Hypothesis 2 tested the effects of efficacy on the amount, accuracy and valence of information provided. This was supported (see Table 3). As participants' efficacy increased, the amount, accuracy, and positivity of information provided increased.

Hypothesis 3 stated efficacy would partially mediate the effects of expected outcomes on information-providing. As Table 3 shows, expected outcomes had a moderate, indirect effect on information-providing globally and amount, accuracy, and valence specifically. In other words, efficacy mediated the effects of outcome expectancies on the amount, accuracy, and positivity of information provided with relationally uncertain friends.

The RQ explored if participants' anxiety regarding the information they had about the friend's romantic relationship affected their information-provision. As Table 3 and the Figure show, anxiety had small, direct negative effects on expected outcomes, efficacy, and information-provision and negative indirect effects on efficacy and information provision. As anxiety increased, participants provided a smaller amount of information, less accurate information, and more negatively valenced information to relationally uncertain friends, and this was mediated by more negative expected outcomes and lower efficacy.

Table 3

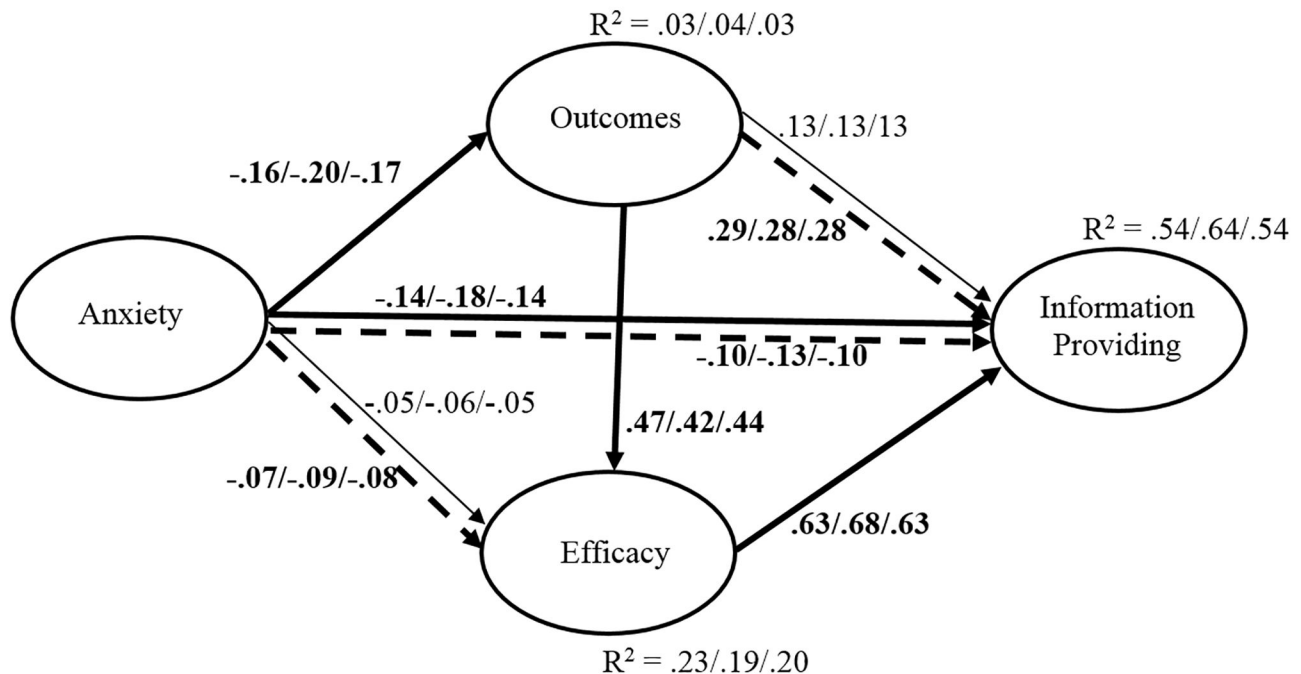
*Unstandardized Direct, Indirect Effects, and Total Effects; Standard Errors; and 90% Confidence Intervals for the Structurally Invariant Model.*

Effect	Direct Effects				Indirect Effects				Total Effects			
	Effect size	SE	Lower 90% CI	Upper 90% CI	Effect size	SE	Lower 90% CI	Upper 90% CI	Effect size	SE	Lower 90% CI	Upper 90% CI
<b>Expected outcomes</b>												
Anxiety	-0.139	0.054	-0.229	-0.053					-0.139	0.054	-0.229	-0.053
<b>Efficacy</b>												
Anxiety	-0.036	0.044	-0.111	0.035	-0.050	0.021	-0.091	-0.021	-0.087	0.047	-0.167	-0.013
Outcomes	0.363	0.072	0.264	0.509					0.363	0.072	0.264	0.509
Target efficacy												
Anxiety					-0.054	0.035	-0.121	-0.007	-0.054	0.035	-0.121	-0.007
Outcomes					0.226	0.061	0.140	0.336	0.226	0.061	0.140	0.336
Coping efficacy												
Anxiety					-0.095	0.053	-0.185	-0.013	-0.095	0.053	-0.185	-0.013
Outcomes					0.400	0.076	0.290	0.544	0.400	0.076	0.290	0.544
Comm efficacy												
Anxiety					-0.087	0.047	-0.167	-0.013	-0.087	0.047	-0.167	-0.013
Outcomes					0.363	0.072	0.264	0.509	0.363	0.072	0.264	0.509
<b>Information-providing</b>												
Anxiety	-0.070	0.033	-0.126	-0.017	-0.047	0.025	-0.094	-0.011	-0.112	0.037	-0.181	-0.041
Outcomes	0.070	0.054	-0.010	0.169	0.155	0.049	0.095	0.256	0.225	0.060	0.137	0.340
Efficacy	0.427	0.100	0.306	0.609					0.427	0.100	0.306	0.609
Amount												
Anxiety					-0.207	0.060	-0.310	-0.116	-0.207	0.060	-0.310	-0.116
Outcomes					0.414	0.082	0.287	0.556	0.414	0.082	0.287	0.556
Efficacy					0.787	0.146	0.575	1.068	0.787	0.164	0.575	1.068
Accuracy												
Anxiety					-0.149	0.041	-0.221	-0.084	-0.149	0.041	-0.221	-0.082
Outcomes					0.299	0.057	0.216	0.399	0.299	0.057	0.216	0.399
Efficacy					0.568	0.125	0.386	0.802	0.568	0.139	0.386	0.802
Valence												
Anxiety					-0.112	0.037	-0.181	-0.059	-0.112	0.037	-0.181	-0.059
Outcomes					0.225	0.060	0.137	0.340	0.225	0.060	0.137	0.340
Efficacy					0.427	0.088	0.306	0.609	0.427	0.100	0.306	0.609

*Note.* *N* = 367 participants. Comm efficacy = Communication efficacy. Because the data fit the model similarly across all three groups (i.e., the model was structurally invariant), only the results of the structurally invariant model are presented, which assumes equality across groups.

## Discussion

College-aged friends talk with each other about the uncertainty they have with their romantic relationships (e.g., Jensen & Rauer, 2014; Knobloch & Donovan-Kicken, 2006). These conversations offer an opportunity to provide relationally uncertain friends information; however, the conversations do not require information-provision. Providing information is likely because friendships are open and supportive (Burlinson, 1995) and are the primary relationship, replacing parents, in the lives of college-aged individuals (e.g., Collins & van Dulmen, 2006). Yet, deciding what and how to provide information to friends can be difficult (McDaniel, 2017). By framing these



*Figure.* Structural model summarizing results for the hypotheses and research question with standardized weights for the structural invariant model.

*Note.* Solid lines indicate hypothesized direct paths; dashed lines indicate hypothesized indirect paths. Bolded paths (solid or dashed) were supported at the 90% confidence interval. The standardized scores for each of the three groups are presented (experienced group/similar experience group/no experience group) although they are statistically equivalent.

conversations as an information management issue, this study found that efficacy assessments mediated the positive association between expected outcomes and information-provision. Additionally, although participants experienced only small amounts of anxiety, anxiety decreased the positivity of expected outcomes, efficacy, and information-provision. These results have implications for the TMIM and for college-aged individuals' information management processes in friendships.

## Implications for the TMIM

This study contributes to the small but growing body of research examining the TMIM's propositions about information-providers. As hypothesized, expected outcomes and efficacy assessments were positively related, and efficacy assessments mediated the association between expected outcomes and information-provision. In essence, the more positive one's expected outcomes, the more communication and coping efficacy one had, and the more coping efficacy the friend was perceived to have; these, in turn, increased the amount, accuracy, and positivity of the information provided. And, conversely, anticipating negative outcomes decreased efficacy assessments, which decreased the amount and accuracy of information provided and increased the negativity of information provided.

Our results are consistent with past research (e.g., Dillow & LaBelle, 2014) finding that efficacy assessments are a critical component to the information management process for information-providers. Results reinforce

Bandura's (1977, 1993) contention that efficacy enables action, and lacking efficacy deters the pursuit of challenging tasks. Individuals with lower efficacy may provide less and less accurate information to minimize the perceived negative outcomes (and attempt to avoid the challenging task) of providing information. Interestingly, those with lower efficacy also were more likely to reveal more negative information, which can be difficult to reveal to others because negative information reflects something undesirable, unpleasant, or upsetting (Gilbert & Horenstein, 1975). It may be that, because of lower communication efficacy, they were unable to reframe the information positively; whereas those with greater efficacy had the ability to express the information in a positive way. Alternatively, lower efficacy assessments may occur because of the nature of the information. If the information is unpleasant or upsetting, information-providers may not believe they or the information-seeker can adequately cope with revealing it. As a whole, results support the TMIM's propositions that expectancy outcomes and efficacy assessments influence how individuals provide information.

Results also suggest anxiety may affect information-providers' behaviors during information management if only to a small degree. Although participants' average anxiety levels were low, anxiety about the information participants had regarding the friend's romantic relationship at the start of the conversation was associated with more negative potential outcomes of providing information. And, the more anxious they were, the less efficacious they were, and the less information, the less accurate, and the less positive (i.e., the more negative) information they provided. This suggests information-providers' anxiety may negatively interfere with how they evaluate the conversational situation, which then can hurt how they provide friends information. Although the TMIM argues emotions bias information-seekers' rational decision-making and behaviors (Afifi & Morse, 2009; Afifi & Weiner, 2004), the current results indicate emotions may also be important for information-providers' decision-making and communication behaviors, aligning with prior scholarship examining how emotions function in conjunction with cognitions when sharing information (Lazarus, 1991; Planalp & Fitness, 1999).

## Implications for Friendships

In addition to supporting and potentially extending the TMIM, these results have implications for knowledge about college-aged friendships and help identify ways in which individuals can develop their own skills and personal attributes to be better information providers to friends. The vast majority (85%) of participants in the larger study from which this data was drawn had been approached by a friend who had a sexual or relational uncertainty within the three months prior to participation. This emphasizes how commonly college-aged friends discuss uncertainty in their romantic and sexual lives (e.g., Jensen & Rauer, 2014; Korobov & Thorne, 2007). However, just because these conversations occur frequently does not mean providing information to friends who request it is easy (e.g., McDaniel, 2017). This study points to how college-aged individuals can develop their skills, attributes, and knowledge to decrease the difficulties they face when friends request information to manage relational uncertainty.

When participants perceived a friend to desire information, those who anticipated rewarding consequences for providing information also were more confident in their ability to communicate and cope with the outcomes and had more confidence in the friend's ability to cope, so they provided more information more precisely and more positively. And, as McDaniel (2017) found, when college-aged information-providers thought about how past conversations did not change the friend's behaviors or the relationship, they provided less information and less precise information. Encouraging information-providers to identify and focus on positive outcomes might enable them to provide more, more accurate, and more positive information. For instance, helping college-aged indi-

viduals understand how friendships can be strengthened through openness and supportiveness (e.g., [Burlison, 1995](#)) or training them focus on the times when they shared information that changed a friend's behaviors may help them provide more positive, complete, and accurate information. Increasing the positivity of expected outcomes also may enhance information-providers' efficacy assessments.

During this time of life, friendships are the primary relationship in which personal and interpersonal skills and attributes, such as coping efficacy, are developed ([Collins & van Dulmen, 2006](#)). Because efficacy enhances the effects of expected outcomes, finding ways to improve one's beliefs that they are capable of communicating information and coping with the consequences of sharing information is necessary. Improving communication and coping efficacy could increase the likelihood of providing complete, precise information in a positive manner to friends in need and minimize the effects of negative expected outcomes and anxiety. In essence, improving one's efficacy should equip individuals to engage in these conversations with friends because they have confidence in their ability to provide large amounts of accurate, honest information in a positive way. Finding occasions for college-aged individuals to acknowledge friends' high-quality information-providing experiences may help reinforce these beliefs and encourage the behaviors in future conversations.

Finally, because relational uncertainty is common among college-aged individuals ([Knobloch & Solomon, 2002b](#)) and friends rely on one another to provide information to manage uncertainty (e.g., [Jensen & Rauer, 2014](#)), teaching college-aged individuals about anxiety and its role in the information-providing process may be beneficial. Although participants experienced only a small amount of anxiety on average, elevated anxiety decreased information amount, accuracy, and positivity of the information provided. Thus, recognizing the feeling of anxiety and knowing how it affects the information management process could help college-aged individuals find ways to minimize anxiety's negative effects. In other words, helping college-aged individuals understand the role of anxiety in the information management process may enable them to provide more, more accurate, and more positive information.

## Future Directions

Although results support the TMIM's propositions for information-providers and offer ways assist college-aged information providers, additional research is needed. First, examining the nature of the information a provider has, such as whether the information is factual or personal opinion or hearsay, may improve understanding of why information-providers evaluate their expected outcomes to be positive or negative. Further, a more nuanced understanding of "positive" and "negative" expected outcomes may be insightful. For instance, an information-provider who wants the information-seeker to end the romantic relationship may view this as a "positive" expected outcome, but the information-seeker may evaluate this as a "negative" outcome. Additionally, continued testing of anxiety, and other emotions, also is necessary to verify these results and integrate emotions into the TMIM for information-providers.

## Limitations

Results are limited by the study's shortcomings. First, results may not be reflective of the larger population. The study relied on college-enrolled individuals, a unique subsample of the college-aged population. College-enrolled individuals likely have different romantic experiences compared to those not attending college ([Tanner, 2006](#)). They also may have different expected outcomes and efficacy assessments than those not enrolled in college. Further, the data are cross-sectional and self-report and, therefore, cannot assess the cause-effect re-

relationships hypothesized by the TMIM. Third, data were collected only from information-providers and not the relationally uncertain friends who were seeking information. Therefore, common-method bias is a concern (e.g., Podsakoff et al., 2003), and the TMIM's assumption that uncertainty and information management is a dyadic interpersonal process was not embraced.

## Conclusion

Friends talk with one another about their romantic relationships, including uncertainties about those relationships (e.g., Knobloch & Donovan-Kicken, 2006; Korobov & Thorne, 2007). Providing information to friends seeking information to manage the uncertainty can be challenging. Given the important role friends play in the lives of college-aged individuals, identifying ways to decrease this difficulty is necessary. Results indicated that individuals provided more information, more accurate information, and more positive information when they had positive expected outcomes for the conversation and perceived themselves and their friend to have greater communication and coping efficacy. However, slightly elevated anxiety levels decreased expected outcomes and efficacy, and contributed to a decrease in the amount, accuracy, and positivity of the information provided to friends. These results suggest that helping individuals identify the positive outcomes of the conversation and improving their efficacy could assuage the negative effects of anxiety when providing information to friends experiencing romantic relational uncertainty.

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