

February 2023

The Predictability of Grit on Counselor Educators' Competencies and Publications

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Recommended Citation

DePue, Mary K.; Swank, Jacqueline M.; Weaver, Jo Lauren; and Liu, Ren (2023) "The Predictability of Grit on Counselor Educators' Competencies and Publications," *Teaching and Supervision in Counseling*: Vol. 5 : Iss. 1 , Article 8.

<https://doi.org/10.7290/tsc05msd2>

Available at: <https://trace.tennessee.edu/tsc/vol5/iss1/8>

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Cover Page Footnote

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Received: 07/11/22
Revised: 11/16/22
Accepted: 11/16/22
DOI: 10.7290/tsc05msd2

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Abstract

Counselor educators are expected to engage in research and mentor doctoral students, highlighting the importance of competency in both areas. Grit predicts positive work outcomes, and we found no studies on grit in relation to counselor educator success measures. We wanted to understand the role of grit in counselor education productivity levels and necessary competencies. We recruited counselor educators at CACREP-accredited institutions with doctoral programs. We hypothesized that grit would predict both mentoring competencies and publication rates, mediated by research competencies. We tested a model with counselor educators ($N = 110$) and found that the relationship between grit, as measured by the Short Grit Scale, and mentoring competency, as measured by the Mentoring Competency Assessment, and the relationship between grit and number of total career publications were both partially mediated by research competencies, as measured by the Research Competencies Scale. Thus, grit is directly and indirectly related to publications and mentoring competency. Implications for counselor educators include maintaining grit and how to use self-assessment of research and mentoring competency to increase productivity.

Significance to the Public

Our findings demonstrate that research competency partially mediates the relationship between grit and both mentorship competencies and number of publications. As such, this study provides evidence that grit is fundamentally related to factors associated with faculty success directly and indirectly. Counselor educators and doctoral students can use these results to self-examine their grittiness, considering how their long-term goals match productivity measures at their institutions. The results of this study will hopefully empower counselor educators and doctoral students to conduct research that aligns with their interests and maintains efforts toward their goals, both aspects of grittiness.

Keywords: grit, research competencies, mentoring competencies, publication, counselor educator

Counselor educators have many roles and responsibilities as practitioner-scholars, which include training future master's-level clinicians, as well as mentoring doctoral students in research to prepare them for the academy (Perera-Diltz & Jill, 2017). Aside from these student-centered responsibilities, counselor educators must oftentimes engage in research to be successful (Ransdell et al., 2021). In fact, faculty may experience ongoing pressure to publish that exceeds teaching or clinical expectations, especially assistant professors on tenure-track lines that are

working toward tenure (Mitten & Ross, 2018; Ransdell et al., 2021). Counselor educators working within doctoral granting institutions, especially those classified as very high research institutions (Indiana University Center for Postsecondary Research, n.d.), also have an added responsibility to not only produce high quality research, but mentor doctoral students in their development as counselor educators, including their role as researchers (Anekstein & Vereen, 2018). Understanding factors that may predict positive research and mentorship outcomes for counselor educators is of great

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importance to the profession, as we may be able to cultivate growth in these areas. One possible factor contributing to faculty members' mentorship competencies and productivity rates is grit. Grittiness has been associated with positive academic and career outcomes (Fernandez-Martin et al., 2020), and is considered to be a mostly stable trait in life (Duckworth et al., 2007). As such, grit levels of counselor educators may be especially impactful for those with higher levels of research mentorship competencies and publication volume, both of which could be considered primary needs within the professoriate.

Research and Mentoring Competencies

The operational definition of a competent professional for this study is "a professional is qualified, capable, and able to understand and do certain things in an appropriate and effective manner" (Rodolfa et al., 2005, p. 348). The three general domains of competency are knowledge, skills, and attitudes/values (Rodolfa et al., 2005). Counselor educators are expected to demonstrate competency and have the responsibility for fostering the development of competency among doctoral students in five overarching domains: (a) counseling, (b) leadership and advocacy, (c) research and scholarship, (d) supervision, and (e) teaching (Council for Accreditation of Counseling and Related Educational Programs [CACREP], 2016).

Research competency is important for conducting rigorous research that results in publications. In seeking to identify research competencies in counseling, Wester and Borders (2014) conducted a Delphi study and experts reached consensus on 159 competencies within three groupings (knowledge-based, skill-based, and attitude/attribute). Additionally, the researchers divided the competencies into six competency domains and six competency components. The six competency domains included (a) informed and critical thinking, (b) steps in the research process, (c) ethical and professional competence, (d) breadth and appreciation, (e) relational aspects, and (f) continual education. Regarding the competency

components, three were in the informed and critical thinking domain: (a) knowledge of the field, (b) think theoretically and critically, and (c) frame significant research questions. The final three were in steps in the research process, and included (a) identify appropriate methods of inquiry, (b) collect and analyze data, and (c) communicate research findings (Wester & Borders, 2014). Swank and Lambie (2016) developed a comprehensive assessment to measure research competency based on Wester and Borders' (2014) identified competencies, as well as other literature. Thus, researchers recognize the importance of research competence, and having an instrument to use for self-assessment and evaluation of others' research competencies.

Counselor educators working within doctoral programs also have the responsibility of mentoring doctoral students in research. The Association for Counselor Education and Supervision (ACES) has research mentorship guidelines that include two main sections: (a) characteristics of mentors, and (b) characteristics of mentees. The guidelines include various mentoring activities and ethical behavior considerations (Borders et al., 2012). For faculty to effectively mentor others in research, it is necessary that they have skills in research and are actively engaging in the research process to model this for mentees (Anekstein & Vereen, 2018, Borders et al., 2012; Limberg et al., 2020).

In counselor education, the majority of studies involve research mentorship from the perspective of doctoral students. In a recent study, Petko and colleagues (2020) found counselor education doctoral students' self-efficacy and research interest inversely related to research mentoring experiences. This finding is contradictory to some previous studies (e.g., Borders et al., 2011) and suggests mentees should depend less on their mentors to develop research self-efficacy. Yet, in another study, researchers found the advisory relationship moderated the relationship between research motivation and research productivity among counselor education doctoral students (Kuo et al., 2017). The students with positive advisory relationships had more publications than students

with similar levels of research motivation. Additionally, Anekstein and Vereen (2018) found that doctoral students' perceptions of the counselor educator mentorship role had an effect on the productivity level of doctoral students in terms of publications and presentations, further highlighting the need to understand variables that influence the mentorship role in counselor education doctoral programs.

To date, we found no studies that examine research mentorship from the perspective of counselor educators. However, in a Delphi study, researchers surveyed an expert panel comprised of counselor educator mentoring award recipients to identify mentoring components (Purgason et al., 2018). The participants identified the "guide" role of a mentor included assisting mentees in developing research agendas and getting published. Hence, research mentorship may have a key role in the development of future counselor educators, and thus, the advancement of research in the field (Barrio Minton & Hightower, 2018).

Grit

Grit is perseverance and passion for long-term goals (Duckworth et al., 2007). Individuals with grit consistency focus on reaching their goals and maintain their determination despite challenges and lack of incentives (Duckworth & Quinn, 2009). Grit is deeply embedded within the individual, therefore remaining consistent over time. Additionally, grit is associated with having a growth mindset (i.e., willingness to learn and grow from mistakes and failures; Park et al., 2020). Park and colleagues (2020) discovered grit and growth mindset predicted one another in a longitudinal study on factors that facilitated academic success in a sample of adolescent students that were rated by their teachers across four time points. Park et al. (2018) also found grit increased among adolescents that were in a learning-focused environment, rather than a grade/product-focused environment. Grit has also been associated with fewer career changes (Duckworth et al., 2007) and goal attainment (Sheldon et al., 2015). In a review of 90 studies, researchers also found evidence of grit as a

predictor of personal, professional, and educational success (Fernandez-Martin et al., 2020). Although limited research has focused on grit among academicians and we found no studies focused on grit among counselor educators, the research on grit as a predictor of professional success makes it a variable of interest in our study. Furthermore, Lambie et al. (2014) suggested that perseverance might be a factor in faculty scholarly productivity, highlighting the need to understand predictors of faculty productivity. We anticipated that research competency would mediate the relationship between grit and research mentoring competencies in our model, as research competency could be considered a prerequisite for research mentoring competency.

Productivity and Individual Characteristics

In examining research productivity, counselor educators at CACREP institutions have been reported to produce approximately 4.43 articles across a 6-year period (Lambie et al., 2014). In addition, across a 1-year period, 114 articles, mostly conceptual pieces, were produced across all counseling journals (Minton & Hightower, 2020). It is well-documented that gender and racial disparities exist in academia in terms of higher service and teaching loads for women and mentorship accessibility, especially women of color (Espino & Zambrana, 2019). As a result of the systemic barriers in place, women of color in academia have lower rates of tenure and promotion in many disciplines (Fang et al., 2000). Although scholars have examined research productivity differences among demographic groups, we only found one article focusing on counselor educators and rank, which indicated a decline in publication rates for associate and full professors working at comprehensive universities across a 20-year timeframe (Hatchett, 2022). Examining similar disciplines, Watkins and Chan-Park (2015) found that among school psychology faculty ($N = 401$), the h-index increased with academic rank, and as expected, was higher for men. However, gender was no longer significant when controlling for time

since obtaining a doctoral degree. Additionally, Tomei et al. (2014) examined research productivity among neurological surgeons ($N = 1,052$) and found women had lower research productivity compared to men. However, the difference in gender was not significant when controlling for academic rank. Moreover, Zaorsky et al. (2020) conducted a meta-analysis involving 14,567 academic physicians to examine research productivity and found both the h- and m-indices increased with academic rank. Since barriers exist in the promotion and tenure process for minoritized faculty, the question is whether equity was present in terms of achievability of academic rank in this study.

As noted, researchers have examined the differences in publication rates among racial groups, in addition to gender and academic rank groupings. Willis et al. (2021) examined the publication rate of academics in psychology ($N = 885$) and found males with a doctoral degree and white graduate students had more publications than female academics with a Ph.D. and graduate students of color respectively. Additionally, Eagan and Garvey (2015) examined research productivity among 21,840 undergraduate faculty and found the productivity of faculty of color was lower than white faculty (one-third of a standard deviation below for Black and American Indian, one-sixth for Latino faculty, and one-tenth for multiracial faculty). Thus, researchers have found differences in publication rates among gender, racial, and academic rank groupings in multiple fields, which is not surprising considering the discrimination, marginalization, additional pressures, lack of representation, and lack of mentorship available for faculty of color (Campbell et al., 2017). We used total career faculty publication numbers as an outcome variable in the current study, as publications could be considered a product of higher research competencies. As such, we hypothesized that faculty research competency mediates the relationship between levels of grit, mentoring competency, and number of publications.

Current Study

With increasing pressure to publish and often develop fundable research agendas to be successful as a faculty member (Mitten & Ross, 2018), it is important to examine factors that contribute to research success (i.e., total career publications, competencies) as well as personality factors, like grit. We hypothesized that grit would predict both mentoring competencies and publications. As research competencies are a core component of mentoring competencies and publications, we anticipated research competency would mediate this relationship. We explored the following research questions: Does research competency mediate the relationship between grit, mentoring competency, and publications? Is the relationship between grit, research competency, mentoring competency, and number of total career publications moderated by gender, race, or academic rank?



Method

Procedure and Participants

Following institutional review board approval, we used simple random sampling, which removes possible risks of bias (Chaudhuri & Stenger, 2005; Mukhopadhyay, 2008). We sent a recruitment email to all faculty listed on program websites that had a CACREP-accredited doctoral program, determined from the CACREP website. In total, 623 recruitment emails were sent, and 30 were excluded due to returned emails. The email included a link to the informed consent and questionnaires in Qualtrics, an electronic survey portal. We sent two follow up recruitment emails. Eligibility included being counselor educators employed within institutions with counselor education doctoral programs accredited by CACREP. Tenure track/seeing was not an eligibility requirement. We recruited counselor educators at institutions with doctoral programs due to the focus on mentoring competencies for working with doctoral students. There were a total of 110 participants (19% response rate), with 71 (65%) identifying as

women, 38 (35%) men, and 1 (1%) not specified. Regarding race, 80 (73%) identified as white, 8 (7%) African-American, 7 (6%) Hispanic, 4 (4%) Asian-American, 1 (1%) biracial, and 10 (9%) not specified. The participants ranged in age from 28–78 ($M = 45.86$, $SD = 11.51$). The response rate was calculated based on the number of survey responses divided by the number of people we sent the survey to after 30 were deleted due to returned emails.

In reporting highest degree, 104 (95%) reported a Ph.D., 4 (4%) Ed.D., and 1 (1%) Psy.D. Regarding rank, 41 (37%) reported assistant professor, 33 (30%) associate professor, 33 (30%) professor, 2 (2%) instructors, and 1 (1%) professor emeritus. Regarding research preparation as a doctoral student, all participants reported taking research coursework, 61 (56%) reported having a research assistantship, 73 (66%) reported being a member of a research team, and 34 (31%) reported having a leadership role on a research team. Additionally, 76 (69%) reported very strong or strong preparation as a doctoral student. Participants represented all five ACES regions, with 70 (64%) in the Southern region, 22 (20%) North Central, 8 (7%) North Atlantic, 6 (6%) Rocky Mountain, 3 (3%) Western, and 1 (1%) did not respond. See Table 1 for additional information about participants regarding research, publications, presentations, and service on dissertation committees.

Instruments

Demographic Questionnaire

The demographic questionnaire included items in three main areas. First, we asked participants about personal characteristics, including gender, race, and age. The second set of questions focused on professional characteristics, encompassing highest degree, rank, research preparation, and ACES region. The final area focused on total career number of publications and presentations and chairing doctoral dissertations.

Short Grit Scale

The Short Grit Scale (Grit-S; Duckworth & Quinn, 2009) is an 8-item instrument that measures trait-level perseverance for long-term goals on a 5-point Likert scale ranging from *not like me at all* to *very much like me*. The items are summed together (with four reverse scored) to compute the total score and there are also two subscales (consistency of interest and perseverance of effort). Internal consistency ranged from .73 – .84 for the overall scale (Duckworth & Quinn, 2009). Since its development, the Grit-S has been used to appropriately predict retention in a variety of personal and professional settings (Eskreis-Winkler et al., 2014), and the factor structure and discriminant validity of the Grit-S have been demonstrated (Stone & Schmidt, 2022). In addition, confirmed validity in diverse samples was .85 for the total scale score (Zhong et al., 2018). The internal consistency for this study was .79 for the total score. We used the total score for Grit-S, which is appropriate for this scale due to subscale intercorrelations (Duckworth & Quinn, 2009), and we were interested in examining the overall construct of grit. In addition, we performed the Haberman (2008) procedure and found that the subscales did not clear the Haberman hurdle. Therefore, we used the total score, because it "provides a relatively more precise indicator of subscale true scores than the subscale score, and, thus, the subscale score should not be reported or interpreted" (Reise et al., 2013, p. 136).

Mentoring Competency Assessment

The Mentoring Competency Assessment (MCA; Fleming et al., 2013) is 26-item instrument that measures mentoring competency and was developed for use in clinical and translational science fields. It has a 7-point scale ranging from *not at all skilled* to *extremely skilled*. The items are summed to obtain a total score, and there are also six subscales: (a) maintaining effective communication, (b) aligning expectations, (c) assessing understanding, (d) addressing diversity, (e) fostering independence, and (f) promoting professional development. Internal consistency for

Table 1*Participants' Publications, Presentations, and Service of Dissertation Committees*

Item	Number	Mean, Standard Deviation
Quantitative articles published in last five years	0-50	$M = 6.25, SD = 9.01$
Qualitative articles published in last five years	0-23	$M = 2.94, SD = 4.40$
Mixed method articles published in last five years	0-200*	$M = 2.33, SD = 19.05$
Conceptual articles published in last five years	0-25	$M = 2.89, SD = 3.64$
Empirical research presentations in last five years	0-89	$M = 9.90, SD = 13.01$
Total dissertations chaired	0-35	$M = 7.13, SD = 8.98$
Total dissertations as a committee member	0-75	$M = 75, SD = 11.74$
Chair or member of an alternative style dissertation	33 (30%)	N/A
Willing to chair an alternative style dissertation	56 (51%)	N/A
Interested in conducting research	93 (85%)	N/A

Note: *There may have been an error by the person reporting this data. There was only one person that reported 200 and the next closest number was seven.

the total scale ranged from .91 – .95 and for the subscales from .59 – .91 (Fleming et al., 2013). The internal consistency for this study was .91 for the total score. We used the total score instead of the MCA subscales for this study because we were interested in examining overall mentoring competency, which is appropriate for this scale due to noted high correlations among the subscales (Fleming et al., 2013).

Research Competencies Scale

The Research Competencies Scale (RCS; Swank & Lambie, 2016) is a 54-item instrument that comprehensively measures research competencies. It has a 5-point scale ranging from *not competent* to *very competent*. The items are summed to obtain a total score, and there are six subscales: (a)

qualitative research processes, (b) quantitative research processes, (c) research ethics, (d) dissemination of research/scholarly writing, (e) research inquiry/literature review, and (f) research sampling methods. Internal consistency ranged from .92 – .98 (Swank & Lambie, 2016). The internal consistency for the total score for this study was .96. We used only the total scale score for this study because we were interested in examining overall research competency.

Data Analysis

To answer our first research question, whether research competency mediates the relationship between grit (independent variable [IV]) and mentoring competency (dependent variable [DV]) and the relationship between grit (IV) and the

number of self-reported publications (DV), we conducted a path analysis. We performed path analysis because it allowed us to investigate the mediating effects (including the direct and indirect effects) between a group of IVs and DVs. A conceptual diagram is presented in Figure 1. Table 2 presents the results of the correlation matrix between the variables. We checked the assumptions of linearity and uncorrelated residuals, where both assumptions were met. We then adopted Baron and Kenny's (1986) four-step approach to test the mediation effect, where significance tests were conducted at each step. We also computed and tested the significance of all the indirect effects using the adjusted bootstrap method. Note that our theoretical model is a just-identified model, which means that the number of known values (i.e., variances and covariances) equals the number of unknown values that need to be estimated (i.e., path coefficients). As a result, the degree of freedom for the model is zero, and the parameter estimates were a unique set of solutions. No model fit indices could be computed, and no power analysis on the entire model could be performed since the model is just-identified. We have carefully considered removing

paths in the model, for example, through considering that those mediations were full rather than partial. However, both theory (Anekstein & Vereen, 2018; Borders et al., 2012; Duckworth et al., 2007; Fernandez-Martin et al., 2020; Limberg et al., 2020) and statistical results fail to support a model with fewer paths. Although a just-identified model does not have the luxury to compute model fit indices like an over-identified model, our current model provides values to investigate the relationship between the variables, especially as we do not intend to establish causal relationships. Incorporating all of the variables into the theoretical model provides a way to explore them together, rather than just exploring bivariate relationships.

Although power analysis for the entire model could not be computed due to the 0 degree of freedom, we computed the power post hoc for each path of interest. Results showed that the power for each regression path was 0.995 at $\alpha = 0.0$, and 0.999 at $\alpha = 0.05$ for a sample size of 110, and a hypothesized model explained variance of 20% in the dependent variable. The 20% was used based on the analysis results of each path coefficient, which will be presented in the next section. Therefore,

Figure 1

A Conceptual Diagram

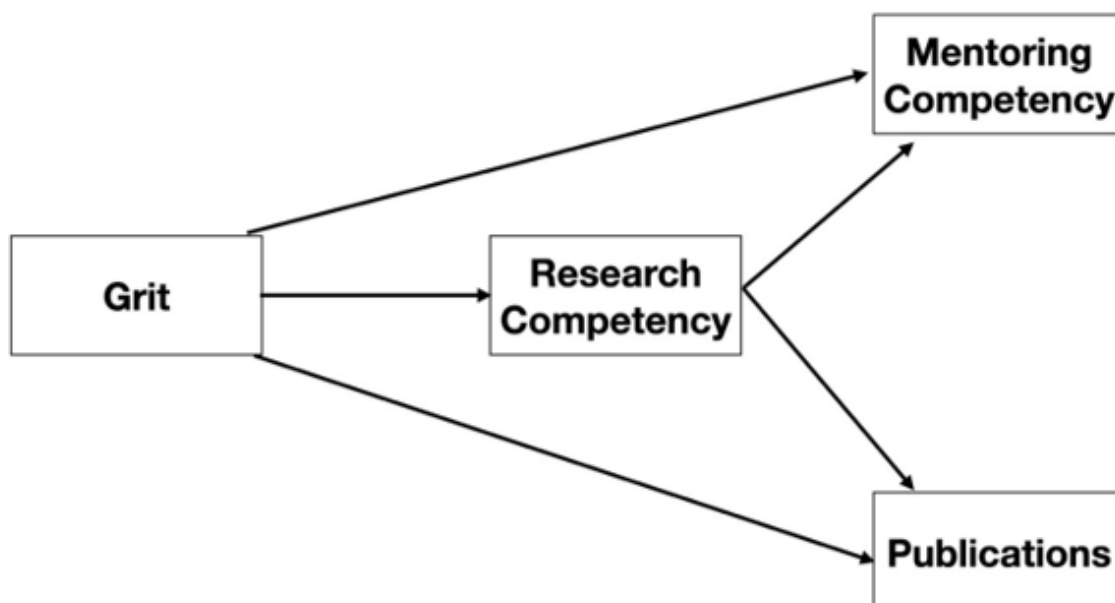


Table 2*Correlation Matrix for the Four Variables in the Path Model*

Variable	1	2	3	4
1. Publications	1.000			
2. Mentoring Competency	.142	1.000		
3. Research Competency	.441	.423	1.000	
4. Grit	.337	.338	.324	1.000

given our sample size of 110, we have strong power to detect a statistically significant effect if it exists. To answer our second research question, whether our conceptual diagram is moderated by gender, race, or rank, we tested the moderated mediation effects on the omnibus model, as well as each path. For race, we were unable to perform the analysis because the model cannot be identified with only a few people in some groups. Therefore, we proceeded with the analysis by testing the moderating effects of gender and rank. All analyses were conducted using the R program (R Core Team, 2021), and the lavaan package (Rosseel, 2012). The parameters were estimated using the maximum likelihood method.

Results

Research Question 1: Mediation Effect of Research Competency

We found the relationship between mentoring competency and grit, and the relationship between the number of publications and grit were both mediated by research competency. Table 3 presents the path analysis results. Figure 2 provides a visual display of the results. All regression coefficients were statistically significant at $\alpha = 0.01$. Using the standard error of the parameter estimates, the 95% confidence interval for each parameter estimate does not contain 0.

Between mentoring competency and grit, the standardized indirect effect was .114 (.042), the

standardized direct effect was .224 (.097), and the standardized total effect was .338 (.095), showing a medium effect size. A significance test for the indirect effect was conducted using the adjusted bootstrap percentile method with 10,000 samples. The bias-corrected 95% confidence interval was between .031 and .196; thus, the indirect effect was statistically significant.

Between the number of publications and grit, the standardized indirect effect was .120 (.037), the standardized direct effect was .217 (.070), and the standardized total effect was .337 (.077), showing a medium effect size. The bias-corrected bootstrapped 95% confidence interval with 10,000 samples was [.048, .192], showing that the indirect effect was statistically significant.

To summarize, results showed that the relationship between mentoring competency and grit, and the relationship between the number of publications and grit, were both statistically significantly partially, not fully mediated by research competency. All of the direct effects, indirect effects, and total effects were statistically significant at $\alpha = 0.01$.

Research Question 2: Moderation Effect of Gender and Rank

Regarding whether the model is moderated by gender (woman/man), we found that the omnibus model with the moderating effect produced nonsignificant results at $\alpha = 0.01$. The Wald test statistic result for the omnibus model was 7.010,

Table 3

Path Analysis of Relationships Between Publications, Mentoring Competency, Research Competency, and Grit

Variable	Estimate	SE	z	p-value	Lower CI	Higher CI
Direct effects of Grit on						
Publications	.217	.070	2.999	.003	.075	.359
Mentoring Competency	.224	.097	2.253	.024	.029	.419
Research Competency	.324	.080	4.180	.000	.172	.476
Direct effects of Mediator on						
Publications	.371	.067	5.284	.000	.233	.508
Mentoring Competency	.350	.097	3.611	.000	.160	.541
Indirect effects of Grit on						
Publications	.120	.037	3.278	.001	.048	.192
Mentoring Competency	.114	.042	2.762	.006	.031	.196
Total effect of Grit on						
Publications	.337	.077	4.354	.000	.185	.489
Mentoring Competency	.338	.095	3.556	.000	.152	.524

and the bootstrapped *p*-value was .214. Gender also did not have a significant interaction/moderation effect with either path. The path closest to being significant was the one between grit and mentoring competency, with a Wald statistic of 3.094 and a bootstrapped *p*-value of 0.078. The effect of that path was .064 for women and 1.333 for men.

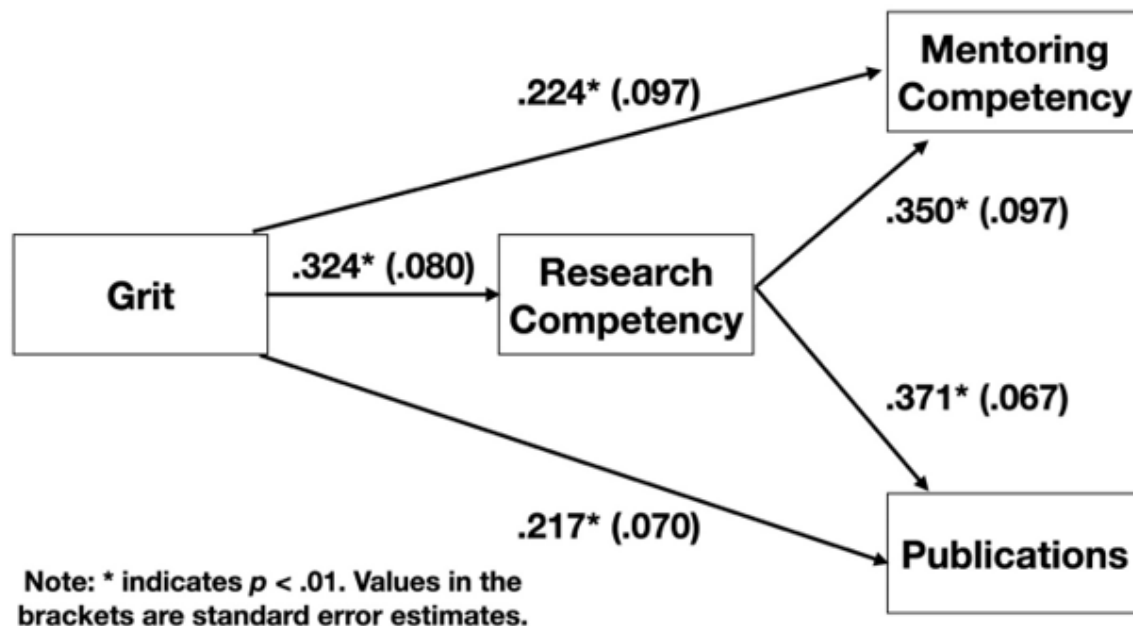
For whether the model is moderated by rank (assistant/associate/full), the Wald test statistic result for the omnibus model is 14.823, and the bootstrapped *p*-value is .139. The differences between the groups were very small and were not statistically significant.

Discussion

For this study, we examined the relationships between research competency, numbers of publications, mentorship competency, and grit. Specifically, for our first research question, we developed a path model to test whether research competency mediated the relationship between grit (IV) and number of publications (DV) and mentoring competency (DV). We found that higher

levels of grit were associated with higher levels of publications and mentorship competency and that research competency partially mediated the relationship between these variables. In other words, grit predicted both DVs: (a) number of publications, and (b) mentorship competency. Once we added research competency as a mediator to the model, the effect of grit on those relationships was significant; therefore, we now understand that grit works partially through research competency to produce numbers of publications and mentoring competency. It is also possible that other mediators exist, which is an area for future study.

Regarding research competencies, faculty must have the ability to conduct high quality research in order to effectively mentor and facilitate growth in doctoral students' research competencies (Anekstein & Vereen, 2018; Borders et al., 2012; Limberg et al., 2020). Grit leads to mentoring competencies and publications both directly and indirectly through enhanced research competencies; therefore, one's ability to be a good mentor and produce publications is influenced by their grittiness. Although scholars consider grit a factor that rarely changes, growth mindset is more focused

Figure 2*Standardized Parameter Estimates and Standard Errors*

on malleable factors (i.e., effort levels). The notion that grit is intrinsically linked to passion for the long-term goal is an important consideration (Verner-Filion et al., 2020). In research universities, the focus on publications and grant funding is typically the foundation of success (Ransdell et al., 2021), yet focusing solely on productivity could impact grit, due to the loss of interest and passion for the long-term goal (Verner-Filion et al., 2020) (e.g., tenure, research interests). Since counselor education research is founded on a practitioner-scholar model (Balkin & Kleist, 2017), it is possible that the direct clinical implications of this research serve as a protective factor to maintain grit.

For our second research question, we tested the moderating effects in the model of gender and academic rank. We did not find significant moderating effects, which was surprising considering academic rank and gender are related to research productivity (Tomei et al., 2014; Watkins & Chan-Park, 2015; Willis et al., 2021; Zaorsky et al., 2020). Due to the well-known issues of poor mentorship of minoritized faculty (Beech et al., 2013), data supporting that minoritized faculty are

not being equally tenured or promoted (Ransdell et al., 2021), and faculty of color having fewer publications (Eagan & Garvey, 2015), we hoped to be able to examine race as a moderator. However, our data was highly skewed toward white women; therefore, it is possible we are not only witnessing the effects of underrepresentation within counselor education faculty, but also the effects of mentorship, or lack thereof, for these individuals.

Limitations and Recommendations for Future Research

There are limitations to consider within this study. First, we intentionally sampled from CACREP-accredited programs with doctoral tracks in order to best capture the research and mentorship roles of faculty in preparing future counselor educators. Replication is needed with faculty in CACREP-accredited programs both with and without doctoral programs in order to make stronger comparisons and generalizations. Sampling through email recruitment was also a limitation due to the low response rate, resulting in a lower sample size, and

potential bias with those that selected to respond. In addition, our participants predominately identified as white women, which is limiting in terms of generalizability. In order to better understand the systemic impact of faculty success measures on gender and racial/ethnic minorities within counselor education, targeted recruitment of minoritized faculty for future studies is necessary. It is also important for researchers to norm instruments with diverse populations, which presents another area of research. There are other potential confounding variables as well to explore in future studies (e.g., years in academia, mentorship experience, institutional publication rate expectations). We also used self-report measures; therefore, social desirability and the ability to self-reflect on mentoring abilities could impact responses.

In subsequent studies, researchers could match data between faculty mentors and research/doctoral mentees to understand variations in perceptions of research mentorship experiences. Future research is also needed to understand what factors change grit levels among counselor educators, with specific attention to how training and mentorship access affects environmental influences of grit for marginalized individuals (Hewitt & Bilimoria, 2021). Researchers may also measure grit's association with positive or negative mental health outcomes in counselor educators. Lastly, researchers may examine research competencies and mentoring competencies to broaden our understanding of the relationships between the variables.

Implications

Our findings demonstrate that research competency partially mediates the relationship between grit and both mentorship competencies and number of publications. As such, this study provides evidence that grit is fundamentally related to factors associated with faculty success directly and indirectly (Ransdell et al., 2021). Counselor educators can use these results to self-examine their grittiness, considering how their long-term goals match productivity measures at their institutions. Understanding the expectations of academia at

varying Carnegie institutions could help situate the importance of research engagement and publications in relation to long-term goals for current and future counselor educators. Since grit is comprised of levels of interest and effort, ongoing evaluation of interest in research topics and effort needed to reach academic goals could be useful for counselor educators and doctoral students. As academics, counselor educators have the freedom to research topics that are interesting to them, and that could help prevent projects from going unfinished as high interest in a topic can facilitate ongoing effort. In addition, faculty can examine their research competency, potentially increasing research competency in order to affect levels of productivity. Being able to externalize productivity to a factor that is changeable may affect the success of faculty. As our results highlight the importance of grit in relation to faculty success measures, one possibility to facilitate grit is to cultivate a growth mindset, as these are correlated factors (Park et al., 2020). Therefore, faculty could apply the concept of growth mindset to themselves and model this process for doctoral trainees (i.e., mentorship). For example, if a manuscript is rejected from a journal, a growth mindset can facilitate the emotional acceptance of the rejection, learning from the editorial feedback, and moving forward with revisions and resubmission of the manuscript. This process helps the counselor educator become a better scholar, impacts their mentoring competencies and number of publications, and is representative of grit. Another technique that could be useful for mentors in their work with doctoral students is ongoing discussion on interest and effort levels, especially as interests may change in the doctoral program. Effort is also quantifiable, and mentors can work with doctoral students to create SMART goals and dedicate energy to research projects on a regular basis (i.e., work 1 hour at 8 a.m. every morning on a literature review).

Considering the relationship of research competency to productivity, research competency could be used in the admissions process or with doctoral students to understand where additional mentorship may be directed. Counselor educators may use the RCS and MCA to assess their levels of

research and mentoring competencies and identify strengths and areas for growth. Furthermore, counselor educators can have doctoral students evaluate faculty regarding their perception of their mentoring. Thus, fostering and applying grit, along with research competencies, could contribute to faculty success, and the research mentorship of future academicians in counselor education. The results of this study will hopefully empower counselor educators and doctoral students to conduct research that aligns with their interests and continued efforts toward those projects, both aspects of grittiness.

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The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

The author(s) reported no financial support for the research, authorship, and/or publication of this article.

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How to Cite this Article:

DePue, M. K., Swank, J. M., Weaver, J. L., & Liu, R. (2023). The predictability of grit on counselor educators' competencies and publications. *Teaching and Supervision in Counseling*, 5(1), 90–103. <https://doi.org/10.7290/tsc05msd2>