

## **The Influence of Gender on Relationship Aspects of Beginning Teachers and Their Mentors**

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### **Abstract**

*To date, relatively few researchers have examined the gender composition of mentoring dyads in the context of Career and Technical Education (CTE). Without such studies, understanding with respect to how gender influences the dyad relationship is limited. An integrated theoretical framework that draws from the similarity-attraction paradigm, relational demography, and attachment theory is applied to this exploratory study involving beginning teachers of agricultural education. Hypotheses related to the influence of gender on the success of the mentoring relationship were tested. It appears that gender heterogeneity does not hinder the mentoring relationship of beginning teachers. The results suggested that male and female beginning teachers, and beginning teachers in same-gender and mixed-gender dyads perceived similar levels of psychosocial mentoring and its functions, and dyad satisfaction. Significant differences existed between males and females regarding their perceptions of dyad similarity; however, no significant differences were found between beginning teachers in same-gender and mixed-gender dyads on the same measure. Further research on interpersonal processes in mentoring relationships is encouraged, and gender norming in agricultural education should be examined.*

### **Introduction**

“Increasing the retention of beginning teachers” is one of the most significant issues facing education (Smith & Ingersoll, 2004, p. 685), and this challenge has been portrayed as a “national crisis (National Commission on Teaching and America’s Future, 2003, p. 21). For example, the National Association of State

Boards of Education (2000) noted that “it is not unusual to find [attrition] rates as high as 50 percent within the first five years [of teaching]” (p. 11). In response, Ingersoll (2003) found that teacher induction programs and effective mentoring can lead to lower teacher attrition rates. He argued that the key solution to the teacher shortage phenomenon was to retain highly qualified teachers by changing their circumstances through proactive assistance, timely interventions, and appropriate professional development.

The national concern regarding teacher retention is being mirrored in career and technical education (CTE). Ruhland and Bremer (2002) found that increased support for professional development opportunities assisted with the retention of teachers in their initial years of teaching. The researchers concluded that beginning CTE teachers who participated in a mentoring program found the experience valuable and the quality of the relationship was a key factor.

Within CTE, agricultural education is experiencing teacher shortages (Kantrovich, 2007). This shortage is a result of three major factors. First, there is a demand for teachers as represented by the continued growth in the number of secondary teaching positions in agricultural education. The total number of agricultural education teaching positions in the United States has increased by 866 since 1992, which represents an 8.7% increase during this time period (Kantrovich, 2007). Second, the teacher shortage is attributed to the discrepancy between the total number of qualified graduates of agricultural education teacher preparatory programs and those who actually enter teaching. Since 1992, only 61.3% of the qualified agricultural education graduates entered the teaching profession (Kantrovich, 2007). Finally, the retention of beginning teachers is an important variable in the teacher shortage phenomenon. For example, Joerger, Greiman, and Ovrebo (2007) reported that the retention rate for novice teachers of agricultural education in Minnesota was 82.4% after the first year of teaching.

In addition to teacher shortages, agricultural education faces an additional recruitment challenge in the form of a national initiative identified as 10 x 15. The 10 x 15 initiative is aimed at increasing the number of quality high school agricultural education programs from the 2006 level of 7,242 (The Council for Agricultural Education, 2006) to 10,000 by the year 2015 (National FFA Organization, 2005). The initiative suggested that 2,758 more teachers must be hired to teach in new and/or expanded programs. Thus, it appears that agricultural education faces an enormous challenge to recruit and retain quality teachers by 2015.

While mentoring has been promoted as one strategy to retain beginning teachers, the literature on mentoring is still developing (Allen, Poteet, Eby, Lentz, & Lima, 2004; Wanberg, Welsh, & Hezlett, 2003). According to Hezlett and Gibson (2005), “many questions about mentoring remain poorly answered or have yet to be thoroughly investigated” (p. 447). Scholars (Hezlett & Gibson, 2005; Young, Cady, & Foxon, 2006) have identified directions for further research that pertain to the mentoring relationship and the role of gender within the relationship. Darling, Bogat,

Cavell, Murphy, and Sánchez (2006) proposed that research focuses on individual differences such as gender due to its implications for the design and implementation of mentoring programs. Little attention, however, has been focused on mentoring research within the context of CTE. The current study is one of the first in CTE to focus on gender in an effort to facilitate an effective mentoring relationship and, therefore, assist beginning teachers to succeed.

### **Theoretical Framework**

The establishment of a positive relationship between a beginning teacher and his/her mentor is critical to the successful outcomes of the dyad. In support of this premise, an integrated theoretical framework is presented, and consists of the similarity-attraction paradigm, relational demography, and attachment theory. According to the *similarity-attraction paradigm* (Byrne, 1971), individuals who perceive themselves to be similar are more attracted to each other than are those who perceive themselves as dissimilar. Similarity might be on several dimensions (i.e., attitudes, gender, outlook, personality, race), and allows dyad members to anticipate each other and increase the ease and quality of their interactions (Meglino, Ravlin, & Adkins, 1991; Somech, 2003). Trust between dyad members has been shown to increase as a result of perceived similarity (Mayer, Davis, & Schoorman, 1995). In contrast, dissimilarity leads to differences in attitudes, values, and beliefs, and to low communication between dyad partners (Burns & Otte, 1999; Epitropaki & Martin, 1999).

Tsui and O'Reilly (1989) introduced *relational demography* and defined it as “the comparative demographic characteristics of members of dyads or groups who are in a position to engage in regular interactions” (p. 403). They suggested that demographic similarities help to build an attraction dynamic; whereby, dyad members who have similarities have a positive association with each other. In contrast, demographically dissimilar dyad members tend to view and treat each other less favorably. Research in relational demography has most commonly examined gender and racial similarity, and is based on the assumption that surface-level similarity reflects deeper-level similarity in attitudes, personality, or outlook (Harrison, Price, & Bell, 1998). Research findings have indicated support for relational demography as same-gender dyads reported more effective performance, liked each other more, had less conflict, and had a higher quality experience (Farh, Tsui, & Cheng, 1995; Green, Anderson, & Shivers, 1996; Tsui & O'Reilly, 1989). Therefore, relational demography affects dyadic relationship processes and outcomes above and beyond simple demographics.

*Attachment theory* (Bowlby, 1969) provides additional insight into the relationship dynamics of the mentoring dyad. This theoretical framework contends that a person's ability to develop and maintain relationships begins at a very early age based on the individual's attachment to a parent or primary caretaker. These

childhood *internal working models* of attachment or templates are continued into adulthood, and shape adult relationships across an individual's life span (Fonagy, 2003). In previous research, it has been determined that friendships and romantic relationships (Krause & Haverkamp, 1996; Shulman, Elicker, & Sroufe, 1994), and a person's method of seeking help and guidance from others (Marvin, Cooper, Hoffman, & Powell, 2002) are all influenced by the individual's childhood attachment system. Based on empirical findings, adults with secure attachments relate easily and confidently with others, and are willing to seek assistance when necessary (Bennett & Saks, 2006). In contrast to secure attachment, adults with insecure patterns of attachment may appear uncomfortable with intimacy and may be hesitant to ask for help (Hesse, 1999). Therefore, attachment theory provides a useful foundation to examine the mentoring relationship.

### **Literature Review**

Gender differences have been reported in the literature by numerous scholars. Sosik and Godshalk (2000) concluded that males are typically "more task-oriented, results-driven, competitive, rational, strategic and unemotional" (p. 105); whereas, females tend to be more "relationship-oriented, nurturing, cooperative, intuitive, empathic, and emotional expressive" (p. 105). Gender differences are apparent in the context of education. In general, female teachers tend to gravitate more towards elementary grade levels than males, and male teachers are more prevalent at the secondary level (Zumwalt & Craig, 2005). Among younger teachers, females leave the profession earlier than males. In contrast, males leave the profession sooner than females among older teachers (Zumwalt & Craig, 2005).

Males and females differ in regard to their perceptions of the mentoring relationship. For example, beginning male teachers use different metaphors to describe their mentors than do female teachers. In a study of secondary English beginning teachers, male teachers compared the mentor-protégé interaction to relationships "between therapists and clients, or between parents and children" (Rigler, 2000, p. 13). In contrast, female beginning teachers compared their mentor-protégé interaction to relationships "between a coach and athlete, or advisor and advisee" (p. 13). Interestingly, beginning teachers who were male used more positive terms to describe their mentors than did females (Rigler, 2000).

Ensher and Murphy (1997) investigated gender in a business mentoring context, and they found that female mentors provided less psychosocial support than their male counterparts. In addition, factors such as liking, perceived similarity, and psychosocial mentoring were influential in a protégé's satisfaction with his or her mentor. The researchers suggested that "gender may not be as important as was originally hypothesized" (p. 475). However, Sosik and Godshalk (2000) concluded that the literature did not yield definitive findings regarding gender composition in the mentoring relationship.

Recent studies conducted in agricultural education have examined the relationship that beginning teachers have with their mentors. Researchers determined that the dyad relationship involving beginning teachers and mentors can be enhanced through a goal of assistance rather than evaluation (Peiter, Terry, & Cartmell, 2005). Beginning teacher assistance in the form of psychosocial mentoring (Burris, Kitchel, Greiman, & Torres, 2006) and professional mentoring (Greiman, 2007) were found to be provided by mentors. Further, a positive relationship was found between psychosocial mentoring and satisfaction with the mentoring relationship (Greiman, Torres, Burris, & Kitchel, 2007). This finding was valid across different mentoring relationships (i.e., in-school mentor and in-profession mentor), and was found from the perspective of the novice teacher but not from the perspective of their mentors (Greiman, 2007). Research has determined that beginning teachers and formal mentors who perceived they were similar to their dyad partners were more likely to have a satisfying mentoring experience (Burris et al., 2006; Greiman et al., 2007). The researchers found that similar values, attitudes, working styles, and teaching philosophies were factors that influenced a positive mentoring experience, successful relationship, and satisfactory interaction.

Kitchel (2006) provided additional insight into the mentoring relationship by examining gender as a variable. In a study of student teachers and cooperating teachers in agricultural education, a significant difference was found between males and females. Male student teachers perceived that they received a higher level of psychosocial mentoring functions involving counseling and friendship from their cooperating teachers. In addition, male student teachers were more satisfied with the dyad relationship involving their cooperating teachers than were female student teachers.

Ragins' (1997) model of diversified and homogeneous mentoring relationships provided further insight regarding consideration in matching dyad members. As described by Sosik and Godshlak (2000), "this model proposes that composition of the mentoring relationship influences the mentor function provided..., which in turn influences outcomes for the protégé..." (p. 104). Ragins outlined two dimensions to the dyad relationship. The first dimension is whether or not the dyad relationship is diversified or homogeneous. Ragins (1997) proposed that protégés in homogeneous groups will experience stronger psychosocial functions and role modeling. The second dimension is whether or not the mentor and protégé are of the majority or minority group. Demographics, such as gender and ethnicity, are considerations when examining groups for majority or minority status. Ragins proposed that "relationships involving minority mentors will provide fewer career development functions than relationships involving majority mentors" (p. 504). When the two dimensions interact, Ragins posited that "homogeneous mentoring relationships involving majority members will provide greater protégé outcomes than any other combination of the mentoring relationship" (p. 506).

Identifying and measuring the outcomes of a mentoring relationship can be accomplished by applying Kram's (1985) mentor role theory which outlines those psychosocial and career functions a mentor can provide to his or her protégé. The focus of this study was the investigation of psychosocial function. Kram identified four functions, and through a review of literature, Greiman (2002) identified a fifth function. Kitchel (2006) outlined these functions succinctly:

The *role modeling* function is “demonstrating valued behaviors, attitudes and/or skills that aid the junior in achieving competence, confidence, and a clear professional identity” (Hall, 1986, p. 162). The *counseling* function is when a mentor is “providing a helpful and confidential forum for exploring personal and professional dilemmas” (p. 162). When a mentor provides “mutual caring and intimacy that extends beyond the requirements of daily work tasks” and is “sharing experiences outside the immediate work setting,” then he/she is providing the *friendship* function (p. 162). In providing support related to the *acceptance* function, a mentor is “providing ongoing support, respect, and admiration, which strengthens self-confidence and self-image” (p. 162). Greiman (2002, p. 22) identified the *social* function as one that includes “social interaction and informal exchanges about work and outside work experiences.” (p. 65)

Given the differences between males and females, further research in CTE is needed to better understand how gender might influence the mentoring relationship. With current and predicted shortages of CTE teachers, retention efforts such as mentoring will be important in retaining quality teachers. However, relatively few studies have examined the gender composition of mentoring dyads in the context of CTE. Without such studies, understanding of the extent to which gender influences the dyad relationship is limited. Further, the ability to provide useful guidance to practitioners with respect to the development of a satisfying and effective dyad relationship is impeded without research on this significant educational issue (Smith & Ingersoll, 2004).

### **Purpose and Objectives of the Study**

The purpose of the study was to investigate the role of gender in mentoring relationships that involve beginning agricultural education teachers and their formal mentors. To achieve this purpose, the following research objectives were developed:

1. Describe and compare beginning teachers' perceptions of psychosocial mentoring by gender and dyad gender composition.
2. Describe and compare beginning teachers' perceptions of dyad similarity by gender and dyad gender composition.
3. Describe and compare beginning teachers' perceptions of dyad satisfaction by gender and dyad gender composition.

### **Hypotheses**

The following nondirectional null hypotheses were formulated for the study:

- H<sub>01</sub>: There is no significant difference between males and females on psychosocial mentoring and its functions.
- H<sub>02</sub>: There is no significant difference between same-gender and mixed-gender dyads on psychosocial mentoring and its functions.
- H<sub>03</sub>: There is no significant difference between males and females on dyad similarity.
- H<sub>04</sub>: There is no significant difference between males and females on dyad satisfaction.
- H<sub>05</sub>: There is no significant difference between same-gender and mixed-gender dyads on dyad similarity.
- H<sub>06</sub>: There is no significant difference between same-gender and mixed-gender dyads on dyad satisfaction.

### **Methods**

This study was descriptive-survey in design (Gall, Borg, & Gall, 1996), and the target population was agricultural education teachers in their first year of teaching in a Midwestern state. After comparing beginning teacher demographics over an extended number of years, the researchers found the Oliver and Hinkle (1982) argument to be reasonable that a sample in any given year could be representative of the population over time. As such, the time and place sample consisted of beginning agriculture teachers ( $n = 80$ ) from two different cohorts. Each beginning teacher was paired with a mentor in the school where they taught, or with an agricultural education mentor in a neighboring school. The names of the beginning teachers were obtained from the Department of Elementary and Secondary Education located in the Midwestern state, and served as the frame for the study. For both cohorts of beginning teachers, data were collected at the end of their first year of teaching using the Mentoring Relationship Questionnaire (MRQ). The MRQ (Greiman, 2002) consists of scales that measure psychosocial mentoring, dyad similarity, and dyad satisfaction.

### **Psychosocial Mentoring**

This section of the MRQ identified the extent that participants perceived their formal mentors had provided psychosocial support. The scale consisted of 15 statements representing each of the five psychosocial mentoring functions. Each function (i.e., acceptance, counseling, friendship, role modeling, and social) was measured through three questions. The function of acceptance was represented by an item such as, "To what extent has your formal mentor accepted you as a competent colleague." An example of an item expressing the function of counseling was, "To what extent has your formal mentor been willing to discuss your questions and

concerns.” An example of an item that denoted the friendship function was, “To what extent has your formal mentor been someone you could confide in.” The role modeling function was represented by items such as, “To what extent has your formal mentor been someone you wanted to emulate” Finally, the social function was represented by such statements as, “To what extent has your formal mentor got together with you informally after work.”

Beginning teachers were asked to identify the extent that their mentors performed on each of the 15 items using a 7-point Likert-type scale ranging from 1 = *not at all* to 7 = *very large extent*. Greiman (2002) reported a Cronbach’s alpha coefficient of .97 for psychosocial mentoring, and a range from .89 to .94 for each of the psychosocial mentoring functions. Post-hoc reliability analysis yielded a Cronbach’s alpha of .97 for the psychosocial mentoring construct, and alphas that ranged from .91 to .97 for each of the five functions.

### **Dyad Similarity**

Five items (e.g., “My formal mentor and I see things much the same way”) were designed to measure the perceived similarity of the dyad relationship. Beginning teachers provided their perceptions using a 7-point Likert-type scale with 1 representing *strongly disagree* and 7 representing *strongly agree*. The Cronbach’s alpha reliability estimate for dyad similarity was found to be .98 for Greiman in 2002; a .98 post-hoc coefficient was found when that same section of the instrument was used for this study.

### **Dyad Satisfaction**

Five items (e.g., “In regard to the interaction with my formal mentor the relationship has been a positive experience”) were intended to gain a measure of the perceived satisfaction with formal mentoring. The participants provided their perceptions using a 7-point Likert-type scale with 1 representing *strongly disagree* and 7 representing *strongly agree*. This scale has been found to be highly reliable ( $\alpha = .99$ ; Greiman, 2002); additionally a .98 coefficient was found post-hoc when using these items for this study.

Data collection was conducted using an adaptation of Dillman’s (2000) tailored design method to maximize response rate. For both cohorts of beginning teachers, the data collection process began by sending participants a pre-notice message. The survey packet was mailed to the beginning teachers five days later. Ten days after the first mailing, an e-mail reminder notice was sent to the nonrespondents. A week later, a second packet containing a revised cover letter and a questionnaire was mailed to the nonrespondents. The final contact with nonrespondents was approximately 25 days after the first mailing, and consisted of a telephone call that encouraged the return of the questionnaire. A total of 70 beginning teachers responded to the questionnaire, which resulted in an overall



response rate of 87.5%. Miller and Smith (1983) argued that there is justified reason to believe that late respondents may likely possess similar characteristics to nonrespondents. Therefore, to address nonresponse error, participants were dichotomized into two groups: on-time (i.e., response received before follow-up letter mailed) and late (i.e., response received after follow-up letter mailed). The two groups were compared regarding their responses to the Likert-type items comprising the constructs of psychosocial mentoring, dyad similarity, and dyad satisfaction. No significant ( $p < .05$ ) differences were found between the two groups of respondents using independent samples  $t$ -tests.

The data were coded and entered into SPSS 13.0 for analyses. For research objectives 1, 2, and 3, mean scores and standard deviations were calculated to summarize the data for interval or ratio level data, and independent samples  $t$ -tests were conducted to compare the gender groups regarding psychosocial mentoring received, dyad similarity, and dyad satisfaction. For each comparison, an alpha level of .05 was established *a priori* for tests of significance. Effect sizes were calculated and interpreted using Cohen's (1988)  $d$ : small effect size ( $d = .20-.49$ ), medium effect size ( $d = .50-.79$ ), and large effect size ( $d \geq .80$ ).

### **Findings**

The average age of beginning teachers in the study was 25 years ( $SD = 5.4$ ), and participants ranged in age from 22 to 50. The participant group consisted of a nearly equal distribution of gender with 51.4% male ( $n = 36$ ) and 48.6% female ( $n = 34$ ). Approximately 56% ( $n = 39$ ) of beginning teachers taught in a single teacher program while 43% ( $n = 30$ ) taught in multiple teacher programs; one teacher did not report the number of teachers in the program. The average student enrollment in programs where the beginning teachers were located was 85 ( $SD = 62.9$ ). Over one-half (56%,  $n = 39$ ) of the beginning teachers were paired with a mentor of the same-gender (i.e., male-male, female-female), and 44% ( $n = 31$ ) were in dyads with a mixed-gender composition (i.e., male-female, female-male).

The first research objective was to describe and compare beginning teachers' perceptions of psychosocial mentoring by gender and dyad gender composition. As shown in Table 1, both males and females perceived that they were receiving psychosocial mentoring to a *large extent* ( $M_{male} = 5.14$ ,  $SD = 1.43$ ;  $M_{female} = 4.46$ ,  $SD = .08$ ). Two-tailed, independent samples  $t$ -tests were conducted to test null hypothesis one. While male beginning teachers had higher scores than females, no significant differences ( $p < .05$ ) were found between males and females on psychosocial mentoring and its functions (i.e., acceptance, counseling, friendship, role modeling, and social). Therefore, null hypothesis one was not rejected. Small effect sizes (Cohen's  $d$ ) were found for the difference in perceptions between male and female beginning teachers regarding psychosocial mentoring and its functions (see Table 1).

As shown in Table 2, participants in same-gender dyads and mixed-gender dyads perceived that they were receiving psychosocial mentoring to a *large extent* ( $M_{same} = 5.13, SD = 1.53; M_{mixed} = 4.40, SD = 1.69$ ). Two-tailed, independent samples *t*-tests were conducted to test null hypothesis two. While beginning teachers in same-gender dyads had higher scores than mixed-gender dyads, no significant difference ( $p < .05$ ) was found between the two groups on psychosocial mentoring and its functions. As a result, null hypothesis two was not rejected. Small effect sizes (Cohen's *d*) were found for the difference in perceptions between same-gender and mixed-gender dyads regarding psychosocial mentoring and its functions (see Table 2).

Table 1  
*Independent Samples t-test for Gender Differences on Psychosocial Mentoring*

Mentoring Function	Male ( <i>n</i> = 36)		Female ( <i>n</i> = 34)		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Psychosocial mentoring	5.14	1.43	4.46	1.78	1.77	.08	.43
Acceptance	5.59	1.17	5.02	1.73	1.57	.12	.39
Counseling	5.50	1.51	4.87	1.91	1.52	.13	.37
Friendship	5.48	1.57	4.69	2.12	1.75	.09	.43
Role modeling	5.10	1.71	4.35	2.06	1.65	.10	.40
Social	4.07	2.18	3.36	2.03	1.40	.17	.34

Note. 7-point scale (1 = not at all, 3 = some extent, 5 = large extent, 7 = very large extent)

Table 2  
*Independent Samples t-test for Dyad Gender Differences on Psychosocial Mentoring*

Mentoring Function	Same-gender ( <i>n</i> = 39)		Mixed-gender ( <i>n</i> = 31)		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Psychosocial mentoring	5.13	1.53	4.40	1.69	1.89	.06	.46
Acceptance	5.60	1.27	4.94	1.67	1.85	.07	.46
Counseling	5.47	1.59	4.83	1.86	1.54	.13	.38
Friendship	5.44	1.71	4.67	2.05	1.70	.09	.42
Role modeling	5.11	1.79	4.27	1.99	1.85	.07	.45
Social	4.08	2.22	3.29	1.93	1.54	.13	.38

Note. 7-point scale (1 = not at all, 3 = some extent, 5 = large extent, 7 = very large extent)

The second research objective was to describe and compare beginning teachers' perceptions of dyad similarity by gender and dyad gender composition. As outlined in Table 3, both male and female beginning teachers *agreed* that they were similar to their mentors. However, male beginning teachers had a higher dyad similarity score ( $M = 5.09$ ,  $SD = 1.22$ ) than did female teachers ( $M = 4.31$ ,  $SD = 1.86$ ). A two-tailed independent samples *t*-test was conducted to test null hypothesis three (see Table 3); a significant difference was found between males and females on dyad similarity ( $p = .05$ ). Consequently, null hypothesis three was rejected. A medium effect size (Cohen's *d*) reflects the difference in perceptions between male and female beginning teachers regarding dyad similarity (see Table 3).

Table 3  
Independent Samples *t*-test for Gender Differences on Dyad Similarity and Dyad Satisfaction

Construct	Male ( $n = 36$ )		Female ( $n = 34$ )		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Dyad similarity	5.09	1.22	4.31	1.86	2.05	.05*	.51
Dyad satisfaction	5.65	1.36	4.92	2.14	1.68	.10	.42

Note. 7-point scale (1 = strongly disagree, 3 = disagree, 5 = agree, 7 = strongly agree)

\* $p = .05$

As shown in Table 4, beginning teachers in both dyad gender compositions (i.e., same-gender, mixed-gender) *agreed* that they were similar to their mentors. A two-tailed, independent samples *t*-test was utilized to test null hypothesis four (see Table 4). While beginning teachers in same-gender dyads had a higher score ( $M = 5.02$ ,  $SD = 1.47$ ) for perceived similarity than did beginning teachers in mixed-gender dyads ( $M = 4.32$ ,  $SD = .07$ ), no significant ( $p < .05$ ) difference was found between the two groups. Accordingly, null hypothesis four was not rejected. A small effect size (Cohen's *d*) was found for the difference in perceptions between beginning teachers in same-gender dyads and mixed-gender dyads regarding dyad similarity.

The third research objective was to describe and compare beginning teachers' perceptions of dyad satisfaction by gender and dyad gender composition. Both male and female beginning teachers *agreed* that they were satisfied with their mentoring relationships (see Table 3). A two-tailed independent samples *t*-test was used to test null hypothesis five. Male beginning teachers had a higher score ( $M = 5.65$ ,  $SD = 1.36$ ) than females ( $M = 4.92$ ,  $SD = 2.14$ ) for dyad satisfaction. However, a significant difference was not found ( $p < .05$ ) between males and females on dyad satisfaction. Therefore, null hypothesis five was not rejected. A small effect size (Cohen's *d*) was found for the difference in perceptions between male and female beginning teachers regarding dyad satisfaction (see Table 3).

Furthermore, beginning teachers in both dyad gender compositions *agreed* that they were satisfied with their mentoring relationships (see Table 4). A two-tailed, independent samples *t*-test was calculated to test null hypothesis six (see Table 4). Beginning teachers in same-gender dyads had a higher dyad satisfaction score ( $M = 5.62, SD = 1.55$ ) than did beginning teachers in mixed-gender dyads ( $M = 4.90; SD = .11$ ). However, no significant difference was found between beginning teachers in same-gender and mixed-gender dyads on perceived dyad similarity. Therefore, null hypothesis six was not rejected. A small effect size (Cohen's *d*) was found for the difference in perceived dyad satisfaction between beginning teachers in same-gender dyads and mixed-gender dyads (see Table 4).

Table 4  
*Independent Samples t-test for Dyad Gender Differences on Dyad Similarity and Dyad Satisfaction*

Construct	Same-gender ( <i>n</i> = 39)		Mixed-gender ( <i>n</i> = 31)		<i>t</i>	<i>p</i>	Cohen's <i>d</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Dyad similarity	5.02	1.47	4.32	.07	1.84	.07	.45
Dyad satisfaction	5.62	1.55	4.90	.11	1.62	.11	.41

*Note.* 7-point scale (1 = strongly disagree, 3 = disagree, 5 = agree, 7 = strongly agree)

### Conclusions, Implications, and Recommendations

With the current and predicted shortages of teachers in agricultural education, mentoring efforts will play an important role in retaining quality teachers. Accordingly, this study was conducted to gain a better understanding with respect to the role that gender plays in mentoring relationships. However, little research had been conducted in CTE regarding gender composition of the mentoring dyad; therefore, this study sought to begin inquiry. Based upon the findings of the study, several conclusions, implications, and recommendations are offered.

It was concluded that male and female beginning teachers, and beginning teachers in same-gender and mixed-gender dyads perceived similar levels of psychosocial mentoring and its functions, and dyad satisfaction. Thus, the findings of this study did not support previous relationship research (Ensher & Murphy, 1997; Kitchel, 2006) that reported significant differences between males and females. Additionally, they did not support Ragins' (1997) argument that homogeneous dyads experience higher levels of psychosocial mentoring. However, this study was exploratory in nature and involved two cohorts of beginning teachers in one state. The preliminary findings warrant additional research with a larger sample size to further explore gender as a variable in mentoring relationships. The intent of this

study was to begin inquiry and discussion of gender as an influence on the success of the dyad and the potential for beginning teacher retention.

The findings revealed that for all measures (i.e., psychosocial mentoring and its functions of acceptance, counseling, friendship, role modeling, and social; dyad similarity; dyad satisfaction), males and same-gender dyads had higher scores than did females and mixed-gender dyads. There was only one significant difference; male beginning teachers had higher scores on dyad similarity than did female beginning teachers. It appears that beginning male teachers perceived they were more similar to their mentors than did beginning female teachers. Therefore, it is recommended that mentors be aware of this difference and the potential barriers that might impact the effectiveness of dyad relationships.

In general, this finding supports the contention that research on gender composition of the mentoring relationship does not yield definitive findings (Sosik & Godshalk, 2000). In addition, the findings of this study lend limited support for the similarity-attraction paradigm (Byrne, 1971), and relational demography (Tsui & O'Reilly, 1989). Overall, it appears that gender heterogeneity did not hinder the mentoring relationship of this cohort of beginning agricultural education teachers and their formal mentors.

One possible explanation for the lack of significant differences by gender and dyad gender composition, other than males having higher scores on dyad similarity than females, might be found in attachment theory (Bowlby, 1969). It was possible that the males and females in this study had secure attachments, were able to relate easily and confidently with others, and were willing to seek assistance when necessary (Bennett & Saks, 2006). The early childhood attachments of the beginning teachers might be one of the factors that assisted them in successfully developing relationships with their mentors. Young et al. (2006) expressed their belief in attachment theory as follows:

Related to mentoring, if we haven't developed a fully functional sense of security about relationships, in general, our ability to develop mentorship may be hindered. Thus, attachment theory may add to the explanation of why some mentors and protégés may feel more comfortable keeping a purely professional relationship whereas others develop a more personal bond. Likewise, attachment theory may provide some understanding about why some mentorships are more successful than others. (p. 166)

Scholars have given increased attention to attachment theory in relationship research as represented by the Bennett and Saks (2006) observation of a "burgeoning of adult attachment research" (p. 670) being conducted in the past decade. They suggested this approach in CTE, and echoed the call for further research regarding the interpersonal processes in mentoring relationships that are supported theoretically by attachment theory (Hezlett & Gibson, 2005). Both quantitative and qualitative methodological approaches might yield additional insights that would be valuable in gaining a better understanding of mentoring relationships.

Another possible explanation for the lack of significant differences by gender and dyad gender composition is gender norming. “Gender norming is the process of adjusting male [sic] standards to accommodate the entry of women,” in this case to the agricultural education profession (Rooks, 1999, ¶ 2). The agricultural education profession has been historically male-dominated; however, many beginning female teachers have been in this environment for a number of years. For example, beginning female teachers were part of agricultural education programs in high school and as members of the FFA, an intracurricular youth organization. Future research is needed to investigate this dynamic and to identify if and how beginning teachers and their mentors have developed gender norming strategies and techniques. Sex role congruency theory (Stewart, Stewart, Friedley, & Cooper, 1990) might be a conceptual foundation for further exploration of this phenomenon.

The findings of this study supported the concept that beginning teachers and their mentors overcame gender differences, and dyadic relationships functioned satisfactorily. Regardless of gender or dyad gender composition (i.e., same-gender, mixed-gender), it was determined that beginning teachers generally agreed they were receiving psychosocial mentoring and its functions, similar to their mentors, and satisfied with dyad relationships. This finding supported previous research (Greiman et al., 2007) that the psychosocial needs of beginning teachers are being satisfied by mentoring, and that this assistance is being provided regardless of the context (i.e., dyad arrangement involving in-school and in-profession mentors, gender of the beginning teacher).

Protégés’ perceived similarity to their mentors is related to mentoring received (Ensher & Murphy, 1997; Greiman, 2002; Turban, Dougherty, & Lee, 2002), and to satisfaction with the mentoring relationship (Young & Perrewé, 2000). Arguably, individuals who are similar encounter less conflict, which can lead to greater satisfaction in the workplace. Therefore, a quality mentoring experience for beginning teachers is critical for their retention in the profession (Holloway, 2001; Smith & Ingersoll, 2004). Further, a successful mentoring experience provides a foundation for launching beginning teachers on a successful career pathway. The general agreement between mentoring outcomes by beginning teachers, regardless of gender or dyad gender composition, also indicated that some degree of gender difference awareness exists on the part of beginning teachers and their mentors. While this study did not examine the perceptions of mentors, they play an important role in overcoming barriers to gender differences. Additional study involving matched pairs of dyad partners is warranted so that congruence and differences between perceptions can be compared (Greiman, 2007; Young & Perrewé, 2000).

This study was limited by a sufficient number of female mentors. Consequently, the dyad gender composition was coded as a dichotomous variable (i.e., same-gender, mixed-gender) during data analysis. The full spectrum of dyad gender combinations (i.e., female to female, female to male, male to male, male to female) were not analyzed. Therefore, it is recommended that further research be

conducted that involves all four dyad gender combinations (Ragins, 1997). Regardless, this exploratory study was a foundation for future research focused on the mentoring relationships of beginning agricultural education teachers. Gaining a better understanding of what can facilitate a successful match between dyad members, and what can be initiated to improve the mentoring process, has implications for teacher efficacy and longevity in the profession.

### **References**

- Allen, T. D., Poteet, M. L., Eby, L. T., Lentz, E., & Lima, L. (2004). Career benefits associated with mentoring for protégés: A meta-analysis. *Journal of Applied Psychology, 89*, 127-136.
- Bennett, S., & Saks, L. V. (2006). A conceptual application of attachment theory and research to the social work student-field instructor supervisory relationship. *Journal of Social Work Education, 42*, 669-682.
- Bowlby, J. (1969). *Attachment and loss: Vol. 1 attachment*. New York: Basic Books.
- Burns, J. Z., & Otte, F. L. (1999). Implications of leader-member exchange theory and research for human resource development research. *Human Resource Development Quarterly, 10*, 225-247.
- Burris, S., Kitchel, T., Greiman, B. C., & Torres, R. M. (2006). Beginning and mentor agriculture teachers' perceptions of psychosocial assistance, similarities, and satisfaction. *Journal of Agricultural Education, 47*(4), 64-75.
- Byrne, D. (1971). *The attraction paradigm*. New York: Academic Press.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Earlbaum.
- Darling, N., Bogat, G. A., Cavell, T. A., Murphy, S. E., & Sánchez, B. (2006). Gender, ethnicity, development, and risk: Mentoring and the consideration of individual differences. *Journal of Community Psychology, 34*, 765-779.
- Dillman, D. A. (2000). *Mail and internet surveys: The tailored design method*. New York: John Wiley.
- Ensher, E. A., & Murphy, S. E. (1997). Effects of race, gender, perceived similarity, and contact on mentor relationships. *Journal of Vocational Behavior, 50*, 460-481.
- Epitropaki, O., & Martin, R. (1999). The impact of relational demography on the quality of leader-member exchanges and employees' work attitudes and well-being. *Journal of Occupational and Organizational Psychology, 72*, 237-240.
- Farh, J. L., Tsui, A. S., & Cheng, B. (1995, August). *The influence of relational demography and Guanxi: The Chinese case*. Paper presented at the National Academy of Management meeting, Vancouver, British Columbia, Canada.

- Fonagy, P. (2003). The development of psychopathology from infancy to adulthood: The mysterious unfolding of disturbance in time. *Infant Mental Health Journal, 24*, 212-239.
- Gall, M. D., Borg, W. R., & Gall, J. P. (1996). *Educational research: An introduction*. White Plains, NY: Longman.
- Green, S. G., Anderson, S. E., & Shivers, S. L. (1996). Demographic and organizational influence on leader-member exchange and related work attitudes. *Organizational Behavior and Human Decision Processes, 66*, 203-214.
- Greiman, B. C. (2002). Providing professional and psychosocial assistance for beginning agriculture teachers: The perceptions of formal mentors and novice teachers. *Dissertation Abstracts International, 63* (07), 2434A. (UMI No. 3060100)
- Greiman, B. C. (2007). Influence of mentoring on dyad satisfaction: Is there agreement between matched pairs of novice teachers and their formal mentors? *Journal of Career and Technical Education, 23*, 153-166.
- Greiman, B. C., Torres, R. M., Burris, S. H., & Kitchel, T. J. (2007). Beginning teachers' perceptions of in-school and in-profession mentoring relationships. *Career and Technical Education Research, 32*(1), 23-43.
- Hall, D. T. (Eds.) (1986). *Career development in organizations*. San Francisco: Jossey-Bass.
- Harrison, D. A., Price, K. H., & Bell, M. P. (1998). Beyond relational demography: Time and the effects of surface- and deep-level diversity on work group cohesion. *Academy of Management Journal, 41*, 96-107.
- Hesse, E. (1999). The adult attachment interview: Historical and current perspectives. In J. Cassidy & P. Shaver (Eds.), *Handbook of attachment: Theory, research, and clinical applications* (pp. 395-433). New York: Guilford.
- Hezlett, S. A., & Gibson, S. K. (2005). Mentoring and human resource development: Where we are and where we need to go. *Advances in Developing Human Resources, 7*, 1-24.
- Holloway, J. (2001). The benefits of mentoring. *Educational Leadership, 58*(8), 85-86.
- Ingersoll, R. M. (2003). *Is there really a teacher shortage? A research report*. Seattle, WA: Center for the Study of Teaching and Policy.
- Joerger, R. M., Greiman, B. C., & Ovrebo, C. J. (2007). *2006-2007 career and technical education teacher induction program final report*. St. Paul: University of Minnesota.



- Kantrovich, A. J. (2007). *A national study of the supply and demand for teachers of agricultural education from 2004-2006*. East Lansing: Michigan State University.
- Kitchel, T. (2006). Perceived differences, by gender, in student teacher-cooperating teacher interactions. *Journal of Southern Agricultural Education Research*, 56(1), 62-75.
- Kram, K. E. (1985). *Mentoring at work*. Boston: Scott, Foresman and Company.
- Krause, A. M., & Haverkamp, B. E. (1996). Attachment in adult child-older parent relationships: Research, theory, and practice. *Journal of Counseling & Development*, 75, 83-92.
- Marvin, R., Cooper, G., Hoffman, K., & Powell, B. (2002). The circle of security project: Attachment-based intervention with caregiver-pre-school child dyads. *Attachment & Human Development*, 4, 107-124.
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy of Management Review*, 20, 709-734.
- Meglino, B. M., Ravlin, E. C., & Adkins, C. L. (1991). Value congruence and satisfaction with a leader: An examination of the role of interaction. *Human Relations*, 44, 481-495.
- Miller, L. E., & Smith, K. L. (1983). *Handling nonresponse issues*. *Journal of Extension* 21(5), 45-50.
- National Association of State Boards of Education. (2000). *The full circle: Building a coherent teacher preparation system*. Alexandria, VA: NASBE.
- National Commission on Teaching and America's Future (2003). *No dream denied: A pledge to America's children*. New York: Author.
- National FFA Organization. (2005). 10,000 quality programs by 2015. *FFA Advisors Making a Difference*, 14(3), 8.
- Oliver, J. D., & Hinkle, D. E. (1982). Occupational education research: Selecting statistical procedures. *Journal of Studies in Technical Careers*, 4(3), 199-208.
- Peiter, R. L., Terry, R. Jr., & Cartmell II, D. D. (2005). Mentoring first year agricultural educators: Examining a state-mandated induction program. *Journal of Agricultural Education*, 46(1), 11-19.
- Ragins, B. R. (1997). Diversified mentoring relationships in organizations: A power perspective. *Academy of Management Review*, 22, 482-521.
- Rigler, S. E. (2000). *Gender differences in beginning teachers' metaphors for mentoring*. Washington, DC: Office of Educational Research and Improvement. (ERIC Document Reproduction Service No. ED447070)
- Rooks, S. C. (1999). Looking at G.I. Jane through lenses of gender. *American Communication Journal*, 2(1). [Electronic version]

- Ruhland, S. K., & Bremer, C. D. (2002). Professional development needs of novice career and technical education teachers. *Journal of Career and Technical Education, 19*(1), 18-31.
- Shulman, S., Elicker, J., & Sroufe, L. A. (1994). Stages of friendship growth in preadolescence as related to attachment history. *Journal of Social and Personal Relationships, 11*, 341-361.
- Smith, T. M., & Ingersoll, R. M. (2004). What are the effects of induction and mentoring on beginning teacher turnover? *American Educational Research Journal, 41*, 681-714.
- Somech, A. (2003). Relationships of participative leadership with relational demography variables: A multi-level perspective. *Journal of Organizational Behavior, 24*, 1003-1018.
- Sosik, J. J., & Godshalk, V. M. (2000). The role of gender in mentoring: Implications for diversified and homogeneous mentoring relationships. *Journal of Vocational Behavior, 57*, 102-122.
- Stewart, L. P., Stewart, A. D., Friedley, S. A., & Cooper, P. J. (1990). Communication between the sexes: Sex differences and sex-role stereotypes (2nd ed.). Scottsdale, AZ: Gorsuch Scarisbrick.
- The Council for Agricultural Education. (2006). *Unmistakable potential: 2005-2006 annual report on agricultural education*. Washington, DC.
- Tsui, A. S., & O'Reilly, C. A. (1989). Beyond simple demographic effects: The importance of relational demography in superior-subordinate dyads. *Academy of Management Journal, 32*, 402-423.
- Turban, D. B., Dougherty, T. W., & Lee, F. K. (2002). Gender, race, and perceived similarity effects in developmental relationships: The moderating role of relationship duration. *Journal of Vocational Behavior, 61*, 240-262.
- Wanberg, C. R., Welsh, E. T., & Hezlett, S. A. (2003). Mentoring research: A review and dynamic process model. *Research in Personnel and Human Resource Management, 22*, 39-124.
- Young, A. M., Cady, S., & Foxon, M. J. (2006). Demystifying gender differences in mentoring: Theoretical perspectives and challenges for future research on gender and mentoring. *Human Resource Development Review, 5*, 148-175.
- Young, A. M., & Perrewé, P. L. (2000). What did you expect? An examination of career-related support and social support among mentors and protégés. *Journal of Management, 26*, 611-632.
- Zumwalt, K., & Craig, E. (2005). Teachers' characteristics: Research on the demographic profile. In M. Cochran-Smith & K. M. Zeichner (Ed). *Studying teacher education* (pp. 111-156). Washington, DC: American Educational Research Association.

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