Research mentorship: Pretenured faculty and doctoral student productivity

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Abstract

Scholarly work is an integral part of the pretenured faculty experience and for students in counselor education doctoral programs. Yet, there is a dearth of current literature that has investigated the role-based needs of the combination of both doctoral students and pretenured faculty in relation to research productivity. This quantitative inquiry explored the group differences in the research mentoring experiences of pretenured faculty and doctoral students (n = 207). Descriptive statistics and a factorial MANOVA were implemented to ascertain the utilized mentor roles in the classification of research productivity. Results indicated statistical significance. Limitations, implications, and recommendations for future research were discussed.

Keywords

research mentorship, pretenured faculty, doctoral students, productivity

The mentoring relationship has been considered an influential component in counselor education and supervision (Borders et al., 2012) and involves the mentor and the protégé in a relationship which has the potential to be a positive and powerful influence in a graduate student's (Anekstein & Vereen, 2018b) or pretenured faculty member's (Briggs & Pehrsson, 2008) personal and professional development (Martina et al., 2014). Black et al. (2004) define protégés as graduate students or pretenured faculty and mentors as advanced faculty members and practicing professionals. This definition is based on Black et al.'s (2004) review of articles (n = 37) in counselor education and counseling journals. Additionally, the Association for Counselor Education and Supervision (ACES) formed the Committee for Research Mentorship and published a definition of mentors and protégés specific to research mentoring relationships and guidelines for implementation (Borders et al., 2012; Wester et al., 2009). However, Huwe and Johnson (2003) cautioned that as a protégé there may be a competitive nature to seeking out mentoring relationships due to the perception that the benefits may be extensive in relation to professional skill development, professional identity, networking, and scholarly productivity. The benefits of the supportive nature of the mentor and protégé relationship in the context of research and other needs such as finding meaningful role-based relationships within the counseling profession (Coaston, 2019) will potentially look differently. There is significant evidence to support the need for research mentoring experiences in counseling during doctoral level training (Anekstein & Vereen, 2018a; Anekstein & Vereen, 2018b; Borders et al., 2014; Lamar & Helm, 2017) and for pretenured faculty as they navigate the promotion and tenure process (Borders et al., 2012; Briggs & Pehrsson, 2008; Magnuson et al., 2009; Magnuson et al., 2006; Wester et al., 2009). However, there is a dearth of current literature that investigated the role-based needs of the combination of both doctoral students and pretenured faculty in relation

to research productivity. Since scholarly work is an integral part of the pretenured faculty experience and for students in doctoral programs, this quantitative study was designed to provide empirical support for the similarities of role-based research mentoring relationships of both populations that could potentially increase their level of research productivity.

Mentorship Roles

Ragins and McFarlin (1990) explored the similarities of the roles mentors utilize in the development of the Mentor Role Instrument (MRI). Ragins and McFarlin's study focused on the career also known as instructional and psychosocial otherwise known as relational aspects of the cross-gender mentoring relationship. The five career (instructional) dimensions in the measure represent the mentor's ability to sponsor, protect, challenge, coach, and promote (Dilmore et al., 2010; Ragins & Cotton, 1999; Ragins & McFarlin, 1990). This type of support by the mentor may consist of assisting the mentee with research design or providing feedback on writing. For example, specific to the promotor role, a mentor would provide opportunities for their mentee's exemplary writing to be examined by other influential professionals. The six psychosocial (relational) dimensions in the measure are specific to the mentors' engagement as a social associate, role model, friend, parent, counselor, and acceptor (Dilmore et al., 2010; Ragins & Cotton, 1999; Ragins & McFarlin, 1990). This type of support by the mentor may consist of providing emotional support and role modeling professional behaviors. Examples of items in the career (instructional) dimension of the MRI include "uses influence to support my advancement" and "brings my accomplishments to the attention of important people" (Dilmore et al., 2010; Ragins & Cotton, 1999; Ragins & McFarlin, 1990). Examples of items in the psychosocial (relational) dimension of the MRI are my mentor "is someone I can trust" and "represents who I want to be" (Dilmore et al., 2010; Ragins & Cotton, 1999; Ragins & McFarlin, 1990).

Dimitriadis et al. (2012) found that medical student's mentors were perceived to be functioning as a role model, in the counselor role, and as a provider of research ideas in their quantitative study (n = 534) exploring the characteristics of mentoring relationships formed by medical students and faculty. These findings are congruent with the career (instructional) and psychosocial (relational) dimensions previously discussed (Dilmore et al., 2010; Ragins & Cotton, 1999; Ragins & McFarlin, 1990). Casto et al. (2005) engaged in a conceptual dialogue of role-based mentoring relationships based on their personal mentorship experiences and further illuminated how and where the mentors functioned in multiple roles including role model, guide, teacher, counselor, and friend. Similar to the MRI a friend role will provide aspects of a friendship relationship while a power differential still exists within the relationship (Casto et al., 2005). It is important to recognize the presence of a power differential within all roles of the mentoring relationship to better understand and contextualize the nature and dynamics of this process.

Gender Based Mentorship

Maximizing effectiveness in the mentoring relationship can occur due to culturally based considerations such as gender (Rheineck & Roland, 2008). Clark and Watson (1998) reflected on the benefits of woman-to-woman research collaboration in their qualitative study (n = 8) utilizing open-ended questions to gain knowledge of the collaboration experience. Clark and Watson identified a feeling of emotional support within the relational dimension as an integral part of the participants' experiences. This support in the mentor and protégé relationship informed the practices of the instructional tasks such as the mentor conceptualizing and writing and the protégé reviewing the literature (Clark & Watson, 1998). Casto et al. (2005) discussed the benefits of woman-to-woman mentoring by describing their own experiences in the process

and recommended finding mentors outside the department if there is a scarcity of faculty women or culturally diverse women. Cannon et al.'s (2020) conceptual dialogue articulated the difficulties specific to women doctoral level students such as balancing multiple roles and gender stereotypes. They proposed a relational cultural theoretical lens for examining interpersonal dynamics to facilitate successful research mentoring relationships.

Paradoxically, the perceptions of cross-gender mentoring relationships asserted that male mentors are more likely to be able to introduce the mentee or protégé to influential people and would increase the amount of promotions for the female mentee or protégé (Casto et al., 2005; Ragins & Cotton, 1999). Also, Ragins and Cotton (1999) found in their quantitative study utilizing the MRI (n = 614) that the level of compensation the female mentees received associated with their promotions were not as high as their male counterparts. This discrepancy may be due to gender discrimination and the male mentors' inability to protect female mentees from biased compensation decisions (Ragins & Cotton, 1999). Additionally, Ragins and Cotton examined the cross-gender compensation disparity in relation to the psychosocial (relational) factors of the mentoring relationship and concluded that same-gender mentoring relationships of female to female and male to male were more effective in a formal mentoring capacity.

Research Mentorship

Similar to a formal mentoring relationship that utilizes the instructional and relational dimensions to provide support, research mentorship focuses on the facet of research productivity. The research mentorship expectations in the field of counselor education are highlighted in the definition by (Wester et al., 2009) the Association for Counselor Education and Supervision (ACES) research mentorship guidelines. Research mentorship is defined as a: structured, formal or informal relationship that provides relational and instrumental support which may focus on the

education, understanding, and potential collaboration around research, research process, research idea development, designs, program evaluation, and data analysis. The research mentorship may also include mentorship around the dissemination of research (e.g., publication, presentation) or information surrounding grants (e.g., seeking, writing) (p. 1). An ACES committee for research mentorship developed the guidelines to attend to a perceived need of increasing and enhancing the quality of research in the counseling profession (Wester et al., 2009). These guidelines promote relational factors such as support and understanding and instructional factors such as data analysis and the dissemination of research to influence a successful scholarly identity. Additionally, the areas of knowledge, competencies, and personal qualities are illustrated in these guidelines (Wester et al., 2009).

The personal qualities of research mentors are described by their abilities, knowledge, ethical integrity, and skills that have been gleaned through their experiences as a researcher and shown through the dissemination of their research agenda (Wester et al., 2009). Wester et al. (2009) clearly state that mentors should be aware of their limitations and utilize appropriate resources when necessary in the research mentoring relationship. Mentees or protégés are encouraged to be forthcoming with their research mentoring needs, such as author order, in the dissemination of scholarly work (Wester et al., 2009). A challenge of the mentee or protégé in adhering to these guidelines in relation to their research mentoring needs would be a lack of awareness and understanding of the contributing variables that have the potential to affect these relationships.

Magnuson et al. (2006) attempted to illuminate some awareness of these relationships in their phenomenological qualitative inquiry (n = 36) of third year assistant professors. The prominent theme mentorship illustrated the varying experiences of the participants learning their

specific research mentorship needs and the challenges faced in ascertaining that information. For example, one participant indicated significant dissatisfaction as a doctoral student in mentoring relationships due to professors not actively involving them in their research and writing agenda (Magnuson et al., 2006). Another participant reported an experience with a high level of satisfaction due to a senior colleague welcoming the new pretenured faculty member (Magnuson et al, 2006) and requesting their help with a current research article. Magnuson et al. (2009) expanded the scope of knowledge of the pretenured faculty experience as they moved through the tenure process (n = 22) in their qualitative study. Since the majority of the participants discussed mostly negative experiences, one important positive feature of academic satisfaction and success in navigating the tenure process was the relational aspect of supportive relationships with mentors. For example, one participant mentioned that a senior colleague that had offered to collaborate on scholarly work early in their career had been a source of continuous support in instructional and relational dimensions (Borders et al., 2012; Magnuson et al., 2009).

Briggs and Pehrsson (2008) in their quantitative study (n = 139) used the Research Mentor Quality Questionnaire (RMQQ), to explore the research mentoring experiences designed to support pretenured faculty in counselor education. The RMQQ consisted of yes/no questions and checklist items to ascertain if the guidance that was provided to pretenured faculty actually influenced their professional success (Briggs & Pehrsson, 2008). The level of research productivity or professional success was measured within instructional factors such as the ability to determine the appropriate research methodology and develop appropriate research questions and the relational factors of the mentor's ability to provide support to and nurturance to the mentee or protégé (Briggs & Pehrsson, 2008). Three-fourths of Briggs and Pehrsson's (2008)

total participants (n = 139) reported that research productivity was measured by publications, presentations, and grant writing.

Similarly, Anekstein and Vereen (2018a) in their quantitative study explored the research productivity in regard to role-based mentorship of doctoral students in counselor education (n = 131) as defined by publications, presentations, and grant writing. Ragins and McFarlin's (1990) Mentor Role Instrument (MRI) was utilized to investigate the mentor roles in the career (instructional) dimension and the psychosocial (relational) dimension engaged by the research mentor to support the mentee or protégé. Results indicated that the mentee or protégé experienced an increase in research productivity by mentors who emulated the sponsor role which addressed but is not limited to the mentors' organizational influence or job attainment. Interestingly, Lamar and Helm's (2017) qualitative inquiry on the researcher identity development of counselor education doctoral students (n = 8) showed that relational factors such as encouragement and nurturance were very important components in research mentoring relationships. The hands-on research experience that Borders et al. (2014) discussed in a qualitative study of faculty members (n = 38) in reference to their doctoral training and the intrinsic mentorship in the dissertation process (Okech et al., 2006) could be expanded to increase awareness and understanding of a mentee or protégé's research mentorship needs (Wester et al., 2009). Okech et al.'s (2006) quantitative inquiry of counselor education faculty (n = 167), upon reflection of their own doctoral level training, found that they felt unprepared to effectually meet the needs of mentees or protégé's in areas that were not accentuated in their doctoral studies. Anekstein and Vereen's (2018b) conceptual dialogue of research mentorship implications for counselor education doctoral students called for more research in reference to this particular population in alignment with the proactive stance of the counseling profession. A

formalized research mentorship program that included recommendations at the institutional level, department level, and for the individual doctoral student was delineated (Anekstein & Vereen, 2018b) which incorporated some evidence based research mentorship practices implemented for pretenured faculty.

Method

As awareness of the importance of research mentoring relationships has continued to increase in the counseling profession, this study endeavored to address the experiences of pretenured faculty and doctoral students in relation to productivity. The subsequent section will illustrate the methodology utilized to answer the following research questions:

Research Questions

RQ 1: What are the group differences in the classification of productivity of pretenured faculty and doctoral students?

RQ 1.A: What are the main effects for the research mentor role in the classification of productivity of pretenured faculty and doctoral students?

RQ 1.B: What are the main effects for gender in the classification of productivity of pretenured faculty and doctoral students?

RQ 1.C: What are the interaction effects for the research mentor role and gender in the classification of productivity of pretenured faculty and doctoral students?

Participants and Sampling Plan

The data collected for this research to measure research productivity were sampled from pretenured faculty and doctoral-level students' enrolled in counseling programs in the United States. Purposeful sampling was employed for the subject population of doctoral students and pretenured faculty in counseling programs. Doctoral level and masters level counseling

programs in the United States were identified for potential participants. Contact information was collected, specifically names, email addresses, and academic rank, for department chairs, faculty designees, and the pretenured faculty employed by the identified institutions.

Procedure

Once IRB approval was obtained, the department chairs, faculty designees, and individual pretenured faculty received an electronic correspondence that requested participation of the individual or a request to forward the information to their doctoral students. The electronic correspondence consisted of a cover letter outlining a description of the research study and a link to the web-based tool Survey Monkey. The link directed the potential participants to the electronic informed consent and the questionnaires. The department chairs and faculty designees were asked to forward the correspondence to their doctoral students and request that the students participate in the research study. In addition, the department chairs and faculty designees were asked to respond to the principal investigator and indicate whether or not the electronic correspondence has been forwarded to their doctoral students. Individual pretenured faculty were just sent the electronic correspondence and had no further contact with the principal investigator. Once the pretenured faculty members or doctoral students agreed to participate by electronically signing the informed consent, they were directed to complete Ragins and McFarlin's (1990) Mentor Role Instrument (MRI) and the demographic questionnaire (Ragins & Cotton, 1999). The expected time frame for completion of the participant data was approximately fifteen minutes.

The anonymous participant data was downloaded from the web-based tool Survey Monkey directly to the principal investigator's password protected computer. The Statistical Package for the Social Sciences (SPSS) version 24.0 was utilized to execute data analysis.

Frequency distributions were conducted on the demographic data provided by the participants through a demographic questionnaire. Since typical demographic information such as gender and region was collected from the questionnaire, the classification of research productivity as defined by publications, presentations, and grants was also compiled from this instrument to answer the primary and supplementary research question.

The primary research question explored the group differences in the classification of productivity of pretenured faculty and doctoral students utilizing a factorial Multivariate Analysis of Variance (MANOVA). Each research mentor role was identified as a primary role by the participants that had high scores on each of the corresponding items in Mentor Role Instrument (MRI) and by at least 10 participants selecting these role-based behaviors. In the analysis process, primary mentor roles were coded as a dichotomous variable to determine if the participants' research mentors were manifesting these roles. Through this coding, all statistically significant results determined that research mentors were emulating each of these roles and were indicated by the univariate analysis, mean, and standard error values. The relevant research mentor roles reflected directionality of the mean and standard error values as reported by "primary" and "N/A."

While the directionality of results is an important part of conducting a factorial MANOVA, there are also several assumptions that were met in the data analysis process (Tabachnick & Fidell, 2019). The first set of assumptions which included the independence of observations, adequate sample size, and missing data were met through the sampling plan. The second set of assumptions which included multivariate normality, linearity, and outliers were investigated though, skewness, kurtosis, outliers, scatterplots, histograms, and power analysis. The third set of assumptions which included homogeneity of co-variance matrices and the

absence of multicollinearity were evaluated by conducting correlation analyses among the dependent variables and by a thorough analysis of the standard deviations of each cell.

Instrumentation

The Mentor Role Instrument (MRI)

To ascertain the specific data analyzed though the factorial MANOVA and descriptive statistics regarding the research mentor roles, the MRI was implemented for this study. The MRI is comprised of 37 prompts, which discerns role-based behaviors a mentor will portray in the career (instructional) and psychosocial (relational) dimensions of the mentoring relationship. The five mentoring roles in the career (instructional) dimension subscale are determined by the mentors' ability to: sponsor, coach, protect, challenge, and promote and measured by 15 items total, which is three items for each role (Dilmore et al., 2010). The six mentoring roles in the psychosocial (relational) dimension subscale are determined by the mentors' engagement as: a friend, social associate, parent, role model, counselor, and acceptor and measured by 18 items total, which is three items for each role (Dilmore et al., 2010). Responses are elicited though a 7-point Likert scale ranging from "Strongly Disagree" to "Strongly Agree." All prompts start with "My mentor," and include sample prompts such as: "provides support and encouragement," "represents who I want to be," and "thinks highly of me" (Dilmore et al., 2010; Ragins & McFarlin, 1990).

The MRI was originally created to delineate the mentor roles utilized in cross-gender relationships (Ragins & McFarlin, 1990). The participants were sampled from employees of three research and development organizations in the southwestern United States (n = 510), which served as the norming population and approximately 35% (n = 181) of the respondents indicated a cross-gender mentoring relationship. Reliability coefficients for the mentor roles based on the

sampled participants' data (n = 181) ranged from .66 to .94. An additional four prompt satisfaction scale was added to the measure in Ragins and Cotton's (1999) study on the effects of gender composition on the mentoring relationship. The coefficient alpha level of the eleven mentor roles based on the sampled participants' data (n = 614) ranged from .63 to .91 and the satisfaction subscale prompts has a coefficient alpha level of .83 (Ragins & Cotton, 1999).

The Demographic Questionnaire

The classification of productivity that the research mentor emulated in the course of the study was measured by a demographic questionnaire as defined by publications, presentations, and grants. Each productivity variable had three designations such as publications were delineated as peer-reviewed articles, book or book chapters, and other publications. Presentations were differentiated by national, regional, and local presentations and grants were categorized by national, campus grants, and other grants. In addition, extraneous variables were integrated into the demographic questionnaire to control for as part of the statistical analysis (Tabachnick & Fidell, 2019). Measures of central tendency and frequency distributions were tabulated to contextualize the data of the sampled participants.

Results

Participant Descriptive Statistical Data

The initial sample consisted of 266 participants (n = 266) and after all of the participants with missing data were removed a final sample size of 207 participants (n = 207) was established. The ages of the participants' (n = 207) ranged from 24 years old to 71 years old with a median age of 42.5 years old and a mode of 30 years old. The majority of the participants identified gender as female (n = 154, 74.4%) and 25.6% (n = 53) of the participants identified gender as male. In addition, a significant majority of the participants classified their ethnic

identity as White (Non-Hispanic) (n = 155, 74.9%), affectional orientation as heterosexual (n = 178, 86.0 %), and relationship status as married (n = 116, 56.0%). About half of the participants were from the southern region (n = 115, 55.6%) and about 30% of the participants were from the midwestern region (n = 59, 28.5%). 196 (94.7%) of the participants were enrolled or working at programs accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP).

Nearly three quarters (75.8%) of the participants reported the academic rank of their research mentor as a tenured faculty member (n = 157) and more than half (n = 137, 66.2%) indicated that of their research mentors were counseling faculty members at their current institution. Similar to the participants' data, the majority of the research mentors (n = 161, 77.8%) were identified as White (Non-Hispanic) and yet the identified gender did not have as significant of a disparity between female (n = 117, 56.5 %) and male (n = 83, 40.1 %) research mentors.

Factorial MANOVA

The research mentor roles of sponsor, challenger, friend, social associate, and acceptor all yielded significant effects. All of the results are primarily associated with small effect sizes of less than .10. The multivariate and univariate analysis have been reported by the research mentor role to answer each supplementary research question and to illustrate the specific variables synonymous with significant effects.

Table 1. MANOVA results for Research Mentor Roles and Productivity (n = 207)

Source	Wilks Lambda	Omnibus F	df_1	df_2	p
Sponsor Role	.952	3.412	3	201	.018
Challenger Role	.936	4.588	3	201	.004
Friend Role	.915	6.244	3	201	<.001
Social Associate Role	.938	4.417	3	201	.005
Acceptor Role	.913	6.368	3	201	<.001

The multivariate data analysis revealed a significant effect of the sponsor role (Wilk's Lambda = .952, $F(3, 201)$ = 3.412, p = .018) on the total amount of research productivity specified as publications, presentations, and grants. In the follow-up univariate analysis, there was a significant effect of the sponsor role on the number of publications ($F(1, 203)$ = 6.880, p = .009, "primary" mean = 8.596(.489), "N/A" mean = 6.783(.488)). However, there was no significant effect of the sponsor role on the number of presentations ($F(1, 203)$ = .065, p = .799, "primary" mean = 13.905(.888), "N/A" mean = 13.585(.887)) and the number of grants ($F(1, 203)$ = .079, p = .779, "primary" mean = 5.303(.354), "N/A" mean = 5.443(.354)). In addition, multivariate analysis also determined that there was no significant effect of gender (Wilk's Lambda = .992, $F(3, 201)$ = .520, p = .669) on the total amount of research productivity. All results in this section are primarily associated with small effect sizes (less than .10).

The multivariate data analysis indicated a significant effect of the challenger role (Wilk's Lambda = .936, $F(3, 201)$ = 4.588, p = .004) on the total amount of research productivity specified as publications, presentations, and grants. In the follow-up univariate analysis, there was a significant effect of the challenger role on the number of grants ($F(1, 203)$ = 11.039, p = .001, "primary" mean = 4.604(.339), "N/A" mean = 6.203(.342)). However, there was no significant effect of the challenger role on the number of publications ($F(1, 203)$ = .069, p = .792, "primary" mean = 7.633(.499), "N/A" mean = 7.820(.504)) and the number of presentations ($F(1, 203)$ = 5.307, p = .022, "primary" mean = 12.395(.865), "N/A" mean = 15.226(.873)). In addition, multivariate analysis also determined that there was no significant effect of gender (Wilk's Lambda = .993, $F(3, 201)$ = .541, p = .717) on the total amount of research productivity.

The multivariate data analysis illuminated a significant effect of the friend role (Wilk's Lambda = .915, $F(3, 201) = 6.244$, p < .001) on the total amount of research productivity specified as publications, presentations, and grants. In the follow-up univariate analysis, there was a significant effect of the friend role on the number of publications ($F(1, 203) = 7.527$, p = .007, "primary" mean = 8.273(.407), "N/A" mean = 6.121(.671)). However, there was no significant effect of the friend role on the number of presentations ($F(1, 203) = .905$, p = .343, "primary" mean = 14.150(.729), "N/A" mean = 12.814(1.201)) and the number of grants ($F(1, 203) = 2.190$, p = .140, "primary" mean = 5.165(.290), "N/A" mean = 5.992(.478)). In addition, multivariate analysis also determined that there was no significant effect of gender (Wilk's Lambda = 1.000, $F(3, 201) = .008$, p = .999) on the total amount of research productivity.

The multivariate data analysis showed a significant effect of the social associate role (Wilk's Lambda = .938, $F(3, 201) = 4.417$, p = .005) on the total amount of research productivity specified as publications, presentations, and grants. In the follow-up univariate analysis, there was a significant effect of the social associate role on the number of publications ($F(1, 203) = 12.603$, p = .000, "primary" mean = 10.317(.802), "N/A" mean = 7.164(.381)). However, there was no significant effect of the social associate role on the number of presentations ($F(1, 203) = 1.478$, p = .226, "primary" mean = 15.344(1.461), "N/A" mean = 13.377(.695)) and the number of grants ($F(1, 203) = 1.032$, p = .311, "primary" mean = 5.896(.585), "N/A" mean = 5.238(.278)). In addition, multivariate analysis also determined that there was no significant effect of gender (Wilk's Lambda = .991, $F(3, 201) = .621$, p = .602) on the total amount of research productivity.

The multivariate data analysis illustrated a significant effect of the acceptor role (Wilk's Lambda = .913, $F(3, 201) = 6.368$, p < .001) on the total amount of research productivity

specified as publications, presentations, and grants. In the follow-up univariate analysis, there was a significant effect of the acceptor role on the number of publications ($F(1, 203) = 9.471$, p = .002, "primary" mean = 8.233(.386), "N/A" mean = 5.593(.766)). However, there was no significant effect of the acceptor role on the number of presentations ($F(1, 203) = 1.108$, p = .294, "primary" mean = 14.090(.697), "N/A" mean = 12.461(1.383)) and the number of grants ($F(1, 203) = 1.314$, p = .253, "primary" mean = 5.230(.278), "N/A" mean = 5.939(.552)). In addition, multivariate analysis also determined that there was no significant effect of gender (Wilk's Lambda = .999, $F(3, 201) = .062$, p = .980) on the total amount of research productivity.

Discussion

The research questions explored the group differences in the classification of productivity of pretenured faculty and doctoral students utilizing a factorial MANOVA. The research mentor roles of sponsor, challenger, friend, social associate, and acceptor all yielded significant effects, which were primarily associated with small effect sizes of less than .10. While limitations did exist, the implications of this research support the importance of obtaining quantifiable data exploring research mentoring relationships from a preventative lens in alignment with the counseling profession.

Implications

The existing literature supports research mentoring relationships and have examined its critical role in the counseling profession (Anekstein & Vereen, 2018b; Briggs & Pehrsson, 2008; Borders et al., 2012; Magnuson et al., 2006; Magnuson et al., 2003; Martina et al., 2014; Okech et al., 2006). This study has provided empirical evidence that expands the scope of the current research and attempts to add to the dearth of quantitative literature regarding pretenured faculty and doctoral student perceptions of role-based research mentoring relationships in counselor

education. By specifically exploring the research mentor roles utilized and the classification of productivity this study contributes to the scholarly discourse in multiple ways.

Current research has suggested that effective mentoring relationships are role-based, which is supported by the findings from this study (Anekstein & Vereen, 2018a; Casto et al., 2005; Dilmore et al., 2010; Ragins & McFarlin, 1990) and yet specific quantitative data to support this assertion is limited. However, this study illustrated an empirically role-based relationship between the five specific roles of the sponsor, challenger, friend, social associate, and acceptor roles on research productivity. Counselor educators may utilize this knowledge by setting up formal research mentoring programs (Anekstein & Vereen, 2018b) in their institutions with a specific implementation timeline that focus on each of these roles as a way of increasing research productivity. Assigning tasks that push the mentee into developing new skills is an aspect of the challenger role, which indicated an increased level of productivity in the grants variable. Therefore, research mentors may encourage mentees or protégés to participant in professional development opportunities such as a workshop on advanced statistical analysis or grant writing. The mentors may also attend these workshops on a regular basis such as once a month with the mentee or protégé to provide support and encouragement in alignment with the friend role and create opportunities for outside the work setting interactions in alignment with the social associate role. Also, since an aspect of the sponsor role is that the research mentor utilizes influence in the organization to benefit the mentee or protégé, mentors could provide additional opportunities for visibility in the organization such as co-collaborating on a faculty development initiative. An example of such an initiative could be creating a virtual writing group experience that benefits the faculty, staff, and graduate students at that particular university. In addition, the mentors could demonstrate their ability to see the mentee or protégé as a competent professional

in alignment with the acceptor role by creating opportunities for the university stakeholders such as administrators to interact directly with the mentee or protégé.   These opportunities will allow the mentee or protégé to communicate the details of the faculty development initiative and illustrate their knowledge and creativity which can impact future employment in a university setting for doctoral students or the current promotion and tenure status of pretenured faculty. Research mentors may encourage their university and department colleagues to adopt similar practices within their own mentoring relationships, which in turn could facilitate stronger research mentorship practices to increase productivity.   In addition, this influence could be implemented systemically with built in checkpoints for the mentee or protégé (Anekstein & Vereen, 2018b).   For example, in the pretenured faculty or doctoral student's first year they could collaborate with their mentor on co-creating a scholarly work.

Pretenured faculty and doctoral students possessing this knowledge and empirical support for research mentorship experiences will now be in a better position to adhere to the ACES research mentorship guidelines (Wester et al., 2009). By obtaining the knowledge gained from this study, mentees will be able to clearly state their needs in regard to instructional (career) factors such as research design, which is congruent with the ACES guidelines and communicate more effectively the relational (psychosocial) aspects as supported in the data by the friend role and social associate role within their research mentoring relationship. This may be demonstrated through connections with professional colleagues at conferences or through meaningful experiences such as interest networks or social engagements (Casto et al., 2005; Coaston, 2019). These statistically significant roles will assist doctoral students and pretenured faculty in adhering to Wester et al.'s (2009) guidelines that mentees or protégés recognize their research mentoring needs and allow them to be forthcoming with that information. Since this research

study identified the research mentor roles that increase pretenured faculty and doctoral student productivity, mentees or protégés would have more of the tools necessary to share their needs with their research mentor. This could impact the field of counseling by increasing the amount of quality scholarly discourse to further legitimize and advance the profession.

Limitations

While this study has the potentiality of providing significant implications for the counseling profession regarding research mentorship there are certain limitations that must be addressed. One limitation was the format of the sampling plan. The department chairs and faculty designees of doctoral students were asked to contact the principal investigator in regard to the online survey distribution. Yet, not all department chairs and faculty designees indicated whether or not the electronic correspondence had been sent to their doctoral students which potentiality influenced the available participant data.

Another limitation was that the participant data (n = 207) was collected in an online self-report survey which could have induced socially desirable responses. Also, the demographic survey within one category of the online self-report survey had participants indicate a book or book chapter as one type of publication with no opportunity to differentiate between the types. This can have a significant disparity in participants' data set grouping and would need to be separated for future research. Although participant responses did indicate statistical significance and the sample size was acceptable for the purposes of this study, it did not reach the desired number for generalizable results which is another limitation of the study (Field, 2018). In addition, since a large number of participants identified as White (Non-Hispanic) (n = 155, 74.9%), heterosexual (n = 178, 86.0 %), and female (n = 154, 74.4%) another limitation would be the necessity of a more diversified sample of participants. Also, since about 80% of the

participants were based in the southern region (n = 115, 55.6%) and midwestern region (n = 59, 28.5%) the opportunity to obtain a representative sample of all pretenured faculty and doctoral students in the underrepresented regions was limited and would need to be addressed in future research.

Recommendations for Future Research

While this study provided significant insight in the research mentoring relationships of pretenured faculty and doctoral students in counselor education, and added to the current scholarly discourse, there is still a need for future research. One recommendation would be to conduct a qualitative research study utilizing a phenomenological approach to ascertain the in depth lived experiences of pretenured faculty and doctoral students in the counseling profession. Another recommendation would be to generate a longitudinal quantitative or qualitative inquiry that could ascertain the experiences of doctoral students from their training programs and continue to follow them throughout the tenure and promotion process.

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