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## Explaining doctoral students' relational maintenance with their advisor: a psychosocial development perspective

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### ABSTRACT

This study explored how psychosocial development affects doctoral students' relationship and communication with their advisor. Chickering and Reisser's vectors of psychosocial development were examined in the doctoral context to understand how students preserve communicatively satisfying relationships with their advisor through the use of relational maintenance behaviors. Doctoral students ( $N = 304$ ) completed self-report surveys and the results revealed that psychosocial development was related positively to their use of relational maintenance behaviors. The results also indicated that students' relational maintenance behaviors mediated the associations between psychosocial development and communication satisfaction in the student–advisor relationship. These findings support the importance of psychosocial development in graduate school and provide information that may be used to improve the quality of doctoral education.

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satisfaction

The student–advisor relationship is critical to the doctoral education process (Bair, Haworth, & Sandfort, 2004; Carpenter, Makhadmeh, & Thorton, 2015; Gardner, 2009). A successful relationship with an advisor helps students become socialized into their discipline and provides professional opportunities that contribute to the achievement of a doctoral degree (Bair et al., 2004). Conversely, an unsuccessful student–advisor relationship is the primary cause of doctoral student attrition and has been shown to negatively predict the completion and quality of students' dissertation and future scholarship (Golde, 2005). Put differently, the quality of the student–advisor relationship not only affects doctoral students' short-term success but also influences long-term outcomes that extend over an entire academic career (Lunsford, 2012).

In most student–advisor relationships, doctoral students receive the majority of professional and personal benefits (Schlosser, Knox, Moskovitz, & Hill, 2003), while the relationship is time-demanding and costly for an advisor (Knox, Schlosser, Pruitt, & Hill, 2006). Advisors help students learn their respective content area and culture of their discipline, and even advocate for students as “they act on behalf of their institutions, departments, and programs and often have responsibility for the development of the

whole student” (Bair et al., 2004, p. 710). As such, advisors bear certain responsibilities for preserving the relationship; however, the disproportional advantages that are evident for students often places a bulk of the responsibility on them for maintaining the relationship in a satisfactory manner (Gardner, 2009).

The ability to maintain relationships is dependent upon a variety of communication competencies that stem from individuals’ self-identity (Stafford, 2003). Within the student development literature (see Pascarella & Terenzini, 2005), scholars have found that identity evolves considerably as a result of education; specifically, higher education “act(s) as a filter for dictating how an individual will perceive, organize and evaluate events in the environment and, though less directly, how he/she will behave” and communicate (Widick, 1977, p. 35). These series of influences are most often referred to as psychosocial development (Chickering, 1969).

Psychosocial development alters, confirms, and reinforces students’ identities, which in turn influences how they communicate with others and manage their interpersonal relationships (Pascarella & Terenzini, 2005). Although most psychosocial research has focused on student changes during undergraduate education (see Jones & Abes, 2013), similar conclusions are likely true for students in graduate programs. The problem is that graduate students’ “developmental issues and needs are noticeably absent in contemporary discussions of student development in higher education” (Gardner, 2009, p. 4). Addressing this gap in the literature could substantially improve the quality of graduate education programs. For example, a better understanding of the psychosocial changes that graduate students experience may help to reduce high attrition rates (Tessmer, 2012). Psychosocial development research may also help clarify changes to doctoral students’ identity, which would better the scholarly understanding of their communication behaviors and thus a more thorough explanation of the doctoral student–advisor relationship. Therefore, in this investigation we sought to apply student development research to the doctoral context by exploring psychosocial development’s effect on students’ relational maintenance behaviors with their advisor and examining the combined influences of identity and relational maintenance behaviors on an important student–advisor outcome: communication satisfaction.

### ***Psychosocial development***

Psychosocial development refers to the process by which individuals interact and mature with others in their surrounding environment to create and confirm their personal identity (Miller & Winston, 1990). Development and psychology researchers have created a variety of theories to explain individuals’ psychosocial growth. In educational settings, these theories have viewed maturation as a sequence of developmental tasks or stages that change not only how individuals think but also how they feel, communicate, and relate to others (Pascarella & Terenzini, 2005). Numerous psychosocial development theories exist; yet, none have received as much attention as Chickering and Reisser’s (1993) Vectors of Identity Development (Jones & Abes, 2013).

Chickering (1969) originally proposed seven vectors of psychosocial development which he believed were critical for the formation of college students’ identity. Progression or maturity along the vectors symbolizes “the discovery and refinement of one’s unique way of being—also toward communion with other individuals” (Chickering & Reisser, 1993, p. 35). The sequence in which the vectors have been presented suggests that some

tasks are likely to be experienced in the earlier stages of education and are better served as building blocks for students' identity (Reisser, 1995). Chickering and Reisser (1993) revised and presented the seven vectors of development in the following order: (1) achieving competence, (2) managing emotions, (3) moving through autonomy toward interdependence, (4) developing mature interpersonal relationships, (5) establishing identity, (6) developing purpose, and (7) developing integrity.

### ***Maturing along Chickering and Reisser's vectors***

Growth in the early vectors (1–3) builds the foundation of students' identity. For instance, maturation on the first vector (achieving competence) involves acquiring the confidence and skillset needed to achieve one's goals while overcoming challenges (Chickering & Reisser, 1993). Chickering (1969) suggested that as college students develop competence, they become capable of integrating what they learn into their new identity and can articulate future developmental changes. Growth in the second vector (managing emotions) includes increasing awareness and acceptance of one's emotional states, particularly negative emotions that serve as vital sources of self-reflection (Reisser, 1995). This requires navigating emotions by learning "appropriate channels for releasing irritations before they explode, dealing with fears before they immobilize, and healing emotional wounds before they infect other relationships" (Chickering & Reisser, 1993, p. 46). Development of the third vector (moving through autonomy toward interdependence) involves becoming self-sufficient, while recognizing the importance of relationships with peers, friends, and family members (Thomas & Chickering, 1984). Maturation in the third vector is evident when students reach a healthy balance between the need to be autonomous with the need to fit in with others.

Growth along the later vectors (four through seven) represents the realization and reinforcement of one's own unique way of being. For example, advancement along the fourth vector (developing mature interpersonal relationships) is evident through individuals' participation in relationships that embody friendliness, warmth, and respectfulness (Reisser, 1995). Students who cultivate mature relationships also develop an increased level of openness toward different people, backgrounds, and ideas (Pascarella & Terenzini, 2005), which provides them with "the ability to respond to people in their own right" (Chickering & Reisser, 1993, p. 48). Progress within the fifth vector (establishing identity) culminates with the discovery and/or confirmation of one's personal view of self (Chickering, 1969). The fifth vector also serves as the focal point of Chickering and Reisser's framework, as it is shaped by progression in previous vectors and influences development in vectors yet to come (Pascarella & Terenzini, 2005). Growth within the sixth vector (developing purpose) is characterized by increased intentionality and the formation of priorities which help to dictate future goals and behavior (Chickering & Braskamp, 2009). Put differently, progression along this vector is primarily evident through enhanced focus and directed decision-making (Reisser, 1995). Finally, maturation that occurs within the seventh vector (developing integrity) is seen through the solidification of enduring values and a sense of social responsibility to peers and community (Chickering & Reisser, 1993). As students develop along this vector, they move toward greater integrity, begin to define their own values, and align their communication around their identity.

From students' first year in college until their formal graduation, the process of identity development is ongoing and susceptible to a host of institutional and interpersonal

influences (Chickering & Reisser, 1993). Although Chickering's early work targeted students' initial college years, developmental researchers (e.g., Gardner, 2009; Gardner & Mendoza, 2010; Tessmer, 2012) have recently acknowledged that greater attention is needed to understand how development influences students beyond the undergraduate degree. One understudied area is graduate student psychosocial development, specifically in doctoral education (Gardner, 2009).

### ***Maturing in doctoral education***

Research on doctoral students' psychosocial development is needed for two reasons. First, undergraduate and doctoral students are separated by a host of personal and educational differences that make generalizing findings from one context to the other problematic (Austin, 2002). For example, undergraduate and graduate students are burdened with different social, financial, and academic responsibilities as a result of their educational situations (Hodgson & Simoni, 1995). Thus, despite the significant amount of research conducted on undergraduate students, it is difficult to speculate how doctoral students develop on Chickering's vectors or how this growth is perceived in graduate school (Gardner, 2009). Second, the lack of research on doctoral student development inhibits institutions from providing programs and policies that are needed to address the unique problems associated with this population. For instance, doctoral programs deal with extremely high attrition rates (Golde, 2005); it is possible that psychosocial development research could help to explain why many doctoral students fail to obtain their desired degree (Schuh, 1989). Unfortunately, doctoral students are frequently overlooked in this regard as only one known investigation has examined doctoral students' psychosocial maturity.

Tessmer (2012) found that psychosocial development is an important aspect of earning a doctoral degree and maturity along the vectors is present throughout graduate school. She concluded, "The unique nature and structure of the doctoral degree provides students with opportunities for increased psychosocial development that may not have been encountered during previous academic experiences" (p. 276). It is surprising, then, that additional studies have not examined doctoral students' psychosocial development, particularly considering the influence that it has on individuals' ability to achieve professional, interpersonal, and academic goals. Growth along Chickering and Reisser's vectors has been associated with the acquirement of certain skills and abilities that are otherwise unavailable prior to development (Reisser, 1995). These skills are observable to individuals who are experiencing the growth (e.g., students), as well as others with whom they interact (e.g., advisors). Yet, researchers have not examined the *communicative* behaviors associated with psychosocial development, let alone within the context of doctoral education. Due to the importance of preserving positive interactions in graduate school, one type of communication behavior that likely relates to both psychosocial development and the student–advisor relationship is relational maintenance (Mansson & Myers, 2012).

### ***Relational maintenance***

For decades, communication scholars (e.g., Canary & Stafford, 1994; Stafford, 2003) have studied the ways in which individuals communicatively preserve their relationships through relational maintenance. Relational maintenance behaviors are the messages

used to achieve goals associated with “defining an interpersonal relationship, establishing its parameters, managing its tensions, and dealing with threats to its integrity and endurance” (Burlison, Metts, & Kirch, 2000, p. 245). Numerous typologies have identified the strategic and routine maintenance behaviors that individuals communicate in their interpersonal relationships (e.g., Dainton, 2003; Stafford, 2003), including Stafford and Canary’s (1991) original typology of five behaviors: positivity, openness, assurances, networks, and tasks.

Much like other interpersonal relationships, the doctoral student–advisor relationship is maintained through communication, but it is characterized by an uncommon power difference. Having noted this, Mansson and Myers (2012) explored the relational maintenance behaviors that doctoral students use to preserve their relationship with their advisor and found that advisees engage in six types of relational maintenance behaviors: (a) *appreciation* (expressions of gratitude about the advisor), (b) *tasks* (efforts to complete requests and responsibilities), (c) *protection* (attempts to maintain a positive image of the advisor), (d) *courtesy* (efforts to be polite and respectful), (e) *humor* (expressions of laughter with the advisor), and (f) *goals* (attempts to consult the advisor about career plans). They also discovered that advisees’ maintenance behaviors were correlated positively with their perceptions and their advisor’s perceptions of mentoring support (Mansson & Myers, 2012). In a similar study, Cavendish (2007) examined relational maintenance behaviors and perceptions of career and psychosocial support in the doctoral student–advisor relationship. Her findings revealed that students’ use of maintenance behaviors positively predicted the amount of support that was given from advisors. Students’ maintenance behaviors and perceptions of advisor support also predicted important outcomes such as research self-efficacy and relational satisfaction. Together, these findings suggest that doctoral students’ maintenance behaviors are critical to a successful student–advisor relationship. Of course, success in any context is often determined by a particular standard; in relationships, the outcome variable that frequently represents the consequence of successful relationships is satisfaction (Stafford, 2003). Due to the nature of the relationship and the extent to which both parties communicate with each other, one type of satisfaction that is particularly important for doctoral students and advisors is communication satisfaction (Cavendish, 2007).

### **Communication satisfaction**

Communication satisfaction refers to the extent to which individuals accomplish their communication goals and expectations through conversations and other interactions (Hecht & Sereno, 1985). Communication satisfaction is the primary outcome of effective communication and is vital for healthy interpersonal relationships (Spitzberg & Hecht, 1984). Communication satisfaction is positively affected by communication competence, conversational appropriateness, and conversational effectiveness (Spitzberg, 1991). Previous investigations have also found that a variety of communication behaviors, including relational maintenance, positively predict communication satisfaction (Dainton, 2003). Scholars have recently recognized the importance of satisfaction in the student–advisor relationship (Knox et al., 2006; Mansson & Myers, 2012). As Cavendish (2007) noted, “satisfaction is an especially salient outcome of a successful mentoring process because it may influence both overall satisfaction with graduate school, as well as [student] attrition and

persistence” (p. 27). Put differently, communication satisfaction is an important indication of a successful student–advisor relationship and may also be an important predictor of long-term doctoral student outcomes such as socialization and even graduation.

### ***Explaining doctoral students’ relational maintenance behaviors***

Gardner and Mendoza (2010) noted, “In doctoral education, in particular, students are not just learning how to think differently but they are also learning to see themselves differently” (p. 211). These changes are encompassed within psychosocial development and growth is likely evident through the way in which doctoral students’ interact with their advisor and the extent to which this relationship is communicatively satisfying. Thus, the goal of this study was to utilize Chickering and Reisser’s (1993) vectors to examine the influence of psychosocial development on doctoral students’ relational maintenance behaviors and communication satisfaction with their advisor. Specifically, vectors 4–7 (developing mature relationships, establishing identity, developing purpose, and developing integrity) were chosen for inclusion, while vectors 1–3 were excluded. We made this decision because the majority of doctoral students have already (a) demonstrated competence in a variety of capacities (vector 1), (b) acquired the ability to manage their emotions (vector 2), and (c) established a certain degree of autonomy in their lives (vector 3) prior to entering their respective graduate program (Gardner, 2009; Tessmer, 2012). On the other hand, many students fail to achieve success in the latter vectors of development (4–7) during their undergraduate career and thus may be more inclined to grow in these areas as doctoral students.

Mansson and Myers (2012) suggested that graduate students use six specific relational maintenance behaviors: appreciation, tasks, protection, courtesy, humor, and goals. These behaviors each require degrees of competence and communication skills. Such skills are likely derived, in part, from students’ psychosocial development. For instance, students who develop the ability to cultivate mature interpersonal relationships (vector 4) are more likely to sustain their social connections by offering trust, open communication, and unconditional positive regard (Thomas & Chickering, 1984). Moreover, individuals who successfully mature into a stable personal identity (vector 5) experience greater self-assurance which allots them the ability to maximize their personal strengths (e.g., humor, empathy, listening) within social contexts (Chickering, 1969). In short, students who are psychosocially developed should have a greater repertoire of interpersonal skills and the self-confidence needed to use them for purposes such as maintaining their relationships with others. Thus, hypothesis 1 is offered:

H1: Doctoral students’ reported use of relational maintenance behaviors with their advisor relates positively to their own psychosocial development.

Successful progression through the vectors is also associated with an increased ability to develop *satisfying* relationships with others (Chickering & Reisser, 1993). This outcome is attributable to social growth that is evident through numerous vectors including cultivating mature relationships (vector 4), developing a solidified identity (vector five), and embodying a purpose for behavior (vector 6; Chickering, 1969). Developed students tend to be more productive and perform better in school (Gardner, 2009). Such students are more likely to be an ideal protégé for advisors because of their ability to collaborate and

participate in mutually satisfying interactions (Knox et al., 2006). Mature doctoral students also recognize that their success is predicated on support from their advisor and tend to be more appreciative of the relationship (Lunsford, 2012). Relatedly, communication scholars have shown that relational maintenance behaviors increase liking, promote trust, and reduce uncertainty in relationships (Stafford, 2003). It is unsurprising, then, that maintenance behaviors are also associated with increased satisfaction in relationships (Canary & Stafford, 1994). Although these conclusions are taken from other contexts, initial evidence suggests that such findings translate to the student–advisor relationship (Cavendish, 2007). Put simply, individuals who are psychosocially mature (Chickering, 1969) and who use maintenance behaviors (Stafford, 2003) experience a host of positive communicative outcomes, and similar effects are expected for doctoral students. Thus, the second hypothesis is offered:

H2: Doctoral students' communication satisfaction with their advisor relates positively to (a) their psychosocial development and (b) their use of relational maintenance behaviors.

Although the above hypotheses posit that communication satisfaction, psychosocial development, and relational maintenance behaviors will correlate positively together, a more linear interpretation of these relationships may be predicted from previous research. According to Chickering and Reisser's (1993) theory of identity development, psychosocial maturity develops slowly over time and directly influences individuals' interpersonal skills, including their ability to maintain relationships (Chickering & Reisser, 1993). Development scholars (e.g., Martin, 2000; Reisser, 1995) have argued that communication skills are important because they are the observable manifestations or outcomes of students' psychosocial maturity and ultimately determine how well students get along with others. Put differently, it is through communication (e.g., relational maintenance behaviors) that psychosocial development affects satisfaction in communicative interactions (cf., Chickering & Braskamp, 2009; Pascarella & Terenzini, 2005).

The notion of communication as a mediating variable between psychosocial development and interpersonal outcomes (e.g., satisfaction) is supported across disciplines. Poole, McPhee, Canary, and Morr (2002) argued that development is a "fundamental part of the human condition ... that [influences] many short-term phenomena in interpersonal communication" (p. 63). While satisfaction may have a reciprocal role in predicting future behavior, Dainton (2003) and others (see Knapp & Daly, 2011) have often noted that it is most frequently, and most appropriately, used as the predominate relational outcome of communication behaviors. As Hecht and Sereno (1985) noted, "satisfaction is essentially the outcome of experiences ... with communication in a relationship" (p. 141); likewise, it is probable that doctoral students' communicative experiences are influenced by their progression on Chickering and Reisser's (1993) vectors. In other words, as students develop psychosocially they are able to maintain their relationships through newly acquired social skills that allow them to have satisfying conversations (e.g., with their advisor; Gardner, 2009). Doctoral students who are psychosocially mature tend to enjoy satisfying conversations with others because they behave in a way that is socially responsible, which helps them maintain their relationships (Chickering & Braskamp, 2009). Put differently, doctoral students' relational maintenance behaviors likely mediate the relationship between psychosocial development and students' communication satisfaction, thus the third hypothesis is offered:

H3: Doctoral students' use of relational maintenance behaviors mediates the relationships between psychosocial development and communication satisfaction.

## Method

### Participants

Participants for this study included 304 doctoral students (99 men, 200 women, 5 unreported) who were enrolled at doctoral-granting institutions across the United States. Students were required to have full-time status in a face-to-face Ph.D. or Ed.D. program and have a single academic/dissertation advisor. Participants ranged from 22 to 60 years old ( $M = 30.1$  years) and represented 32 different academic disciplines. Participants reported being enrolled in their current doctoral program between 2 and 96 months ( $M = 30.4$  months).

### Procedures

After obtaining approval from the Institutional Review Board, participants were recruited using network, convenience, and volunteer sampling techniques. Specifically, participants were gathered by emailing doctoral students whose information was available via public universities' websites, postings made through academic online listserv accounts, and recruitment messages shared through the primary author's social networking sites. Participants completed a series of demographic questions and several measures related to the hypotheses.<sup>1</sup> Cronbach's reliability coefficients, means, and standard deviations for each instrument can be found in Table 1.

### Measurement

#### Vectors of psychosocial development

The Relations with Other People Subscale (vector 4; Baker & Siryk, 1989) is a seven-item, unidimensional instrument taken from the Student Adaptation to College Questionnaire; it measures the extent to which individuals have healthy interpersonal relationships with others including peers and professors. Responses were solicited on a 7-point Likert scale ranging from (1) *strongly disagree* to (7) *strongly agree*. Previous Cronbach's alpha coefficients ranging from .83 to .91 have been reported for the scale (Baker & Siryk, 1989).

The Sense of Identity Subscale (vector 5; Lounsbury, Huffstetler, Leong, & Gibson, 2005) is an eight item, unidimensional instrument taken from the Adolescent Personal Style Inventory; it measures the extent to which individuals have achieved a solidified identity. Responses were solicited using a 7-point Likert scale ranging from (1) *strongly disagree* to (7) *strongly agree*. Previous Cronbach's alpha coefficients ranging from .84 to .87 have been seen for the scale (Lounsbury, Saudargas, Gibson, & Leong, 2005; Lounsbury, Huffstetler, et al., 2005).

The Psychosocial Inventory of Ego Strengths (PIES) Purpose Subscale (vector 6; Markstrom, Sabino, Turner, & Berman, 1997) is an eight item, unidimensional instrument. The subscale measures purpose by assessing individuals' courage to pursue career and personal goals. Responses were solicited using a 7-point Likert scale ranging from (1) *strongly disagree* to (7) *strongly agree*. Previous Cronbach's alpha coefficients ranging from .71 to .80 have been found for the scale (Markstrom et al., 1997; Markstrom & Marshall, 2007).

**Table 1.** Means, standard deviations, Cronbach's alphas, and correlation matrix.

Variables	<i>M</i>	<i>SD</i>	$\alpha$	1	2	3	4	5	6	7	8	9	10
<i>Psychosocial Development</i>													
1. Mature IP Relationships	28.18	4.42	.78	–									
2. Identity	34.00	5.18	.91	.44*	–								
3. Purpose	32.28	4.76	.85	.45*	.79*	–							
4. Integrity	32.04	4.86	.85	.47*	.74*	.78*	–						
<i>Relational Maintenance</i>													
5. Appreciation	32.67	8.39	.96	.32*	.27*	.22*	.24*	–					
6. Tasks	30.27	4.49	.90	.33*	.42*	.45*	.41*	.34*	–				
7. Protection	23.04	5.18	.90	.32*	.28*	.27*	.27*	.61*	.34*	–			
8. Courtesy	25.38	3.23	.88	.28*	.41*	.32*	.33*	.40*	.45*	.58*	–		
9. Humor	16.94	4.07	.84	.41*	.19*	.21*	.20*	.52*	.27*	.53*	.39*	–	
10. Goals	17.39	3.82	.90	.34*	.28*	.31*	.29*	.59*	.30*	.57*	.40*	.65*	–
<i>Satisfaction</i>													
11. Comm. Satisfaction	32.80	7.11	.95	.43*	.35*	.33*	.33*	.63*	.36*	.71*	.46*	.61*	.66*

\* $p < .001$ .

The PIES Wisdom Subscale (vector 7; Markstrom et al., 1997) is an eight item instrument taken from the Psychosocial Inventory of Ego Strengths; it measures integrity by assessing appreciation of accumulated knowledge, wisdom, and experiences. Responses were solicited using a 7-point Likert scale ranging from (1) *strongly disagree* to (7) *strongly agree*. Previous Cronbach's alpha coefficients ranging from .72 to .75 have been found for the scale (Markstrom et al., 1997; Markstrom, Li, Blackshire, & Wilfong, 2005).

### **Relational maintenance**

The Advisee Relational Maintenance Scale (Mansson & Myers, 2012) is a 25-item, six-dimensional instrument that measures doctoral students' use of relational maintenance behaviors (courtesy, humor, goals, protection, tasks, appreciation). Responses were solicited using a 7-point Likert scale, ranging from (1) *strongly disagree* to (7) *strongly agree*. Previous Cronbach's alphas ranging from .70 to .94 have been reported for the subscales (Mansson & Myers, 2012).

### **Communication satisfaction**

The Student Communication Satisfaction Scale (Goodboy, Martin, & Bolkan, 2009) is an eight item, unidimensional instrument that assesses the extent to which individuals are satisfied with student-instructor interactions. Similar to Mansson and Myers (2012), items were modified to reflect the advisee-advisor relationship. Responses were solicited using a 5-point Likert scale ranging from (1) *strongly disagree* to (5) *strongly agree*. Previous Cronbach's alphas ranging from .74 to .98 have been reported for the scale (Mansson & Myers, 2012; Myers & Goodboy, 2014).

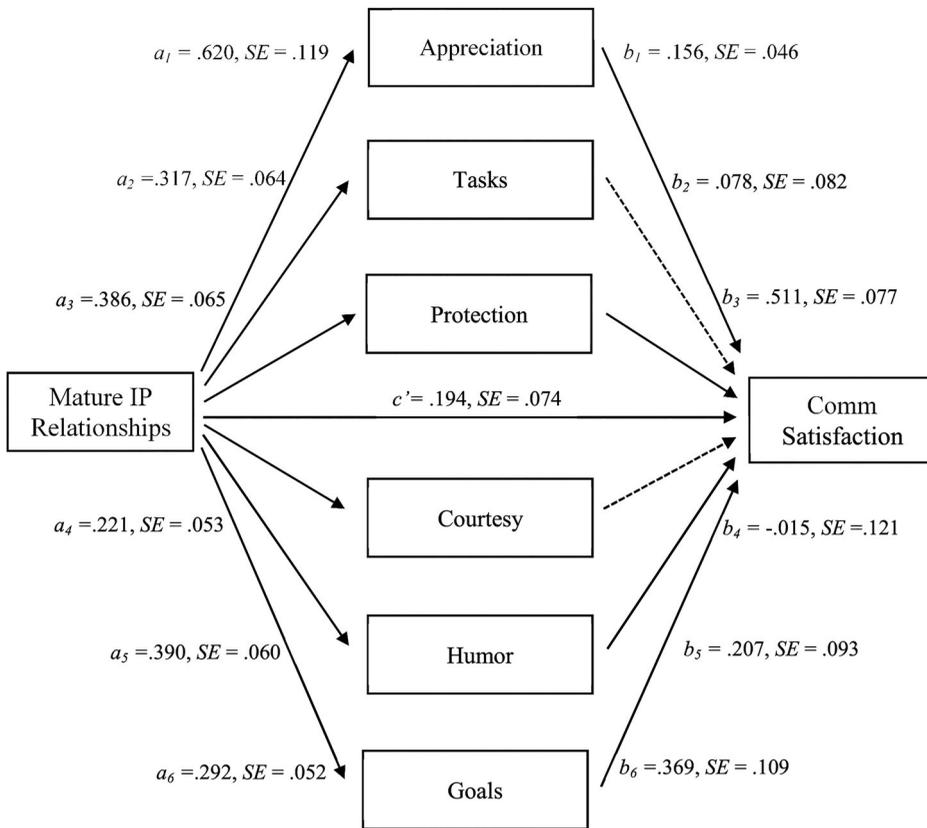
### **Data analysis**

A correlation matrix was computed to test hypotheses 1 and 2 (see Table 1). To test hypothesis 3, four parallel multiple mediation models (see Figures 1–4) using ordinary least squares (OLS) path analyses were computed via PROCESS (Hayes, 2013). The purpose of these models was to examine the extent to which psychosocial development's effect on student-advisor communication satisfaction was transmitted through doctoral students' maintenance behaviors. These models were selected over simple mediation models because previous research on relational maintenance indicates that multiple dimensions or behaviors exist (in this case, six; Mansson & Myers, 2012) and may work in tandem to influence satisfaction (cf., Dainton, 2003). Parallel multiple mediation models account for two or more mediators and also allow scholars to examine the unique indirect effect of each mediators through covariation (controlling for other indirect effects; Hayes, 2013). In this study, indirect effects for the models were calculated using 95% confidence intervals generated from 50,000 bias-corrected bootstrap samples.

## **Results**

### **Hypotheses 1 and 2**

The first hypothesis predicted that doctoral students' psychosocial development (i.e., developing mature interpersonal relationships, establishing identity, developing

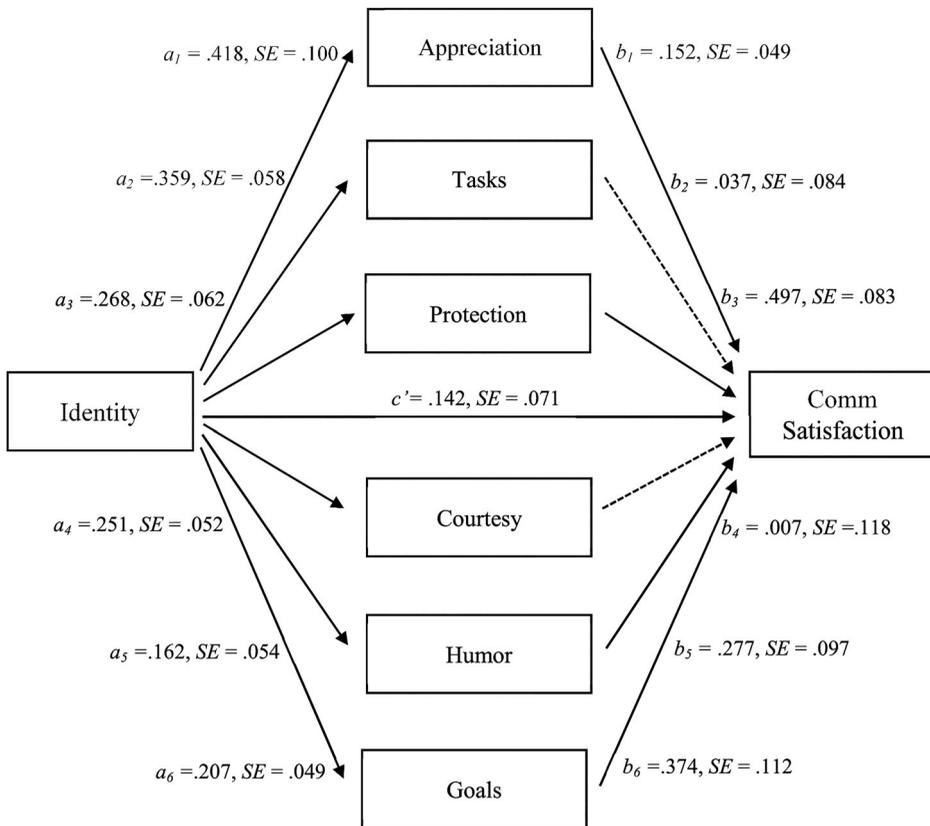


**Figure 1.** Parallel mediation model of mature interpersonal relationships, relational maintenance behaviors, and communication satisfaction. Unstandardized coefficients are shown in the figure. Solid paths are significant ( $p < .05$ ).

purpose, developing integrity) would relate positively to students' relational maintenance behaviors with their advisor. This hypothesis was supported. Pearson correlations revealed that all four vectors of psychosocial development were significantly ( $p < .001$ ) and positively related to all six forms of relational maintenance behavior (see Table 1). The coefficients for these relationships ranged from .19 to .45. The second hypothesis predicted that students' communication satisfaction with their advisor would relate positively to their (a) psychosocial development and (b) relational maintenance behaviors. This hypothesis was also supported as communication satisfaction was significantly ( $p < .001$ ) related to all four vectors of psychosocial development (coefficients ranging from .33 to .43) and all six maintenance behaviors (coefficients ranging from .36 to .71).

### Hypothesis 3

The third hypothesis predicted that students' relational maintenance behaviors would mediate the relationships between the vectors of psychosocial development and communication satisfaction. This hypothesis was supported. Evidence of indirect effects were present throughout each of the four parallel mediation models as psychosocial



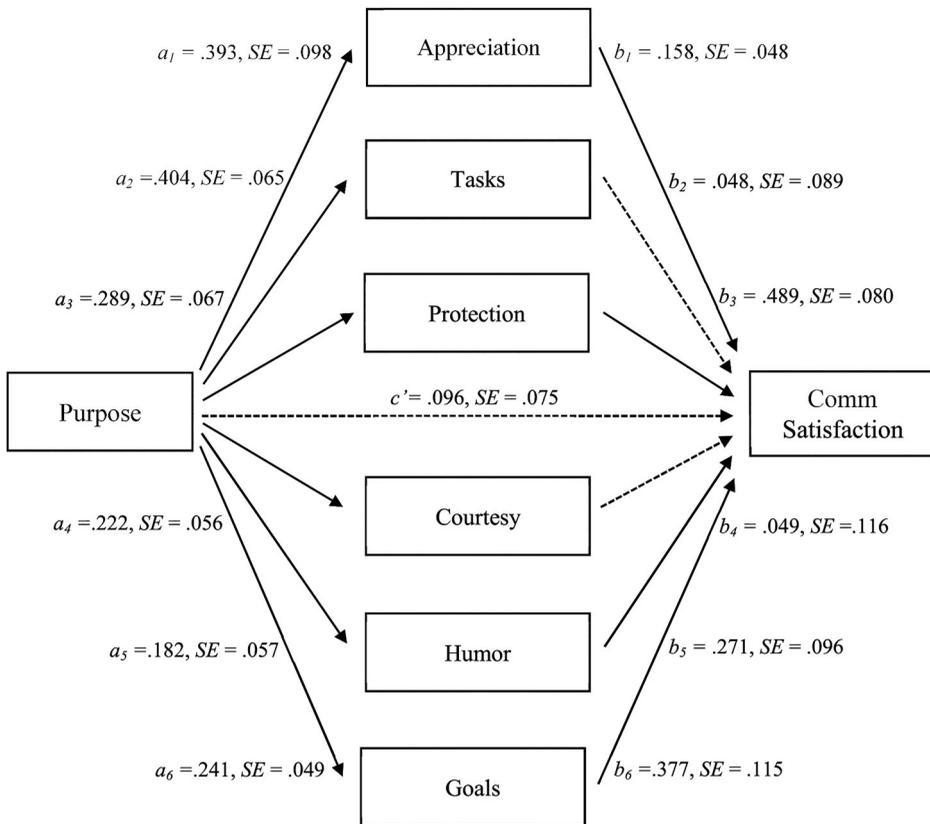
**Figure 2.** Parallel mediation model of identity, relational maintenance behaviors, and communication satisfaction. Unstandardized coefficients are shown in the figure. Solid paths are significant ( $p < .05$ ).

development indirectly influenced communication satisfaction through its effects on relational maintenance behaviors. Bias-corrected confidence intervals from 50,000 bootstrap samples were entirely above zero for four relational maintenance behaviors: appreciation, protection, humor, and goals. Completely standardized indirect effects for each of these mediators ranged from .033 to .122. Evidence of a direct effect for mature interpersonal relationships ( $c' = .194, SE = .074$ ) and identity ( $c' = .142, SE = .071$ ) on communication satisfaction also emerged in Figures 1 and 2.

A summary of the indirect effects, standard errors, bootstrapped confidence intervals, and completely standardized indirect effects for the four models can be found in Table 2.

## Discussion

This study examined how psychosocial development influences doctoral students' relationship with their advisor. Specifically, this investigation integrated Chickering and Reisser's (1993) vectors of psychosocial maturity into the doctoral education context in order to understand how development is associated with the relational maintenance behaviors that students use with their advisor. A second objective was to investigate the extent

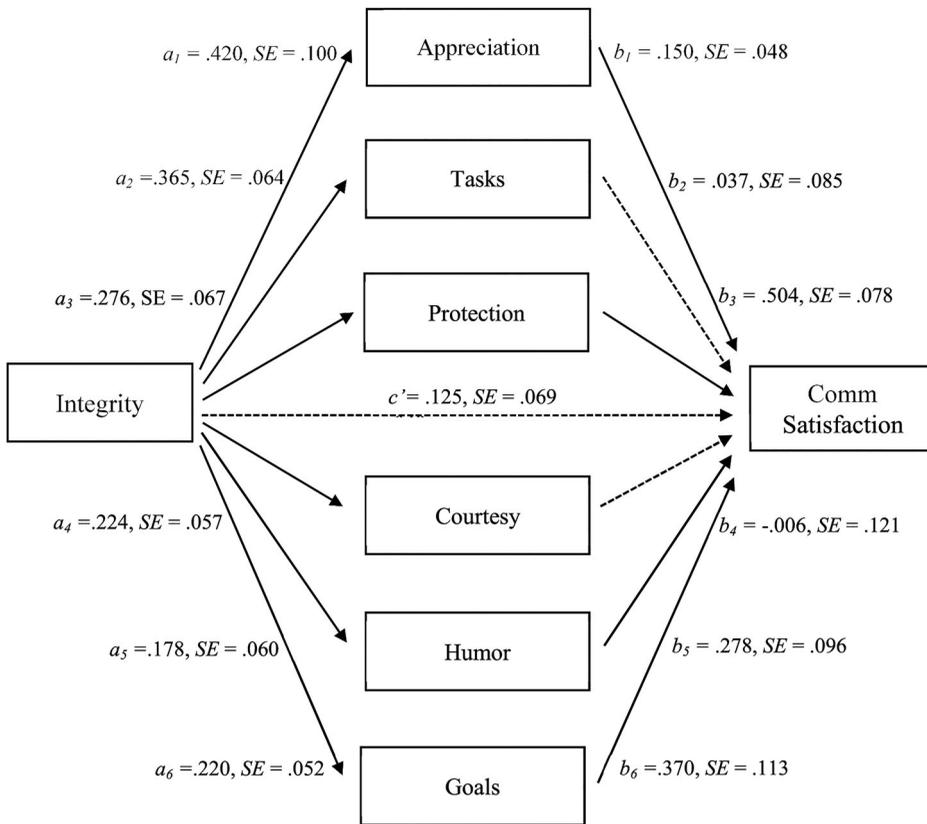


**Figure 3.** Parallel mediation model of purpose, relational maintenance behaviors, and communication satisfaction. Unstandardized coefficients are shown in the figure. Solid paths are significant ( $p < .05$ ).

to which students' psychosocial development and communication (i.e., relational maintenance) functioned together to influence communication satisfaction in the doctoral student–advisor relationship.

### **Interpretation of findings**

The first set of findings suggest that psychosocially mature doctoral students are likely to maintain their relationship with their advisor. Specifically, students who rate highly on Chickering and Reisser's vectors are inclined to (a) communicate their gratitude about the student–advisor relationship (i.e., appreciation), (b) exude effort to complete their responsibilities in a timely manner (i.e., tasks), (c) maintain a positive image of their advisor in conversations with others (i.e., protection), (d) make an effort to be respectful and polite (i.e., courtesy), (e) laugh with their advisor while partaking in social events (i.e., humor), and (f) consult their advisor about future career plans (i.e., goals). These findings indicate that as students grow psychosocially, they develop interpersonal skills and aspects of themselves (including their identity) which are used to sustain a successful working relationship with their graduate advisor.



**Figure 4.** Parallel mediation model of integrity, relational maintenance behaviors, and communication satisfaction. Unstandardized coefficients are shown in the figure. Solid paths are significant ( $p < .05$ ).

These findings may be explained by self-expansion theory (SET; Aron, Mashek, & Aron, 2004). SET focuses on shared identities, including “the features that distinguish the person from other people and objects, primarily the characteristics, memories, and other features that locate the person in social and physical space” (Aron et al., 2004, p. 28). Using this theory, Ledbetter, Stassen-Ferrara, and Dowd (2013) argued that identity plays a central role in predicting the use of relational maintenance behaviors. Ledbetter et al. (2013) suggested that individuals have a need to communicate with others which corresponds with their need to reinforce their own identity. For doctoral students who desire a career in academia, both of these needs involve maintaining a relationship with their advisor who likely embodies aspects of their own ideal identity. Put differently, mature doctoral students are able to recognize that part of their identity in graduate school is dependent upon the relationship they have with their advisor; thus, they engage in efforts to maintain this relationship through communication. The conclusion that identity plays an essential role in predicting communication and relational success is in parallel with the results of this study and previous psychosocial development research (Thomas & Chickering, 1984). Put simply, identity is likely related to relational maintenance behaviors because it epitomizes the primary “representation of the self” (Aron et al., 2004, p. 38).

**Table 2.** OLS path analyses for the indirect effects of development on communication satisfaction through the enactment of relational maintenance behaviors.

IV	Parallel mediators	DV	<i>ab</i>	<i>SE</i>	95% CI lower, upper	<i>ab<sub>CS</sub></i>
V4	[ → Appreciation → → Tasks → → Protection → → Courtesy → → Humor → → Goals → ]	Comm Satisfaction	.096	.037	.040, .186*	.060
			.025	.025	-.024, .077	.015
			.197	.045	.120, .299*	.122
			-.003	.027	-.061, .045	-.002
			.081	.038	.016, .168*	.050
			.108	.038	.046, .196*	.067
V5	[ → Appreciation → → Tasks → → Protection → → Courtesy → → Humor → → Goals → ]	Comm Satisfaction	.064	.025	.025, .125*	.046
			.013	.029	-.041, .073	.010
			.133	.034	.076, .212*	.097
			.002	.029	-.057, .057	.001
			.045	.021	.015, .100*	.033
			.078	.031	.030, .155*	.057
V6	[ → Appreciation → → Tasks → → Protection → → Courtesy → → Humor → → Goals → ]	Comm Satisfaction	.062	.025	.024, .126*	.041
			.019	.034	-.046, .087	.013
			.142	.037	.080, .228*	.094
			.011	.025	-.038, .063	.007
			.049	.023	.016, .111*	.033
			.091	.035	.036, .175*	.060
V7	[ → Appreciation → → Tasks → → Protection → → Courtesy → → Humor → → Goals → ]	Comm Satisfaction	.063	.025	.025, .126*	.043
			.014	.030	-.041, .076	.009
			.139	.039	.073, .229*	.095
			-.001	.027	-.059, .050	-.001
			.050	.023	.016, .110*	.034
			.082	.033	.031, .164*	.056

Note: V4, Vector 4 (Mature Interpersonal Relationships); V5, Vector 5 (Identity); V6, Vector 6 (Purpose); V7, Vector 7 (Integrity); IV, independent variable; DV, dependent variable; *ab*, Indirect effect; CI, bootstrapped confidence interval; *ab<sub>CS</sub>*, completely standardized indirect effect. Statistics generated from parallel mediation models using 50,000 bootstrap samples and bias-corrected confidence intervals. Variables inside the brackets were analyzed simultaneously so that indirect effects provided represent unique contributions of each individual mediator (i.e., while controlling for the effects of other mediators in the model). \*Confidence interval excludes zero.

The second set of findings indicate that mature doctoral students have the ability to effectively communicate with their advisor, which in turn, yields satisfying conversations in their relationship. Conversely, doctoral students who lack psychosocial maturity likely do not use relational maintenance behaviors, and thus, may not have a satisfying advisory relationship. The mediated relationships were fairly consistent for each of Chickering and Reisser’s developmental vectors; yet, mature interpersonal relationships (vector 4) and identity (vector 5) produced small *direct* effects on communication satisfaction. In other words, the extent to which students experience communication satisfaction in their advisory relationships is related positively to their own psychosocial development; yet, for the most part, this relationship is statistically dependent upon the effect it has through students’ relational maintenance behaviors.

These results are parallel to the undergraduate literature in which development has been found to alter students’ behavior and consequently their relational outcomes (Martin, 2000). As Reisser (1995) noted, psychosocial growth brings a host of observable changes, most frequently seen in the way students interact and get along with others. It is through these interactions and communication with others that psychosocial development affects students’ relationships and ultimately their satisfaction in college (Pascarella

& Terenzini, 2005). Psychosocially mature students tend to enjoy satisfying relationships with others (e.g., with their advisor) because they communicate in a way that is pleasant, thoughtful, and socially responsible (Chickering & Braskamp, 2009). Tinto (1993) claimed that development coupled with positive interactions with others function together to enhance students' social integration, including their personal relationships. Although such claims are taken from the undergraduate context, the current results suggest that similar takeaways can be made about doctoral students' communication behavior.

### ***Theoretical and practical implications***

Theoretically, this study extends Chickering and Reisser's (1993) vectors of psychosocial development in three ways. It (a) quantitatively extends the vectors into the doctoral education context, (b) demonstrates the relationships that exist between psychosocial growth and actual communication behaviors, and (c) establishes the mechanisms through which psychosocial maturity may influence student outcomes. These findings also suggest that while psychosocial development has been accurately described as a positive internal process capable of generating both individual and relational benefits for students (Reisser, 1995), the effects on the latter (i.e., relational success) appear to be transmitted by students' efforts to maintain their relationships through effective and appropriate communication (Spitzberg & Hecht, 1984). In other words, relational maintenance behaviors may be important intervening variables for explaining the positive interpersonal communication outcomes that result from psychosocial development.

Practically, several implications can be drawn to improve the student–advisor relationship and possibly the quality of future graduate education. Advisors must recognize that they play a critical role in the psychosocial development of doctoral students and share responsibility, within reason, for the maturation of students' identity (Tessmer, 2012). For example, faculty can encourage the development of their advisees' identity (vector 5) by communicating with students about what it means to be a scholar, teacher, and/or academic in their respective field. Advisors should also communicate with students about their short and long-term goals, as these interactions help provide purpose (vector 6) to students' future behaviors (Gardner, 2009).

Doctoral students can also work to improve themselves psychosocially and use these improvements to maintain a more satisfying relationship with their advisor. First, students should ask themselves: Who do I want to be in my respective field, department, or institution and what is required of me to get there? This question seems rudimentary; yet, upon inspection it captures the final three vectors of psychosocial development (identity, purpose, integrity). Based on the response to this self-assessment, students should evaluate their use of relational maintenance behaviors with their advisor to determine the ways in which they preserve (or fail to preserve) the relationship. Based on the current results, doctoral students who lack psychosocial maturity and have a poor advisory relationship are particularly encouraged to consider additional ways to communicate with their advisor, as such strategies likely help overcome personal shortcomings and may foster a more productive student–advisor relationship.

The current findings may also have implications for graduate education programs and academia in general. The benefits of positive student–advisor relationships transcend individual departments and are evident through decades of future mentoring (Tessmer, 2012). Student–advisor relationships help sustain disciplines and graduate programs as these relationships are responsible for the transmission of knowledge and tradition from one academic generation to the next (cf., Austin, 2002). These effects become cumulative in nature as doctoral students become advisors to their own advisees and reciprocate the developmental influence that was passed through their academic lineage. Descendants in these relationships continue to enact many of the practices handed down from their predecessors, which in turn helps to define their respective discipline. In other words, mature student–advisor relationships foster professional, relational, and personal benefits that span throughout several decades and multiple academic generations.

### **Limitations**

Of course, this study was not without limitations. Notably, a positive bias may have existed within the data as most doctoral students reported having a relatively high amount of communication satisfaction with their advisor. This particular limitation is problematic because it is likely that not all doctoral students actually fall into this estimated range of relational success; thus, the results may not be truly representative of all students, specifically those who have poor advisory relationships (Golde, 2005). This concern is likely due to the inclusion criteria and the way in which participants were solicited (i.e., targeting currently enrolled students instead of students who had already dropped out); these methods may have inadvertently excluded a particular group of participants. This study also had a disproportionate amount of communication Ph.D. students ( $n = 92$ ) in comparison with other academic disciplines. This discrepancy was likely due to the convenience sampling. As such, caution should be taken when generalizing these results, particularly because “relationships between faculty members and graduate students differ across disciplines” (Austin, 2002, p. 103). Future research should target first-year doctoral students from a variety of disciplines and students who have quit graduate school to determine whether these findings are applicable to their experiences.

### **Conclusion**

In sum, the goal of doctoral education is to prepare “a student to become a scholar: that is, to discover, integrate, and apply knowledge, as well as to communicate and disseminate it” (Council of Graduate Schools, 2005, p. 1). Unfortunately, this goal is often unmet as many students who enter doctoral programs fail to acquire their intended degree or leave with their degree, but do so with a deficiency in skills and a lack of preparation (Terrell, Snyder, & Dringus, 2009). In many ways, these problems are attributable to a poor student–advisor relationship (Golde, 2005), which is affected by psychosocial development and doctoral students’ relational maintenance with their advisor. The encouragement of psychosocial development may be one way in which practitioners and faculty can enhance the quality of doctoral education programs, improve student outcomes, and prepare future faculty members for several decades to come.

## Note

1. Construct validity evidence and factor structures for the measures used in this study can be found in the following articles: Feldt, Graham, and Dew (2011) for the SACQ (Relations with Others), Lounsbury, Huffstetler, et al. (2005) for the APSI (Identity), Markstrom and Marshall (2007) for the PIES subscales (Purpose and Wisdom), Mansson and Myers (2012) for the ARMS (maintenance), and Goodboy et al. (2009) for the SCSS (communication satisfaction).

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## References

- Aron, A. P., Mashek, D. J., & Aron, E. N. (2004). Closeness as including other in the self. In D. J. Mashek & A. Aron (Eds.), *Handbook of closeness and intimacy* (pp. 27–41). Mahwah, NJ: Erlbaum.
- Austin, A. E. (2002). Preparing the next generation of faculty: Graduate school as socialization to the academic career. *The Journal of Higher Education*, 73, 94–122. doi:10.1353/jhe.2002.0001
- Bair, C. R., Haworth, J. G., & Sandfort, M. (2004). Doctoral student learning and development: A shared responsibility. *Journal of Student Affairs Research and Practice*, 41, 1277–1295. doi:10.2202/1949-6605.1395
- Baker, R. W., & Siryk, B. (1989). *Student adaptation to college questionnaire: Manual*. Torrance, CA: Western Psychological Services.
- Burleson, B. R., Metts, S., & Kirch, M. W. (2000). Communication in close relationships. In C. Hendrick & S. S. Hendrick (Eds.), *Close relationships: A sourcebook* (pp. 245–258). Thousand Oaks, CA: Sage.
- Canary, D. J., & Stafford, L. (1994). Maintaining relationships through strategic and routine interaction. In D. J. Canary & L. Stafford (Eds.), *Communication and relational maintenance* (pp. 3–22). San Diego, CA: Academic Press.
- Carpenter, S., Makhadmeh, N., & Thornton, L. J. (2015). Mentorship on the doctoral level: An examination of communication faculty mentors' traits and functions. *Communication Education*, 64, 366–384. doi:10.1080/03634523.2015.1041997
- Cavendish, S. E. (2007). *Mentoring matters: The influence of social support and relational maintenance strategies on critical outcomes in doctoral education*. (Unpublished doctoral dissertation). University of Kentucky, Lexington, KY.
- Chickering, A. W. (1969). *Education and identity*. San Francisco, CA: Jossey-Bass.
- Chickering, A. W., & Braskamp, L. A. (2009). Developing a global perspective for personal and social responsibility. *Peer Review*, 11, 27–30.
- Chickering, A. W., & Reisser, L. (1993). *Education and identity* (2nd ed.). San Francisco, CA: Jossey-Bass.
- Council of Graduate Schools. (2005). *The doctor of philosophy degree: A policy statement*. Washington, DC: Author.
- Dainton, M. (2003). Equity and uncertainty in relational maintenance. *Western Journal of Communication*, 67, 164–186. doi:10.1080/10570310309374765
- Feldt, R. C., Graham, M., & Dew, D. (2011). Measuring adjustment to college: Construct validity of the student adaptation to college questionnaire. *Measurement and Evaluation in Counseling and Development*, 44, 92–104. doi:10.1177/0748175611400291
- Gardner, S. K. (2009). *The development of doctoral students: Phases of challenge and support*. San Francisco, CA: Jossey-Bass.

- Gardner, S. K. & Mendoza, P. (2010). *On becoming a scholar: Socialization and development in doctoral education*. Sterling, VA: Stylus.
- Golde, C. M. (2005). The role of the department and discipline in doctoral student attrition: Lessons from four departments. *The Journal of Higher Education*, 76, 669–700. doi:10.1353/jhe.2005.0039
- Goodboy, A. K., Martin, M. M., & Bolkan, S. (2009). The development and validation of the student communication satisfaction scale. *Communication Education*, 58, 372–396. doi:10.1080/03634520902755441
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Hecht, M. L., & Sereno, K. K. (1985). Interpersonal communication satisfaction: Relationship to satisfaction with self and other. *Communication Research Reports*, 2, 141–148.
- Hodgson, C. S., & Simoni, J. M. (1995). Graduate student academic and psychological functioning. *Journal of College Student Development*, 36, 244–253.
- Jones, S. R., & Abes, E. S. (2013). *Identity development of college students: Advancing frameworks for multiple dimensions of identity*. San Francisco, CA: Jossey-Bass.
- Knapp, M. L., & Daly, J. A. (2011). *Handbook of interpersonal communication* (4th ed.). Thousand Oaks, CA: Sage.
- Knox, S., Schlosser, L. Z., Pruitt, N. T., & Hill, C. E. (2006). A qualitative examination of graduate advising relationships: The advisor perspective. *The Counseling Psychologist*, 34, 489–518. doi:10.1177/0011000006290249
- Ledbetter, A. M., Stassen-Ferrara, F., & Dowd, M. M. (2013). Comparing equity and self-expansion theory approaches to relational maintenance. *Personal Relationships*, 20, 38–51. doi:10.1111/j.1475-6811.2012.01395.x
- Lounsbury, J. W., Huffstetler, B. C., & Leong, F. T. L., & Gibson, L. (2005). Sense of identity and collegiate academic achievement. *Journal of College Student Development*, 46, 501–514. doi:10.1353/csd.2005.0051
- Lounsbury, J. W., Saudargas, R. A., Gibson, L. W., & Leong, F. T. (2005). An investigation of broad and narrow personality traits in relation to general and domain-specific life satisfaction of college students. *Research in Higher Education*, 46, 707–729.
- Lunsford, L. (2012). Doctoral advising or mentoring? Effects on student outcomes. *Mentoring & Tutoring for Partnership in Learning*, 20, 251–270. doi:10.1080/13611267.2012.678974
- Mansson, D. H., & Myers, S. A. (2012). Using mentoring enactment theory to explore the doctoral student–advisor mentoring relationship. *Communication Education*, 61, 309–334. doi:10.1080/03634523.2012.708424
- Markstrom, C. A., Li, X., Blackshire, S. L., & Wilfong, J. J. (2005). Ego strength development of adolescents involved in adult-sponsored structured activities. *Journal of Youth and Adolescence*, 34, 85–95. doi:10.1007/s10964-005-3208-8
- Markstrom, C. A., & Marshall, S. K. (2007). The psychosocial inventory of ego strengths: Examination of theory and psychometric properties. *Journal of Adolescence*, 30, 63–79. doi:10.1016/j.adolescence.2005.11.003
- Markstrom, C. A., Sabino, V. M., Turner, B. J., & Berman, R. C. (1997). The psychosocial inventory of ego strengths: Development and validation of a new Eriksonian measure. *Journal of Youth and Adolescence*, 26, 705–732. doi:10.1023/A:1022348709532
- Martin, L. M. (2000). The relationship of college experiences to psychosocial outcomes in students. *Journal of College Student Development*, 41, 292–301.
- Miller, T. K., & Winston, R. B. (1990). Assessing development from a psychosocial perspective. In D. G. Creamer and Associates (Eds.), *College student development: Theory and practice for the 1990s* (pp. 89–126). Alexandria, VA: American College Personnel Association.
- Myers, S. A., Goodboy, A. K., & Members of COMM 600. (2014). College student learning, motivation, and satisfaction as a function of effective instructor communication behaviors. *Southern Communication Journal*, 79, 14–26. doi:10.1080/1041794X.2013.815266
- Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students* (Vol. 2). San Francisco, CA: Jossey-Bass.

- Poole, M. S., McPhee, R. D., Canary, D. J., & Morr, M. C. (2002). Hypothesis testing and modeling perspectives on inquiry. In M. L. Knapp & J. A. Daly (Eds.), *Handbook of interpersonal communication* (3rd ed., pp. 23–72). Thousand Oaks, CA: Sage.
- Reisser, L. (1995). Revisiting the seven vectors. *Journal of College Student Development*, 36, 505–511.
- Schlosser, L. Z., Knox, S., Moskovitz, A. R., & Hill, C. E. (2003). A qualitative examination of graduate advising relationships: The advisee perspective. *Journal of Counseling Psychology*, 50, 178–188. doi:10.1037/0022-0167.50.2.178
- Schuh, J. H. (1989). In the field: A student development theory to practice workshop. *Journal of Counseling and Development*, 67, 297–298.
- Spitzberg, B. H. (1991). An examination of trait measures of interpersonal competence. *Communication Reports*, 4, 22–29. doi:10.1080/08934219109367517
- Spitzberg, B. H., & Hecht, M. L. (1984). A component model of relational competence. *Human Communication Research*, 10, 575–599. doi:10.1111/j.1468-2958.1984.tb00033.x
- Stafford, L. (2003). Maintaining romantic relationships: Summary and analysis of one research program. In D. J. Canary & M. Dainton (Eds.), *Maintaining relationships through communication: Relational, contextual, and cultural variations* (pp. 51–78). Mahwah, NJ: Erlbaum.
- Stafford, L., & Canary, D. J. (1991). Maintenance strategies and romantic relationship type, gender and relational characteristics. *Journal of Social and Personal Relationships*, 8, 217–242. doi:10.1177/0265407591082004
- Terrell, S. R., Snyder, M. M., & Dringus, L. P. (2009). The development, validation, and application of the doctoral student connectedness scale. *The Internet and Higher Education*, 12, 112–116. doi:10.1016/j.iheduc.2009.06.004
- Tessmer, K. A. (2012). *Transforming scholars: A narrative inquiry of doctoral student psychosocial development*. (Unpublished dissertation). Mercer University, Macon, GA.
- Thomas, R., & Chickering, A. W. (1984). Education and identity revisited. *Journal of College Student Personnel*, 25, 392–399.
- Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of student attrition* (2nd ed.). Chicago, IL: University of Chicago Press.
- Widick, C. (1977). The Perry scheme: A foundation for developmental practice. *The Counseling Psychologist*, 6, 35–38. doi:10.1177/001100007700600415