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Expectation Congruency and Psychosocial Support in Formal Agriculture Teacher Mentoring Relationships

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Abstract

Educational leaders have widely implemented mentoring and induction programs to support beginning teachers as they enter the profession. A variety of contextual factors within the mentoring dyad and program may impact the mentoring relationship and subsequent support received by the beginning teacher. The purpose of this study was to describe the relationship among mentoring Expectation Congruency, Interaction, and Psychosocial Support received by agriculture teachers participating in Beginning Teacher Mentor/Induction program. Researchers collected mentoring relationship data from 83 first and second year agriculture teachers participating in a state-mandated mentoring and induction program, with a 95.35% response rate. We used a hierarchical multivariate linear regression to determine the proportion of unique variance in Psychosocial Support attributable to differences in Expectation Congruency, Interaction time, and covariates identified through a review of literature. Researchers concluded differences in Expectation Congruency and Perceived Similarity each explained a large (d >1.0) proportion of variance in Support received by beginning teachers in the Acceptance, Counseling, Friendship, and Role Model functions. Variation in interaction time did not explain significant proportions of variance in support received for any psychosocial support constructs.

Keywords: Mentor; Mentoring; Psychosocial Support; Interaction; Expectation Congruency; Induction; Professional Development

Introduction/Review of Literature

Teaching is a difficult and complicated task. Although beginning teachers have many years of classroom experience as a learner, student experiences may provide limited support in novice teachers' transition into their role as teacher (Darling-Hammond & Bransford, 2005). Beginning agriculture teachers face issues of isolation and often feel overwhelmed and underprepared to handle their assigned duties (Greiman, Walker, & Birkenholz, 2005; Mundt & Connors, 1999). Beginning agriculture teachers must also fulfill additional roles beyond the classroom instructor, including the management of laboratories, student leadership organizations, and cooperative work programs (Joerger, 2003; Torres, Lawver, & Lambert, 2009). Two-thirds of beginning agriculture teachers in Missouri work in excess of 56 hours/week; these teachers felt tensions about how they actually spend their time as compared to how they would like to spend their time (Lambert, Ball, & Tummons, 2011; Torres, Lambert, & Tummons, 2012). Further, Missouri agriculture teachers reported stress levels higher than normative manager data from excessive paperwork, working overtime, meeting deadlines, frequent interruptions, insufficient personal time, and critical on the spot decisions (Torres et al., 2009). Beginning teachers who cannot cope with the demands of their

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job viewed themselves as ineffective and were overwhelmed with the responsibilities placed upon them (Bennett, Iverson, Rohs, Langone, & Edwards, 2002; Johnson & Birkeland, 2003). Ten percent of beginning teachers in 2007-2008 did not teach past the first year; over one-half of beginning teachers left the profession after year five (Kaiser, 2011; NCTAF, 2003). These findings underscore the concerns the agricultural education profession should have in regard to attrition.

In response to these concerns, educational leaders have widely implemented induction/ mentoring programs to support beginning teachers as they transition into the classroom. Smith and Ingersoll (2004) reported 83% of public school teachers received some form of induction assistance in their transition from student to professional educator; ninety-three percent of beginning agriculture teachers in Missouri reported having a formal mentor (Greiman et al., 2005). Although most beginning teachers receive support, there is much variation in how induction programs are administered, including differences in duration, components, scope, populations, intensity, and support/sponsorship (Ingersoll & Strong, 2011; Nasser-Abu Alhija & Fresko, 2010; Wayne, Youngs, & Fleischman, 2005; Wong, 2005). Seventy-two percent of AAAE-affiliated teacher preparation programs assist with beginning teacher induction programs; more than one-half of these institutions conduct workshops (72.7%), on site-visits (58.2%), and offer specific coursework (56.4%) for new agriculture teachers (Franklin & Miolina, 2012). In a meta-analysis of teacher mentoring programs, Hobson, Ashby, Malderez, and Tomlinson (2009) proposed contextual factors such as program design, mentor selection and pairing, mentor preparation and support, and the school culture played could influence the perceived purposes of induction and subsequent behaviors and strategies implemented to achieve these goals.

Nearly all induction programs included a formal mentoring component (Ingersoll & Smith, 2004; Wong, 2004), and mentoring is often the most prominent characteristic of induction programs (Fideler & Haselkorn, 1999; Horn, Sterling, & Subhan, 2002). The mentor is often the face of the induction program and is responsible to deliver the school's induction policy to the beginning teacher (Carver & Feiman-Nemser, 2009). Although the most common goal of teacher mentoring is to retain teachers in the profession, other purposes can include teacher assessment, or, perhaps weeding out, teachers who are not suited to the job (Ingersoll & Kralik, 2004; Ingersoll & Smith, 2004). Beginning Oklahoma agriculture teachers participating in a state-mandated induction program reported their mentor teacher provided the greatest amount of support; however, some beginning teachers viewed the purpose of the induction program to be evaluative, rather than supportive (Peiter, Terry, & Cartmell, 2005).

Theoretical Framework

Fletcher and Ragins (2007) suggested mentoring is best understood by examining the micro-level, growth-fostering interactions, or episodes, between mentor and protégé. The perceived quality of the mentoring relationship is based on the quality of the individual mentoring exchanges, or episodes, within the relationship. After a mentoring episode, both mentors and protégés evaluate the exchange against the predetermined role expectations held by both parties for the other person in the relationship (see Figure 1). Individual episodes which support initial relationship expectations lead to positive evaluations of mentoring episodes, whereas exchanges which do not meet expectations will decrease perceived relationship quality (Murphy & Freiheit, 2013; Ogilvie & Ashmore, 1991; Ragins & Verbos, 2007). A work relationship becomes a meaningful mentoring relationship when the number of positive episodes reaches a "tipping point" of development (Fletcher & Ragins, 2007).

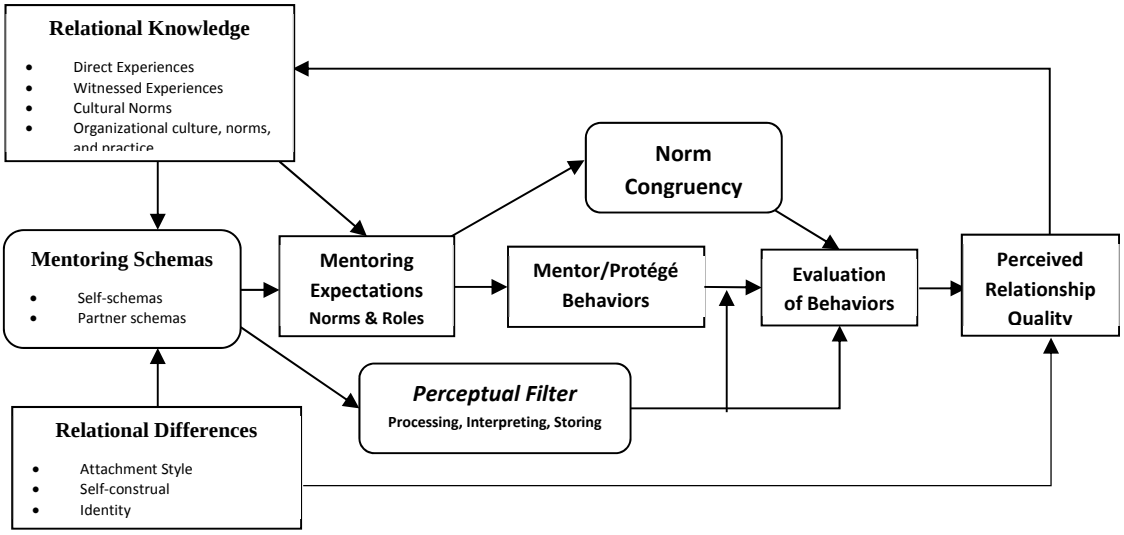

Figure 1. Mentor Schema Theory (Ragins & Verbos, 2007)

An individual's expectations for mentoring are driven by his or her mentoring schema. Mentors and protégés may differ in expectations of support needed and subsequent role behaviors (Smith, Howard, & Harrington, 2005; Young & Perrewe, 2000). Further, beginning teachers may enter formal mentoring programs with inflated or unrealistic expectations for mentor and program support; unmet expectations are a common issue among beginning teachers participating in teacher mentor programs (Blake-Beard, 2001; Eby & Lockwood, 2005). Conversely, mentors and protégés who share similar, or congruent, expectations for mentoring relationships described increased relational self-value and relationship quality; mentoring expectation congruency was significantly and positively related to feelings of interpersonal comfort and perceived similarity in a population of formal and informal mentors (Murphy & Freiheit, 2013). Young and Perrewé (2004) reported a significant relationship between protégés' general expectations for career and psychosocial mentor support and reports of the corresponding support received.

The structure of formal mentoring programs may restrict the formation of high-quality mentoring connections between mentor and protégé (Baugh & Fagenson-Eland, 2007). Early meetings between formal mentor and protégé are often marked with feelings of awkwardness, anxiety, tentativeness, and feelings of skepticism for both mentors and protégés and have been referred to as similar to "blind dates" (Blake-Beard, O'Neill, & McGowan, 2007). Unsatisfied with their formal mentors, young teachers may seek informal mentoring relationships within their school to provide complementary support not received from their formal mentors (Desimone et al., 2014). In response to these concerns, mentor program administrators have enacted policies to imitate the relationship development found in naturally-occurring informal mentoring relationships (Ragins, Cotton, & Miller, 2000). Although it is clear good mentoring is important to support beginning teachers, what is less conceptually clear is what "good" mentoring looks like (Feiman-Nemser, Schwille, Carver, & Yusko, 1999). The broad implementation of mentoring programs has created confusion about the definition of mentoring and expectations for what mentors can provide a beginning teacher (Mertz, 2004). Mentoring is complex; each mentoring relationship is a unique partnership between mentor and protégé (Fletcher & Ragins, 2007). Despite the intentions of formal mentor program administrators, the assignment of a mentor to a beginning teacher does not necessarily guarantee mentoring will occur (Wang & Fulton, 2012).

Mentoring relationships vary along a continuum of quality; the ability for a mentor to provide support functions is contingent on the quality of the mentor/protégé relationship (Ragins

et al., 2000). A recent study (Murphy & Freiheit, 2013) suggests congruent mentoring expectations can significantly predict relationship quality for formal and informal mentoring relationships. A gap in the literature exists in what role congruent expectations and mentoring interactions play in formal beginning teacher mentoring programs, specifically regarding the psychosocial support received by beginning teachers.

Purpose/Research

Questions/Hypotheses

The purpose of this study was to explain the relationship among mentoring Expectation Congruency, Scope of Interaction, and Psychosocial Support received by beginning agriculture teachers participating in a state-supported formal mentoring program. This inquiry aligns with the AAAE National Research Agenda priority six in describing "what are the appropriate models for engaging volunteers in the delivery of educational programs in agricultural and natural resources" (Graham, Arnold, & Jayaratne, p.51). The following serve as specific research questions to reach this purpose:

To what extent did beginning agriculture teachers and their formal mentors share congruent expectations for the relationship?

1. What was the frequency and scope of formal mentoring activities in the formal mentoring relationship as reported by beginning agriculture teachers?
2. To what extent did beginning agriculture teachers receive support in the psychosocial (Acceptance, Counseling, Friendship, Role Modeling, and Social) mentor functions?
3. To what extent did Expectation Congruency and Interaction predict variation in beginning agriculture teacher perceptions of psychosocial support received?

Ho_1: Variations in Expectation Congruency and Interaction will not explain a significant ($p > .05$) proportion of variance in each of the Psychosocial Support functions received by beginning agriculture teachers from their in-subject assigned mentor.

Ha_1: Variations in expectation congruency and interaction will explain a significant ($p < .05$) and unique proportion of variance in each of the Psychosocial Support constructs.

Methods

This study employed descriptive and causal-comparative research methods to address questions about the mentoring experiences of beginning secondary agriculture teachers with their formal agriculture mentors. The target population for this study was beginning secondary agriculture teachers participating in the Missouri Agriculture Teacher Induction and Mentoring Program. The accessible population consisted of all Missouri agriculture teachers completing their first year of teaching in 2012-2013 (n =33) or 2013-2014 (n = 53). The author determined the beginning agriculture teachers were a time and place sample of the population (Oliver & Hinkle, 1982); the use of inferential statistics was justified, as the beginning teacher population could be considered representative of future populations of beginning agriculture teachers in Missouri.

The investigator used components of five instruments to measure both the variables of interest and other potential predictors of mentor support, as identified in the review of literature. These instruments were assembled into one questionnaire. Each instrument was assumed to be reliable, as all reliability estimates (α) exceed the minimum .70 threshold suggested by Nunnally (1978). The first instrument used was the Mentoring Expectations Congruency Scale (MECS) developed by Murphy and Freiheit (2013). This instrument sought to examine to what extent beginning teachers perceived their expectations for the mentoring relationship were similar to their

mentor, using a 7-point Likert-type scale, with anchors of 1= *strongly disagree* to 7 = *strongly agree* and a reported reliability estimate of α =.92. The second instrument utilized was the Mentor Relationship Questionnaire (MRQ), designed to assess mentor psychosocial support from the perspectives of the beginning teacher (Greiman, 2003). Beginning teachers responded to 15 items using a 7-point Likert-type scale, anchored as 1 = *not at all*, 3 = *some extent,* 5 = *large extent,* and 7 = *very large extent*. The third instrument utilized was the Turban, Dougherty, and Lee (2002) Perceived Similarity instrument. The purpose of this instrument was to estimate the perceived similarity protégés experienced to their mentor. The five-question instrument had a reported reliability estimate of α= .87. The fourth instrument utilized was Allen, Eby, and Lentz's (2006) Program Understanding instrument. Participants responded to four questions concerning their understanding of the mentoring program using a 5-point Likert-type scale, with a reliability estimate reported at α=.82. The fifth instrument was the Seibert, Crant, and Kraimer (1999) Proactive Personality Scale. The ten-question instrument utilized a 7-point Likert-type scale and a reported reliability of α= .86. Information was collected regarding frequency and scope of mentor meetings per week, gender composition of their mentoring dyad, and certification type. Same-race dyad, match input, and training differences were also identified in literature as potential covariates; however, no variation among beginning teachers and mentors in these variables was identified so they were excluded from the current study. A panel of experts reviewed the hard copy of the questionnaire and provided the author input on the content and face validity of the paper instrument.

Participant data were collected using procedures outlined in Dillman, Smyth, and Christian's (2009) Type III mixed-mode survey method. Using a paper and pencil instrument, the author collected 64 usable responses from first-year and second-year agriculture teachers who attended the required statewide meeting in January 2014. Following the statewide meeting, the investigator distributed an identical electronic questionnaire to all non-respondents, guided by Dillman et al. (2009) web survey implementation protocol. An additional 18 usable responses were received, yielding a total response rate of 95.35% (n = 82). This response rate exceeded the 85% response rate suggested by Linder, Murphy, and Briers (2001) for non-response concern; therefore, the author conducted no additional procedures for control of non-response error.

All research questions were answered from the perspective of the beginning agriculture teacher. Researchers calculated mean, median, mode, variance, and standard deviation to address research questions one, two, and three. For research question four, the author identified Expectation Congruency and Interaction Scope as the two independent variables of interest and the five psychosocial mentor functions received as the dependent variables. The researcher utilized a hierarchal multivariate regression to explain what unique variance in psychosocial support received could be attributed to differences in Expectation Congruency and Interaction. Based on teacher mentoring research (Hobson et al., 2009) suggesting contextual factors could influence mentoring received, the author identified eight potential predictors of psychosocial support specific to protégé and dyad characteristics from previous research [same-sex dyad (Allen & Eby, 2003), perceived similarity (Burris, Kitchel, Greiman, & Torres, 2006), certification type (Roberts & Dyer, 2004), (Allen et al., 2006), proactivity (Wanberg, Kammeyer-Mueller, & Marchese, 2006), same-race dyad (Ragins, 1997), orientation, program understanding, and match input (Allen et al., 2006)]. Among these predictors, five factors (same-sex dyad, perceived similarity, certification type, program understanding, and proactivity) were identified as covariates or rival explanations and were entered into the first hierarchical regression block. After the researcher accounted for potential covariates, the independent variables were entered simultaneously into a second regression block, since no literature was found supporting the influence of one independent variable over the other (Field, 2009). Researchers tested and found the nine required assumptions for inferring conclusions to a population as tenable (Field, 2009). For research question four, the investigator calculated and reported the unstandardized beta coefficient *(B)* and accompanying standard error, the adjusted coefficient of determination (R^2), t-value, significance (p), and effect size (d) for all covariates in

step one (Model 1) and covariates and independent variables in step two (Model 2) of the regression model. The author calculated and reported the R^2 change (ΔR^2) and the *F* statistic for both Model 1 and Model 2, in addition to the *F change* (ΔF) statistic from adding the independent variables to the regression model.

Findings

Research question one sought to determine to what extent beginning agriculture teachers perceived they held congruent expectations for the relationship with their mentor. On a scale from 1 = *strongly disagree* to 7 = *strongly agree,* beginning teachers *moderately agreed* (*M* = 5.72, *SD* = 1.59, *Range* 1.00-7.00) they shared congruent expectations with their mentors about the roles, functions, and outcomes of the mentoring relationship (see Table 1).

Table 1

Descriptive Summary of Congruency and Psychosocial Measures by Beginning Agriculture Teachers (n = 82)

Variable	*M*	*SD*	Range
Congruency	5.72	1.59	1-7
Number of Interactions	1.65	2.51	0-15
Hours Per Week Interacted	1.44	1.73	0-10
Psychosocial Support Construct			
Friendship	5.55	1.67	1-7
Acceptance	5.54	1.38	1.33-7
Counseling	5.48	1.61	1-7
Role Model	5.21	1.66	1-7
Social	4.29	1.97	1-7

Note. Scale for psychosocial constructs was 1 = *not at all*, 3 = *some extent*, 5 = *large extent*, 7 = *very large extent.*

Research question two queried the frequency and scope of formal mentoring activities in the formal mentoring relationship as reported by beginning agriculture teachers. Beginning teachers reported they interacted with their formal mentors an average of 1.65 times per week (*SD* = 2.51), with a range of 0-15 developmental interactions each week. Beginning agriculture teachers reported they interacted with their mentor an average of 1.44 hours each week (*SD* = 1.73), with a range of 0-10 hours each week.

Research question three examined to what extent beginning agriculture teachers received support in the psychosocial (Acceptance, Counseling, Friendship, Role Modeling, and Social) mentor functions. Beginning teachers reported they felt supported to a *large extent* (*M* = 5.55, *SD* = 1.67) in the Friendship and Acceptance (*M* = 5.54, *SD* = 1.38) psychosocial functions. Additionally, beginning teachers reported they were supported to a *large extent* in the Counseling (*M* = 5.48, *SD* = 1.61) and Role Model (*M* = 5.21, *SD* = 1.66) functions. Beginning agriculture teachers felt supported to *some extent* (*M* = 4.29, *SD* = 1.97) by their assigned mentors in the Social psychosocial mentoring function (See Table 1).

For research question four, researchers tested the null hypothesis, which stated variations in Expectation Congruency and Interaction did not explain a significant ($p > .05$) proportion of

variance in each of the psychosocial support functions received by beginning agriculture teachers. The investigator regressed Social Support against potential covariates in Model 1 (see Table 2). The covariate regression model was significant, $F = 21.61(5,76, p < .05)$, as the contribution of Same-Sex Dyad, Perceived Similarity, Certification Type, Program Understanding, and Proactivity explained a significant (adjusted $R^2 = .56$) proportion of the variance in Social support received. Among the covariates, only Perceived Similarity had a *large* (Cohen, 1992) effect size ($d = 1.57$) in explaining variation in Social support. For Model 2, Expectation Congruency and Interaction were added as independent variables into a second regression block. Model 2 was also significant, $F = 15.59$ (7, 74, $p < .05$), whereas Expectation Congruency, Interaction, and covariates explained a significant (adjusted $R^2 = .56$) proportion of variance in Social support received. However, the addition of Expectation Congruency and Interaction added only one percent to the predictive capability of the regression, as compared to Model 1 ($\Delta R^2 = .01$). The author identified a non-significant change in $\Delta F = 0.82$ (2, 74, $p = .45$) between Model 1 and Model 2; researchers failed to reject the null hypothesis for Social support (See Table 2).

Table 2

Hierarchical Regression of Social Mentor Support Received on Interaction and Congruent Expectations (n = 82)

	Model 1			Model 2		
Variable	*B*	*SE B*	*d*	*B*	*SE B*	*d*
(Constant)	-2.35	1.56	0.34	-2.68	1.60	0.39
Same-Sex dyad [a]	-0.28	0.35	0.18	-0.26	0.36	0.17
Similarity	0.82*	0.12	1.57	0.71*	0.15	1.10
Program Understanding	0.45	0.24	0.43	0.33	0.26	0.30
Certification Type [b]	-0.09	0.42	0.05	-0.01	0.43	0.00
Proactivity	0.17	0.21	0.19	0.21	0.21	0.24
Congruent Expectations				0.18	0.15	0.28
Interaction (hours/week)				0.02	0.09	0.05
Adjusted R^2		0.56			0.56	
R^2 Change		0.59			0.01	
F		21.61*(5,76)			15.59* (7, 74)	

Note. [a] coded as 1 = *same sex dyad* and 2 = *different sex dyad*. [b] coded as 1 = *traditional certification* and 2 = *certification other than traditional* * = $p < .05$

For Counseling Support, the covariate model was significant, $F = 32.67(5, 76, p < .05)$. The variation in Same-Sex Dyad, Perceived Similarity, Certification Type, Program Understanding, and Proactivity explained a significant (adjusted $R^2 = .66$) proportion of variance in Counseling support received by beginning teachers (see Table 3). Perceived Similarity was the only covariate to have a *large* (Cohen, 1992) effect size ($d = 1.97$) for predicting variation in Counseling function. Regression Model 2, which included the independent variables of interest with the covariates, was also significant, $F = 37.85$ (7, 74, $p < .05$, adjusted $R^2 = .76$) for the Counseling function. The addition of the Congruent Expectations and Interaction explained an additional 10% of variance ($\Delta R^2 = .10$) in Counseling support received. The author identified a

significant $\Delta F = 16.82(2,74, p < .001)$ difference between Models 1 and 2; therefore, the researcher rejected the null hypothesis in favor of the alternative hypothesis, which stated Expectation Congruency and Interaction accounted for a significant ($p < .05$) proportion of variance in the Counseling function, when controlling for known covariates.

Table 3

Hierarchical Regression of Counseling Mentor Support Received on Interaction and Congruent Expectations (n = 82)

	Model 1			Model 2		
Variable	*B*	*SE B*	*d*	*B*	*SE B*	*d*
(Constant)	0.98	1.12	0.20	0.07	0.96	0.02
Same-Sex dyad [a]	-0.09	0.25	0.08	-0.04	0.21	0.04
Similarity	0.74*	0.09	1.97	0.44*	0.90	1.15
Program Understanding	0.45*	0.17	0.61	0.23	0.15	0.34
Certification Type [b]	-0.05	0.30	0.03	0.13	0.26	0.12
Proactivity	-0.18	0.15	0.28	-0.10	0.13	0.18
Congruent Expectations				0.50*	0.09	1.34
Interaction (hours/week)				-0.08	0.06	0.31
Adjusted R^2		0.66			0.76	
R^2 Change		0.68			0.10	
F		32.67*(5,76)			37.85*(7,74)	

Note. [a] coded as 1 = *same sex dyad* and 2 = *different sex dyad*. [b] coded as 1 = *traditional certification* and 2 = *certification other than traditional* * = $p < .05$

For Friendship, the covariate regression model explained a significant, $F = 32.72(5, 76, p < .05)$, (adjusted $R^2 = .66$) proportion of variance in support received. Again, Perceived Similarity ($d = 2.11$) was the only covariate to explain a *large* (Cohen, 1992) proportion of variance in the Friendship function (see Table 4). The addition of Expectation Congruency and Interaction to the covariates in Model 2 for Friendship also yielded a significant, $F = 35.22$ (7, 74, $p < .05$) regression model. The addition of Expectation Congruency and Interaction explained an additional nine percent of variance ($\Delta R^2 = 0.09$) and significant $\Delta F = 13.83(2, 74, p < .001)$ as compared to Model 1. The investigator rejected null hypothesis one for the Friendship function in favor of the alternative hypothesis, which stated Expectation Congruency and Interaction accounted for a significant ($p < .05$) proportion of variance in the Friendship function, even when controlling for known covariates.

Table 4

Hierarchical Regression of Friendship Mentor Support Received on Interaction and Congruent Expectations (n = 82)

	Model 1			Model 2		
Variable	*B*	*SE B*	*d*	*B*	*SE B*	*d*
(Constant)	0.65	1.16	0.13	-0.35	1.02	0.08
Same-Sex dyad [a]	0.14	0.26	0.12	0.20	0.23	0.20
Similarity	0.82*	0.09	2.11	0.53*	0.10	1.29
Program Understanding	0.35*	0.17	0.46	0.12	0.16	0.16
Certification Type [b]	0.06	0.31	0.05	0.24	0.27	0.21
Proactivity	-0.18	0.15	0.27	-0.10	0.14	0.17
Congruent Expectations				0.49*	0.93	1.22
Interaction (hours/week)				-0.48	0.60	0.18
Adjusted R^2		0.66			0.74	
R^2 Change		0.68			0.09	
F		32.72*(5,76)			35.22*(7,74)	

Note. [a] coded as 1 = *same sex dyad* and 2 = *different sex dyad*. [b] coded as 1 = *traditional certification* and 2 = *certification other than traditional* * = $p < .05$

For Role Model support, the overall covariate model was significant, $F = 33.92(5, 76, p < .05)$, as Model 1 explained 67% (adjusted $R^2 = .67$) of the variance in Role Modeling support (see Table 5). Among the covariates, only Perceived Similarity ($d = 2.16$) explained a *large* (Cohen, 1992) proportion of variance. Expectation Congruency and Interaction in Model 2 also yielded a significant, $F = 37.90$ (7, 74, $p < .05$) regression model. Model 2 also explained a significant (adjusted $R^2 = 0.76$) proportion of the variance in Role Model support and was significantly, $\Delta F = 15.50(2, 74, p < .001)$, more accurate in predicting support than Model 1 ($\Delta R^2 = 0.09$). The author rejected the null hypothesis for Role Model function in favor of the alternative hypothesis, which stated Expectation Congruency and Interaction accounted for a significant ($p < .05$) proportion of variance in Role Model support received, when controlling for known covariates.

Table 5

Hierarchical Regression of Role Model Mentor Support Received on Interaction and Congruent Expectations (n = 82)

	Model 1			Model 2		
Variable	*B*	*SE B*	*d*	*B*	*SE B*	*d*
(Constant)	-0.06	1.14	0.01	-1.11	0.99	0.26
Same-Sex dyad [a]	0.12	0.26	0.11	0.18	0.22	0.19
Similarity	0.82*	0.09	2.16	0.54*	0.09	1.36
Program Understanding	0.33	0.17	0.44	0.13	0.16	0.19
Certification Type [b]	0.12	0.31	0.09	0.28	0.26	0.07
Proactivity	-0.11	0.15	0.17	-0.04	0.13	0.06
Congruent Expectations				0.49*	0.09	1.28
Interaction (hours/week)				-0.10	0.06	0.40
Adjusted R^2		0.67			0.76	
R^2 Change		0.69			0.09	
F		33.92*(5,76)			37.90*(7,84)	

Note. [a] coded as 1 = *same sex dyad* and 2 = *different sex dyad*. [b] coded as 1 = *traditional certification* and 2 = *certification other than traditional* * = $p < .05$

Researchers regressed the Acceptance support construct against potential covariates in Model 1 (see Table 6). The covariate model was significant, $F = 32.98(5,76, p <. 05)$, as systematic variation in Same-Sex Dyad, Perceived Similarity, Certification Type, Program Understanding, and Proactivity explained sixty-six percent (adjusted $R^2 = .66$) of the variance in the beginning teacher Acceptance function. As with the other support constructs, Perceived Similarity ($d = 2.08$) explained a *large* (Cohen, 1992) proportion of variance in the covariate model. The full regression model, Model 2, was also significant, $F = 32.29$ (7, 74, $p < .05$), whereas the contribution of Expectation Congruency, Scope of Interaction, and covariates explained a significant (adjusted $R^2 = 0.73$) proportion of the variance in the Acceptance function. The addition of Expectation Congruency and Interaction explained an additional seven percent of variance in the acceptance function of mentors ($\Delta R^2 = 0.07$) and accounted for a significant change in the predictive capability of the regression model, $\Delta F = 10.33(2, 74, p < .001)$ as compared to Model 1. Therefore, the author rejected null hypothesis one for the acceptance function in favor of the alternative hypothesis, which stated Expectation Congruency and Interaction accounted for a significant ($p < .05$) proportion of variance in the Acceptance function when controlling for known covariates.

Table 6

Hierarchical Regression of Acceptance Mentor Support Received on Interaction and Congruent Expectations (n = 82)

	Model 1			Model 2		
Variable	*B*	*SE B*	*d*	*B*	*SE B*	*d*
(Constant)	0.99	0.95	0.24	0.31	0.87	0.08
Same-Sex dyad [a]	-0.05	0.22	-0.06	-0.01	0.19	-0.02
Similarity	0.66*	0.07	2.08	0.44*	0.08	1.27
Program Understanding	0.25	0.14	0.40	0.05	0.14	0.08
Certification Type [b]	-0.16	0.26	-0.14	-0.01	0.23	-0.01
Proactivity	0.06	0.13	0.10	0.13	0.12	0.26
Congruent Expectations				0.35*	0.08	1.03
Interaction (hours/week)				0.02	0.05	0.09
Adjusted R^2		0.66			0.73	
R^2 Change		0.69			0.07	
F		32.98*(5,76)			32.29*(7,74)	

Note. [a] coded as 1 = *same sex dyad* and 2 = *different sex dyad*. [b] coded as 1 = *traditional certification* and 2 = *certification other than traditional* * = $p < .05$

Conclusions/Implications/Recommendations

For beginning teachers participating in this mentor/induction program, differences in Perceived Similarity and Expectation Congruency have both statistical and practical significance in predicting mentor support received in the Counseling, Friendship, Role Model, and Acceptance mentor support functions, even when accounting for potential covariates.

Among the independent variables included in this study, Perceived Similarity was the best predictor of mentor psychosocial support received by beginning agriculture teachers; Perceived Similarity explained a *large* proportion of variance in psychosocial support received across all five support constructs. These findings support previous research in agricultural education by Greiman (2003), Kitchel (2005), and Burris et al. (2006) who described a *very strong* positive correlation between Perceived Similarity and mentoring relationship satisfaction among student teachers, beginning teachers, and their mentors. Jones, Kelsey, and Brown (2014) describe shared personality dispositions between mentor and protégé as the foundation of agriculture teacher mentoring.

Perceived similarity in attitudes, beliefs, values, and personality between mentors and protégés is the primary antecedent for mentor relationship development across a variety of mentoring contexts (Eby et al., 2013). However, Mitchell, Eby, and Ragins (2015) suggest the Perceived Similarity construct may function independently from actual similarity between mentor and protégé. So what factors could explain feelings of Perceived Similarity? Among agricultural student teachers, Kitchel and Torres (2006) found no association between personality type and mentoring received. Do beginning agriculture teachers from non-traditional backgrounds experience feelings of Perceived Similarity with their mentors? If so, how? Is Perceived Similarity a dynamic construct which can be manipulated? Researchers recommend state staff consider

Perceived Similarity as a primary criterion when matching mentors and beginning teachers. We recommend mentor program facilitators teach mentors the importance of Perceived Similarity in the mentoring relationship and provide adequate time at the beginning of the relationship to foster feelings of similarity. Future research should investigate factors that contribute to feelings of Perceived Similarity for beginning agriculture teachers.

Expectation Congruency is a unique and important predictor of mentor support received by beginning teachers in the Counseling, Friendship, Role Model, and Acceptance functions. For beginning agriculture teachers participating in the Missouri formal mentoring program, increased levels of Expectation Congruency, on average, should lead to higher levels of Counseling, Friendship, Role Model, and Acceptance support received. Researchers conclude differences in Expectation Congruency do not explain a significant proportion of variance in the Social support function. Within the psychosocial constructs where beginning teachers felt supported to a *large* extent, these findings support Mentor Schema Theory (Ragins & Verbos, 2007), as differences in mentoring support were predicted to a *large* extent by variations in Expectation Congruency.

Beginning teachers, on average, *moderately agreed* they shared congruent expectations with their mentors. Murphy and Freiheit (2013) theorized receipt of training was significantly predictive of expectation congruency; mentors who receive high-quality training reported significantly higher levels of commitment and program understanding (Allen et al., 2006). All mentors and protégés in this sample received identical training at the start of the experience, which could explain the high level of congruency, but raises questions about why responses varied along the entire range of the instrument. Teacher educators should prepare preservice teachers for mentoring by addressing the potential for unrealistic expectations and providing strategies for beginning teachers to align expectations with their mentor. A recommendation for school administrators would be to emphasize the importance for mentors and beginning teachers to generate shared mentoring goals and outcomes, particularly in the beginning stages of the relationship (Dansereau Jr., Graen, & Haga, 1975; Young & Perrewé, 2004). The authors also recommend administrators prioritize practices, which can facilitate congruent expectations among beginning teachers and their assigned mentor. Researchers recommend future investigation on which factors explain differences in mentoring expectations of beginning agriculture teachers. Future research should also examine how and which training practices and induction assignments can best facilitate congruent expectations. Future research should also test remaining components of the Mentor Schema Theory model for teacher mentoring programs.

Researchers conclude beginning teachers, on average, feel supported to a *large extent* in the psychosocial constructs of Friendship, Acceptance, Counseling, and Role Model functions. These four functions are the original psychosocial support constructs initially identified by Kram (1985). Beginning teachers, on average, feel supported to *some extent* by their mentor teachers in the Social function; the Social function was added as a psychosocial mentoring function at a later date by Ragins and McFarlin (1990). The results of this study are consistent with Greiman's (2003) findings regarding beginning agriculture teachers and their mentors, and his assertion mentors from a different school may not be able to provide Social functions (i.e. "socializing with you one-on-one outside of work") at the same level as the other psychosocial support functions. Perhaps beginning teachers don't expect Social support from their assigned mentor? Perhaps the mentoring environment does not support that type of psychosocial support. Since the Social construct was later added to the Kram (1985) model, it is recommended to investigate the necessity of this construct for the agriculture teacher construct.

The average beginning teacher spends a small part of their work week interacting their formally assigned mentor. Torres et al. (2012) reported two-thirds of beginning agriculture teachers were working in excess of 55 hours each week, yet today's beginning agriculture teacher reports interacting with their mentor an average of 1.44 hours each week. Although today's mentors are

interacting with beginning teachers, on average, almost two hours less per week today than in the 2001-2002 cohort group, today's beginning teachers are reporting similar levels of mentor support as those from 10 years previous. This could imply today's mentors are more efficient with their mentoring time when interacting with beginning teachers. Another potential implication is technology has enhanced a mentor's ability to meet the needs of the beginning teacher. Do beginning teachers in the current study could have different expectations for support as compared to those in the 2001-2002 cohort group? Future research should investigate the variation in content and format of mentor/protégé interactions.

Differences in Interaction time between mentors and beginning teachers had limited capability in predicting psychosocial support received. Interaction was chosen as a variable of interest based on previous research (Greiman, 2003) where agriculture teacher mentors and protégés stated a lack of time to meet, mentor, and observe were the biggest barriers to mentoring. Although lack of time was not directly addressed, an implication of this study is increased interaction time does not necessarily lead to increased mentor support. Other mentoring research (Allen, 2007; Allen & Eby, 2003; Lankau, Riordan, & Thomas, 2005) suggested interaction frequency is not related to reports of psychosocial mentoring support. Ragins' and Verbos' (2007) Mentor Schema Theory (Ragins & Verbos, 2007) suggests mentoring happens in small, developmental interactions; however, these findings indicate the quality, not necessarily the quantity, of mentoring interactions are important for mentor support. Further research should examine how mentors interact with beginning teachers and if variation in time explains variation in career support functions.

The variables of Same-sex dyad, Certification type, and Proactivity have limited ability to predict variations in psychosocial support received by agriculture teacher protégés. The previous research on matching dyads by sex (Allen & Eby, 2003; Scandura & Williams, 2001; Wanberg et al., 2006) is inconclusive; this study supports the notion same-sex pairing explains little variation in mentoring outcomes. Previous researchers in Agricultural Education (Duncan & Ricketts, 2008; Roberts & Dyer, 2004) suggest traditional and alternatively certified teachers differ in their professional support needs. These findings were not supported by this study, although the author concedes it is possible traditionally and alternatively certified teachers differ in professional support needs beyond the factors included in this study. One study of formal mentoring programs (Wanberg et al., 2006) suggested protégé proactivity was related to increased psychosocial mentoring. However, this study does not support the notion proactivity is either positively or strongly predictive of psychosocial support received by beginning agriculture teachers.

The author concluded Program Understanding, that is, understanding of the mentoring program, has potential for explaining variation in psychosocial support received by beginning agriculture teachers, particularly in the Counseling and Friendship functions. In a study of formal mentors and protégés, Allen et al. (2006) found Program Understanding was significantly predictive of perceived Program Effectiveness for both mentors and protégé. The author concludes this study supports previous research, in Program Understanding does explain unique variance in support received; however, variation in Expectation Congruency and Interaction may mediate the unique predictive capability of Program Understanding for this population.

Although the researcher found no perfect multicollinearity among independent variables, the researcher notes multicollinearity may influence the regression equation, as the average VIF statistic exceeded the 1.0 threshold suggested by Bowerman and O'Connell (1990). We recommend program administrators consider Perceived Similarity as an important criterion when matching mentor dyads. Further, mentors should guide early mentoring interactions to help mentors and beginning teachers identify similarities and define the terms of the mentoring relationship. Future qualitative research could investigate the phenomenon of a beginning teacher experiencing an

induction program and compare experiences of traditionally and alternatively prepared agriculture teachers.

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