Suggested APA style reference information can be found at http://www.counseling.org/library/

Article 3

Fostering Research in Counselor Education and Increasing Research Productivity in Doctoral Students

Paper based on a program presented at the 2011 Association for Counselor Education and Supervision Conference, October 29, 2011, Nashville, TN.

Karen Michelle Hunnicutt Hollenbaugh

Hunnicutt Hollenbaugh, Karen Michelle, is an Assistant Professor at Texas A&M University, Corpus Christi. She has spent several years working in crisis and community mental health, and specializes in practice and research regarding Dialectical Behavior Therapy.

Abstract

This manuscript examines research productivity in counselor education among doctoral students. The factors related to quality research productivity are discussed in the context of published research, including research self-efficacy, interest, mentorship, and the research environment. Suggestions for improving research productivity in doctoral students are discussed, as well as creative methods of teaching research methods.

The Association for Counselor Education and Supervision (ACES) has written in its vision statement that ACES members are committed to advancing the "pedagogy related to counselor education and the training of counselors, supervisors, and counselor educators" as well as to "provide and disseminate premier research and scholarship" (ACES, 2005). Despite this vision, many doctoral programs do not focus enough on educating students to conduct and produce rigorous research. Concern about the quality and quantity of research produced in the helping professions is not new (e.g., Barkley, 1982; Gelso, 1979), and despite the best efforts of the leaders in the field, it continues to be a major issue. A meta-analysis of the research based articles submitted to *The Journal of Counselor Education and Supervision* (*CES*) over a one year period found that over 80% of manuscripts were descriptive designs, and nearly 50% had research design errors that invalidated the findings (Fong & Malone, 1994). Other publication analyses have found that the majority of studies published in counseling are not theory driven, thus reducing their level of rigor and application to practice (Karr & Larson, 2005). These concerns apply to qualitative research as well. Many qualitative research articles submitted for publication in *CES* do not delineate the qualitative approach that was used or its relationship to the study at hand. Further, some studies cited a qualitative approach that differed from the approach used in the actual data analyses (Kline & Farrell, 2005).

There is significant variability in the training counselor education doctoral students receive with regard to producing research and manuscripts for publication. Some counselor educators have called for further research on this topic to guide the Council for Accreditation of Counseling and Related Professions (CACREP) in its standards for research knowledge and skills in doctoral students (Kline & Farrell, 2005). Fifty-one percent of counselor educators report they believe doctoral students should receive more quantitative research instruction than they currently receive, and 50% also report that they themselves would like more quantitative research training (Okech, Astramovich, Johnson, Hoskins, & Rubel, 2006).

Graduate students in helping professions may have less confidence in their ability to succeed in research courses, or they may struggle to see the usefulness of research for their field. One study comparing graduate students in helping professions with graduate students in other fields found that students in helping professions reported higher levels of anxiety around research and were less likely to see the importance of research to their profession (Green, Bretzin, Leininger, & Stauffer, 2001). Rigorous and disciplined research directs counselor educators and counselors to empirically based interventions in the classroom and in clinical practice. The responsibility for the quality of this research falls upon those who are guiding future leaders to produce and publish research in the field (Granello, 2007). While the number of publications on quality research in counseling has increased, there is a scarcity of scholarly publications on the topic of instilling this responsibility in doctoral students (Okech et al., 2006).

Counselor educators are aware there is a problem with research productivity in the field; however, they struggle with fostering interest and self-efficacy in research for their students. This manuscript will explore the factors related to research productivity and focus on implications for counselor educators, with suggestions regarding the improvement of research self-efficacy in doctoral students.

Factors Related to Research Activity

There has been a significant amount of research conducted in the field of psychology on research productivity in doctoral students. The variables involved include self-efficacy, research environment, interest in research, training environment, and mentoring.

Self-Efficacy

Self-efficacy can be defined as "An estimation of one's capabilities to execute particular behaviors to achieve desired results" (Bieschke, 2006, p. 80). Counseling is not a field that utilizes spatial skills and tasks in comparison to other specializations, for example, biology or mathematics. Therefore students who seek higher education degrees in counseling may be more likely to find research courses difficult to manage and overwhelming, especially with regard to quantitative methods (Barkley, 1982). This can be related to low research self-efficacy and decreased research activities before and after graduation.

A considerable amount of research in the field of counseling psychology relates specifically to self-efficacy, and this is a key factor in graduate student research productivity (Bieschke, 2006; Lambie & Vaccaro, 2011). Often this is primarily related

to the student's personality—students that are more driven to be successful researchers will likely have higher research self-efficacy (Deemer, 2010). However, there are other factors to consider as well. There is a positive correlation between perception of preparedness to conduct research studies and number of published manuscripts in peer-reviewed journals (Okech et al., 2006). Further, studies have found that belief in one's ability to conduct research is directly related to interest in and actual engagement in research (Bard, Bieschke, Herbert, & Eberz, 2000). For example, one study found that counselor education doctoral students who reported having a scholarly publication reported higher levels of research self-efficacy than those who did not (Lambie & Vaccaro, 2011). In this study, it was also found that subjects who were in at least their third year of their doctoral program reported higher research self-efficacy than those in their first or second year. This suggests that the more experience one has with research, and the more classes one has engaged in, the higher reported level of research self-efficacy. Age also seemed to be related—younger students reported higher levels of self-efficacy than older students.

It is clear self-efficacy should be considered when developing research curriculum for doctoral students; however, one recent survey of counselor education doctoral students found that of those who responded, most scored fairly high on the Self-Efficacy in Research measure in comparison with the normative sample, which suggests that self-efficacy alone cannot predict research activities (Rawls, 2009).

Interest in Research

Students in counselor education have lower levels of interest in research activities in comparison with other professional activities, such as teaching, supervising, and counseling (Poidevant, Loesch, & Wittmer, 1991). Student interest in research activities is not only positively correlated with self-efficacy, but also positively correlated with research productivity (Kahn & Scott, 1997; Lambie & Vaccaro, 2011).

Four attributes have been found to predict research interest in counseling psychology doctoral students: research outcome expectations, research self-efficacy beliefs, personality aspects, and motivation (Bishop & Bieschke, 1998).

Research Training Environment

As can be expected, studies have found that the research training environment has a significant effect on research self-efficacy and attitude toward research activities. It is not good enough to merely teach our students, we must also motivate and excite them with regards to research (Gelso, 2006). Further research has shown that the following environmental factors will increase interest in research activities for graduate students:

1. Faculty model appropriate scientific behavior and attitudes
2. Scientific activity is positively reinforced in the environment, both formally and informally
3. Students are involved in research early in their training and in a minimally threatening way
4. It is emphasized during training that all research studies are limited and flawed in one way or another
5. Varied approaches to research are taught and valued
6. Students are shown how science and practice can be wedded. (Gelso, 2006, p. 6)

In addition, students who perceived their research environment as positive (e.g., faculty modeling, science as a partly social experience, facilitating student generation of research ideas and reinforcement of these ideas) had more interest in research activities (Kahn & Schlosser, 2010).

Research Mentoring

The use of mentoring in the helping professions is an important venue to increase students' interest in research activities, thus increasing research self-efficacy and production (Betz, 1997). Studies have consistently shown that research mentorship is a positive experience for both students and faculty members (Briggs & Pehrsson, 2008; Waitzkin, Yager, Parker, & Duran, 2006; Winter, Rathod, & Gregoire, 2006). Mentoring can take many forms, from including students on a research team, to formalized mentoring models. Students have reported that being part of a research team helped them understand the positive outcomes that research produces and the opportunities they can have as students and after graduation (Crawford, Saurez-Balcazar, Reich, Figert, & Nyden, 1996). Studies have found a positive correlation between the number of students involved in helping faculty members with research and faculty members' productivity, which may be another motivating factor in research mentorship (Kyvik & Smeby, 1994). Students who are mentored are more likely to engage in research after degree completion and are more likely to mentor others (Dohm & Cummings, 2003). In addition, counselor education students who experienced a positive research mentoring experience scored higher on levels of commitment to the profession (Rawls, 2009).

Interventions

The following section will highlight possible interventions counselor educators can utilize to increase research interest and self-efficacy in their students. Many of these suggestions come from disparate fields; however, they can be applied with modifications to counseling and other helping professions.

- Include a graduate student on your research team. This might be time consuming and considered to be a hassle by some faculty members. However, studies suggest a positive correlation between the number of students involved in helping faculty members with research and faculty members' research productivity (Kyvik & Smeby, 1994). This can be done gradually—students can begin with coding and administration of data, and then move on to consultation on research design and data analysis procedures (Stockton & Hulse, 1983).
- Model exemplary research behaviors—if faculty models active engagement in research and publications, then students may follow suit (Bieschke, Fouad, Collins, & Halonen, 2004).
- Set the expectation for research activity. Students who graduated from counseling programs that set the expectation for conducting research during doctoral studies were more likely to engage in research activities after graduation (Royalty & Magoon, 1985).
- Create a structured research mentoring program. This may include matching faculty mentors with graduate students for guidance and support in research related activities,

and even creating a research training plan between the mentor and the student (Waitzkin et al., 2006; Winter et al., 2006).

- Assess students' individual needs. Doctoral students may be at different personal and academic levels with regard to research, and if they are placed in classes that they are unprepared for, they may become discouraged (Debruin et al., 2007).
- Increase research course offerings and requirements. Increased training in research is positively correlated not only with the number of publications, but also with increased self-efficacy in research (Okech et al., 2006).
- Outcome research skills should be infused in master's and doctoral student coursework. The implementation for doctoral students could be connected to students' roles as leaders in the field and as producers of outcome research as opposed to consumers. Helping students see the direct effects of their research activities will encourage the use of these skills after graduation (Granello & Granello, 1998).
- Encourage students to engage in a needs assessment in an actual clinical setting. This would not only identify the areas of growth needed, but help students see how these two settings are connected. This can help students see the value of research and also the importance of engaging in evidence-based counseling in schools and clinical settings (Dimmit, Carey, McGannon, & Heningson, 2005).
- Increase education in qualitative research, and encourage students to engage in qualitative research. Qualitative research may help bridge the gap between the clinical skills used in counseling and research interests and activities (Reisetter et al., 2004). Counseling students introduced to the parallels between qualitative research skills and counseling skills may in turn experience higher levels of self-efficacy about research and be more likely to engage in research activities.

Creative Approaches to Teaching Research

- One of the most direct methods of teaching research methods is having doctoral students work together to critique published research. For maximum retention and comprehension, doctoral students should be engaged in this activity early and often in research methods coursework (Barkley, 1982).
- Have students practice completing Internal Review Board (IRB) applications and facilitate discussion around possible research ethics issues early in the curriculum (DeBruin et al., 2007).
- Present research via creative methods (Gelso, 1979). This may consist of implementing both didactic and experiential teaching methods for doctoral students learning research skills, specific application of research knowledge, teaching science in the context of creativity, and supervision specific to hypothesis testing (Bieschke et al., 2004).
- Help students analyze journal articles by acting out a court room scene in which the article is put on trial, and students play the defense, prosecutor, judge, and jury, debating the research strengths and limitations of the article (Britt, 1995).
- Implement the use of meditation and creativity to help students visualize their research questions by helping them feel comfortable with frequent ambiguities in research (Sarosi & Taylor, 1994).

- Use experiential techniques in teaching research methods. For example, on the first day of class, Fazzone (2001) directed students to write on an index card. On one side, they wrote their thoughts about research, and on the other side, they wrote their feelings about research. This helped students process their fears and concerns about the class and the topic while feeling supported by each other. Further, this exercise helped students identify the positive aspects of research through their responses. Students also engaged in a guided imagery exercise in which they envisioned their internal 'critic' allowing them to be more creative and approach research as an 'adventurous explorer.'
- Include a collaborative electronic portfolio, in which students and advisors work together to create an action plan to develop their research skills with clear, measurable, and attainable goals. This may help raise doctoral students' self-efficacy by providing visual proof of their accomplishments as well as future goals. Advisors may also find this approach helpful in reminding them to continue engaging their students based on individualized need. In addition, the portfolio can be used as evidence of research activities during the interview process for students seeking faculty appointments (Manathunga, Lant, & Mellick, 2007).
- Implement a multi-university collaboration in which faculty members and students meet on a bi-annual basis to collaborate regarding current research projects, while maintaining contact in between meetings to share feedback and updates on research progress. In one study of this intervention, two-year post-test surveys found that the team was successful in building research self-efficacy in students, increased interest in research, and increased the likelihood of publishing in a peer refereed journal (O'Brien, 1995).
- Implement a problem-based learning approach to qualitative research methods, where students in small groups engage in 'mini-studies' in which they develop research questions, design the study, and conduct the actual methods on a very small scale (Barkley, 1982; Wiggins & Burns, 2009).

The teaching interventions mentioned in this manuscript are by no means an exhaustive list. However, the intent instead is to highlight the importance of utilizing a variety of approaches to fostering research knowledge and interest in counselor education doctoral students.

Conclusions

Though it has been agreed that counselor educators may not prepare doctoral students well for research activities, there is less research available on how to increase students' self-efficacy to engage in research. Due to the paucity of research in this area, more exploration is needed regarding research self-efficacy, activities, and interests in counselor education students. With this research, interventions could be developed with specific application to counselor education doctoral students with the goal to increase empirical research activities after graduation. This would not only encourage students to increase research productivity for the benefit of the mental health community, but would also increase students' pride in counselor education as a profession that continues to grow and produce influential research in the mental health community.

References

Association for Counselor Education and Supervision. (2005). *Vision statement.* Retrieved from http://www.acesonline.net/vision.asp

Bard, C. C., Bieschke, K. J., Herbert, J. T., & Eberz, A. B. (2000). Predicting research interest among rehabilitation counseling students and faculty. *Rehabilitation Counseling Bulletin, 44*(1), 48-55.

Barkley, W. M. (1982). Introducing research to graduate students in the helping professions. *Counselor Education and Supervision, 21*(4), 327-331.

Betz, N. E. (1997). Increasing research involvement and interests among graduate students in counseling psychology. *The Counseling Psychologist, 25*(1), 88-93.

Bieschke, K. J. (2006). Research self-efficacy beliefs and research outcome expectations: Implications for developing scientifically minded psychologists. *Journal of Career Assessment, 14*(1), 77-91.

Bieschke, K. J., Fouad, N. A., Collins, F. L., & Halonen, J. S. (2004). The scientifically-minded psychologist: Science as a core competency. *Journal of Clinical Psychology, 60*(7), 713-723.

Bishop, R. M., & Bieschke, K. J. (1998). Applying social cognitive theory to interest in research among counseling psychology doctoral students: A path analysis. *Journal of Counseling Psychology, 45*(2), 182-188.

Briggs, C. A., & Pehrsson, D. (2008). Research mentorship in counselor education. *Counselor Education and Supervision, 48*(2), 101-113.

Britt, M.A. (1995). *Research on trial: A pedagogy for research methods instruction*. Ellenville, NY: Proceedings of the Annual Conference on Undergraduate Teaching of Psychology.

Crawford, I., Suarez-Balcazar, Y., Reich, J., Figert, A., Nyden, P. (1996). The use of research participation for mentoring prospective minority graduate students. *Teaching Sociology, 24*(3), 256-63.

DeBruin, D. A., Scholder, S. L., Kahn, J., Mastroianni, A. C., Marshall, M. F., Lantos, J., & Sugarman, J. (2007). Educational approaches to the responsible conduct of clinical research: An exploratory study. *Academic Medicine, 82*(1), 32-39.

Deemer, E. D. (2010). Achievement goals as predictors of research self-efficacy. *Individual Differences Research, 8*(4), 229-238.

Dimmit, C., Carey, J. C., McGannon, W., & Henningson, I. (2005). Identifying a school counseling research agenda: A delphi study. *Counselor Education and Supervision, 44*(3), 214-228.

Dohm, F., & Cummings, W. (2003). Research mentoring and men in clinical psychology. *Psychology of Men & Masculinity, 4*(2), 149-153.

Fazzone, P. A. (2001). An experiential method for teaching research to graduate nursing students. *Journal of Nursing Education, 40*(4), 174-79.

Fong, M. L., & Malone, C. M. (1994). Defeating ourselves: Common errors in counseling research. *Counselor Education and Supervision, 33*(4), 356-362.

Gelso, C. J. (1979). Research in counseling: Methodological and professional issues. *The Counseling Psychologist, 8*(3), 7-35.

Gelso, C. J. (2006). On the making of a scientist-practitioner: A theory of research training in professional psychology. *Training and Education in Professional Psychology, S, 1,* 3-16.

Granello, D. H. (2007). Publishing quantitative manuscripts in counselor education and supervision: General guidelines and expectations. *Counselor Education and Supervision, 47*(2), 66-75.

Granello, P. F., & Granello, D. H. (1998). Training counseling students to use outcome research. *Counselor Education and Supervision, 37*(4), 224-237.

Green, R. G., Bretzin, A., Leininger, C., & Stauffer, R. (2001). Research learning attributes of graduate students in social work, psychology, and business. *Journal of Social Work Education, 37*(2), 333-41.

Kahn, J. H., & Schlosser, L. Z. (2010). The graduate research training environment in professional psychology a multilevel investigation. *Training and Education in Professional Psychology, 4*(3), 183-193.

Kahn, J. H., & Scott, N. A. (1997). Predictors of research productivity and science-related career goals among counseling psychology doctoral students. *The Counseling Psychologist, 25*(1), 38-67.

Karr, C. A., & Larson, L. M. (2005). Use of theory-driven research in counseling: Investigating three counseling psychology journals from 1990 to 1999. *The Counseling Psychologist, 33*, 299-326.

Kline, W. B., & Farrell, C. A. (2005). Recurring manuscript problems: Recommendations for writing, training, and research. *Counselor Education and Supervision, 44*(3), 166-174.

Kyvik, S., & Smeby, J. (1994). Teaching and research: The relationship between the supervision of graduate students and faculty research performance. *Higher Education, 28*(2), 227-39.

Lambie, G. W., & Vaccaro, N. (2011). Doctoral counselor education students' levels of research self-efficacy, perceptions of the research training environment, and interest in research. *Counselor Education & Supervision, 50*, 243-258.

Manathunga, C., Lant, P., & Mellick, G. (2007). Developing professional researchers: Research students' graduate attributes. *Studies in Continuing Education, 29*(1), 19-36.

O'Brien, K. M. (1995). Enhancing research training for counseling students: Interuniversity collaborative research teams. *Counselor Education and Supervision, 34*(3), 187-198.

Okech, J. E. A., Astramovich, R. L., Johnson, M. M., Hoskins, W. J., & Rubel, D. J. (2006). Doctoral research training of counselor education faculty. *Counselor Education and Supervision, 46*(2), 131-145.

Poidevant, J. M., Loesch, L. C., & Wittmer, J. (1991). Vocational aspirations and perceived self-efficacy of doctoral students in the counseling professions. *Counselor Education and Supervision, 30*(4), 289-300.

Rawls, G. J. (2009). Research self-efficacy and research mentoring experiences as predictors of occupational commitment in counselor education doctoral students. *Dissertation Abstracts International Section A: Humanities and Social Sciences, 69* (12-), 4642.

Reisetter, M., Korcuska, J. S., Yexley, M., Bonds, D., Nikels, H., & McHenry, W. (2004). Counselor educators and qualitative research: Affirming a research identity. *Counselor Education and Supervision, 44*(1), 2-16.

Royalty, G. M., & Magoon, T. M. (1985). Correlates of scholarly productivity among counseling psychologists. *Journal of Counseling Psychology, 32*(3), 458-461.

Sarosi, G.M. & Taylor, J.J. (1994). Discovering the creative listening hole. *Western Journal of Nursing Research, 16*(2), 221-225.

Stockton, R., & Hulse, D. (1983). The use of research teams to enhance competence in counseling research. *Counselor Education and Supervision, 22*(4), 303-310.

Waitzkin, H., Yager, J., Parker, T., & Duran, B. (2006). Mentoring partnerships for minority faculty and graduate students in mental health services research. *Academic Psychiatry, 30*(3), 205-217.

Wiggins, S., & Burns, V. (2009). Research methods in practice: The development of problem-based learning materials for teaching qualitative research methods to undergraduate students.*Psychology Learning & Teaching, 8*(1), 29-33.

Winter, N., Rathod, S., & Gregoire, A. (2006). Satisfaction with a research mentoring scheme for specialist registrars. *Psychiatric Bulletin, 30*(9), 348-351.

Note: This paper is part of the annual VISTAS project sponsored by the American Counseling Association. Find more information on the project at: http://counselingoutfitters.com/vistas/VISTAS_Home.htm