Non-Cognitive Factors as Predictors of School Counseling Student Academic Success

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Abstract

Over the years, researchers have widely studied non-cognitive factors and their impact on student success. However, scant information is known about the non-cognitive skills of students who apply to and complete school counselor preparation programs. Data from 101 school counseling students at a minority-serving institution were collected to explore the relationships between non-cognitive factors and academic success. Weak correlations were found, and non-cognitive factors failed to predict first-attempt Counselor Preparation Comprehensive Exam (CPCE) scores or graduate GPA. However, race/ethnicity predicted CPCE scores and graduate GPA. Additionally, preference for long-range goals was highly correlated with grit. Considerations for school counseling program admission requirements and school counselor preparation are provided.

Keywords: non-cognitive factors, grit, school counseling, school counselor preparation, academic success

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School counseling graduate degree programs generally use various tools to assess their student's academic and professional preparedness. Based on a review of graduate school counseling programs available via the American School Counselor Association (ASCA, 2024) and related literature, during admission, these tools may include undergraduate GPA, GRE scores, individual interviews, group interviews, essays, and reference letters (Keith-Spiegel, 2020; Smaby, 2005). As students matriculate through the program, other tools, such as competency exams (e.g., Counselor Preparation Comprehensive Exam [CPCE]), professional disposition assessments, and anecdotal feedback from site supervisors, are used. School counseling programs nor the bodies that accredit them have considered the role of non-cognitive skills or non-academic skills, such as grit, play in student success (see Council for Accreditation of Counseling and Related Educational Programs [CACREP], 2024; Council for the Accreditation of Educator Preparation [CAEP], 2022). The ASCA School Counselor Professional Standards and Competencies advance standards and competencies requisite for effective school counselors according to ASCA (2019a); however, they provide a limited focus on non-cognitive skills.

While the non-cognitive development of school counselors-in-training is not emphasized, the school counseling profession has adopted a non-cognitive framework called ASCA Student Standards: Mindsets and Behaviors for Student Success (ASCA, 2021) for use in K-12 schools. School counselors across the country utilize this set of 36 standards to develop the non-cognitive skills of K-12 students with whom they work. These research-based standards promote a healthy mindset and behaviors rooted in learning strategies, self-management, and social skills. Given

the noted importance of non-cognitive development in K-12 schools, it is logical to explore related skills that can affect success among pre-service school counselors. This article explores the relationships between non-cognitive factors (NCF) and school counseling student achievement.

An Overview of Non-Cognitive Factors

A clear and concise definition of NCF, synonymous with non-cognitive skill or soft skill, has remained elusive (Frank, 2020; Frantz et al., 2022) since it was first conceived by Bowles and Gintis (1976). In general, the term captures a variety of attitudes, behaviors, and skills that foster success in school, the workplace, and throughout life (Borghans et al., 2008). The Big Five factor markers are commonly referenced when considering non-cognitive skills (Goldberg, 1992). These factors include openness to experience, conscientiousness, extroversion, agreeableness, and neuroticism (Mammadov, 2021). Other notable non-cognitive constructs include growth mindset (Dweck, 2007) and self-efficacy (Bandura, 1977).

NCFs are similar to professional dispositions (PD) in the counseling profession. CACREP (2024) describes PD as "the commitments, characteristics, values, beliefs, and behaviors that influence the counselor's professional growth…" (p. 35). A universally accepted construct and definition remains intangible (e.g., CACREP, 2024, 2.C.2.a.; see Christensen et al., 2018), despite efforts to reliably measure students' professional counseling disposition (Mullen et al., 2024). Regardless, Landon et al. (2021) suggested that through coursework and internships, professional dispositions are developed as students acquire knowledge, attitudes, and skills representative of an exemplary counselor. In their attempt to clearly define counselor disposition, Miller et al. (2020) suggested that professional disposition may stem from personal factors or skills students acquire before admission. With counselor disposition in its infancy,

considering established NCFs may serve as a viable solution for better understanding the potential success of school counseling students.

While new concepts and terms related to NCFs continue to emerge, those introduced by Brown and Marenco (1980) and highlighted by Sedlacek (2004) remain some of the most thoroughly researched and strongly linked to success in higher education and the workforce (Warren & Hale, 2016, p. 90). These NCFs include positive self-concept (PSC), realistic self-appraisal (RSA), successfully negotiating the system (SNS), preference for long-range goals to short-term or immediate needs (PLRG), availability of strong support person (ASSP), successful leadership experience (LE), demonstrated community involvement (CI), and knowledge acquired in a field (KAF). Sedlacek (2004) and Sedlacek and Sheu (2008) suggested that these NCFs predict the success of students with non-traditional experiences. Many efforts have emerged in higher education to foster non-cognitive development (Sedlacek, 2004).

More recently, Duckworth et al. (2007) introduced grit as "perseverance and passion for long-term goals" (p. 1087). This NCF, rooted in tenacity, is similar to conscientiousness (see Credé et al., 2017; Duckworth et al., 2007) and preference for long-range goals over short-term or immediate needs (see Sedlacek, 2004). A study by Ponnock et al. (2020) substantiated the inherent alignment, or overlap, of grit and conscientiousness. Consistency of interest (CoI) and perseverance of effort (PoE) are two dimensions of grit, according to Duckworth and Quinn (2009). Some colleges and universities assess grit as part of admissions since it is considered central to increasing retention and persistence rates (Pondiscio, 2013; Powell, 2013). These NCFs can influence the success of counseling students as they matriculate toward graduation and beyond.

Research on Non-Cognitive Factors

Researchers have investigated NCFs for decades and found they positively correlate with student success. For example, Bowman et al. (2019) and Frantz (2022) found that NCFs were linked to student retention and led to positive academic and social outcomes. Reynolds et al. (2021) conducted a systematic review of studies exploring the relationship between NCFs and academic and clinical performance of rehabilitation science graduate students. The results were inconclusive when considering a host of NCFs, including self-efficacy, grit, and emotional intelligence. More recently, a systematic review conducted by Frantz et al. (2022) of existent literature identified NCFs commonly applied during the support and retention of master's and doctoral students. Many studies reviewed focused on interpersonal skills, including the ability to develop a working relationship and relational capacity, as well as intrapersonal skills, such as intrinsic motivation, self-efficacy, and networking skills. When discussing factors faculty believe lead to graduate school success, Kyllonen et al. (2005) described these constructs and a host of others.

Over the years, researchers have exhaustively studied the eight dimensions of the Non-Cognitive Questionnaire (NCQ; Sedlacek, 1996; Tracey & Sedlacek, 1984). For example, in a longitudinal study conducted by Tracey and Sedlacek (1985), the GPA of White and African American students was predicted by the eight dimensions of the NCQ. Alternatively, a meta-analysis indicated that none of the variables sufficiently predicted student success (see Thomas et al., 2007). Ranasinghe et al. (2012) found that honors students scored higher in the dimensions of PSC, RSA, LE, and PLRG measured by the NCQ. Warren and Hale (2016) outlined empirical evidence that connected rational emotive behavior therapy to these dimensions. More recently,

Lerman (2022) found that KAF and RSA, dimensions of the NCQ, were related to community college students' GPA, regardless of race.

Grit is another well-researched non-cognitive construct. Based on a systematic review, Fernández-Martín et al. (2020) suggested that grit functions more readily as a predictor of success than an outcome. In this vein, Ponnock et al. (2020) found that the PoE aspect of grit predicted students' grades. Alhadabi and Karpinski (2020) also noted a positive correlation between grit and academic success. However, self-efficacy and achievement orientation goals appeared to mediate the relationship. Researchers have found that grit is related to other NCFs as well. For example, Sigmundsson et al. (2020) noted that grit was associated with passion and mindset to varying degrees based on gender. Credé et al. (2017) previously documented a moderate correlation between grit and student success while suggesting that grit is primarily functional through perseverance and that interventions may yield weak effects based on the results of a meta-analysis. Researchers have recently considered grit and its relationships with cognitive, behavioral, and emotional domains (Hwang & Nam,2021; Warren & Hale, 2020).

Frantz et al. (2022) stated that "non-cognitive skills impact a student's ability to think critically about information, manage their time, get along with their peers and instructors, persist through difficulties, and navigate the different requirements and challenges that they may face throughout their postgraduate experience" (p. 4). According to Savitz-Romer and Rowan-Kenyon (2020), graduates are more employable and successful when they possess non-cognitive skills. Given the positive sentiment and supporting research, the impact of NCFs on the success of school counseling graduate students is worthy of exploration.

In this study, we aimed to better understand the relationships between NCFs and academic achievement of students pursuing a graduate degree in professional school counseling.

Based on existing literature, NCFs may have the potential to serve as another metric for predicting the academic success of applicants who've applied to school counseling graduate programs. Several hypotheses emerged from a thorough literature review: Hypothesis #1: Race/ethnicity and gender are related to student achievement and NCFs. Hypothesis #2: Grit is positively and significantly associated with the intrapersonal and interpersonal competencies measured by the NCQ. Hypothesis #3: CPCE scores are predictive of NCFs. Hypothesis #4: Cumulative graduate GPA is predicted by NCFs.

Methods

Participants

Data were collected from 101 applications of students who were admitted to and completed a CACREP-accredited professional school counseling graduate program at a minority-serving institution (MSI) in the southeast United States. Of the students, 87.1% (n = 88) identified as female, while 12.9% (n = 13) were male. Regarding race/ethnicity, most students identified as White (n = 45, 44.6%) and African American/Black (n = 39, 38.6%). Students also identified as American Indian (n = 12, 11.9%), multi-racial (n = 3, 3.0%), Asian (n = 1, 1.0%), and Latinx (n = 1, 1.0%).

A priori power analysis using G*Power, version 3.1.9.7 (Faul et al., 2007) was employed to determine the optimal sample size required to conduct the study and test the hypotheses. For a multiple regression analysis, the sample size needed to achieve 80% power with a medium effect, and the alpha level set at 0.5 was N = 67. This study's sample size of 101 is sufficient to test the presented hypotheses.

Procedure

A research protocol, including informed consent and instrumentation, was developed and submitted for review to the university's Institutional Review Board (IRB). Once approved, we compiled a database that comprised non-cognitive survey data from admission applications of students who were admitted to and graduated from the professional school counseling program. A total of 209 applications were reviewed, spanning fall 2016 to fall 2021 admission cycles. Surveys from 101 graduates were deemed complete and included in the dataset. Demographic information and undergraduate GPA were then mined from admission application files housed and managed by the university's Graduate School. CPCE score data and cumulative GPA at graduation were pulled from departmental test report archives and the university's student information system to complete the dataset.

Measures

Demographic and Achievement Data

We reviewed the student's application to the professional school counseling graduate program and compiled data relevant to student success. These data included demographic variables such as race/ethnicity and gender. Additionally, we compiled students' undergraduate GPAs, first-attempt CPCE test scores, and cumulative GPAs at graduation.

Short Grit Scale (Grit-S)

The Grit-S was developed by Duckworth and Quinn (2009). This 8-item self-report measure includes two dimensions: CoI and PoE. According to Duckworth et al. (2007), CoI refers to the degree or length of time a specific goal is maintained. On the other hand, PoE emphasizes the ability to overcome obstacles and move toward a goal. Items on the Grit-S are answered using a 5-point Likert-type scale ranging from 1 (not like me at all) to 5 (very much

like me). Several items, such as “I have been obsessed with a certain idea or project for a short time but later lost interest.” are reverse-scored. Duckworth and Quinn (2009) reported internal consistency ranges between .73-.79 (CoI), .60-.78 (PoE), and .73-.83 (full scale). The internal consistency for the current study is .21, .58, and .54 for the CoI, PoE, and full scale, respectively.

Sedlacek Non-Cognitive Questionnaire (NCQ)

The NCQ is a self-report 29-item measure initially developed by Dr. William Sedlacek in 1984; a revision occurred in 1996. The NCQ “assesses eight aspects of experiential and contextual intelligence” (RAND, 2019). Items are completed via a 5-point Likert-type scale ranging from 1 (strongly agree) to 5 (strongly disagree) and multiple choice and open response. The instrument’s author provided a scoring rubric to reverse score several items and evaluate the open responses. An example of an item is, “If I run into problems concerning school, I have someone who would listen to me and help me.” Several items were oriented away from high school to reflect graduate school. The NCQ was deemed valid and reliable with test-retest reliability coefficients of the subscales ranging from .70 to .94 (Tracey & Sedlacek, 1984); a median coefficient alpha of .83 was found by Sedlacek and Adams-Gaston (1992). In terms of construct validity, Tracy and Sedlacek (1984) reported alpha coefficients ranging from .38 to .82. The coefficient alphas for the NCQ subscales are PSC (.12), RSA (.38), SNS (.19), PLRG (.30), ASSP (.61), LE (.77), CI (.95), and KAF (.83) for the current study; internal consistency for the NCF full scale is .71.

Results

Preliminary Analysis

We conducted a preliminary analysis to become familiar with the data collected and understand the variables under investigation, specifically race/ethnicity and gender. Similar to

studies conducted by Ivers et al. (2016) and Warren and Hale (2020), we established two categories for race/ethnicity: Students of Color and White/Caucasian. Students of Color identified as African American, American Indian, Hispanic/Latin, or Asian. Alternatively, the White/Caucasian group included students identified as White on their application. Other variables included in the analysis included undergraduate GPA, CPCE scores, graduate GPA, and NCFs.

To test the hypothesis that race/ethnicity and gender are related to student achievement and NCFs, we employed Pearson product-moment correlation and simple linear regression analysis. Because race/ethnicity and gender are dichotomous variables, basic assumptions for point-biserial correlation were tested. The continuous variables were normally distributed, and tests of homogeneity of variances met the null hypotheses. Four cases were removed due to extreme outliers.

A review of point-biserial correlation coefficients indicated that race/ethnicity was significantly correlated with PSC, RSA, and NCQ full scale, as well as CPCE scores and cumulative graduate GPA. The mean PSC for students of Color was higher (M = 18.21, SD = 2.85) than for White students (M = 17.16, SD = 2.10). Similarly, students of Color (M = 10.04, SD = 2.54) reported higher RSA than White students (M = 8.91, SD = 2.41). Students of Color (M = 94.34, SD = 7.60) also scored higher on the full-scale NCQ when compared to White students (M = 90.73, SD = 5.99). Alternatively, CPCE scores (M = 85.22, SD = 12.17) and graduate GPA (M = 3.92, SD = .14) were higher for White students than for Students of Color, M = 76.54, SD = 15.58 and M = 3.83, SD = .17, respectively. Table 1 provides an overview of descriptive statistics and correlations for these variables.

Table 1

Descriptive Statistics and Alpha Coefficients for Demographic, Non-cognitive, and Student Achievement Variables

Variables	M	SD	Range		Correlation
			Min	Max	Race/Ethnicity
PSC	17.74	2.59	11.0	23.0	.20*
RSA	9.53	2.53	5.0	14.0	.22*
NCQ-Full	92.73	7.13	79.0	111.0	.25**
CPCE	80.41	13.62	46.0	109.0	-.32***
Graduate GPA	3.87	.16	3.32	4.0	-.26**

Note. *$p < .05$; **$p < .01$; ***$p < .001$.

We tested the basic assumptions of simple linear regression analysis before conducting further analyses. Test assumptions were met based on inspection of bivariate correlations, Q-Q probability plots, and standardized residuals. Linear regression analyses were conducted with race/ethnicity as the predictor variable and PSC, RSA, and NCQ-Full as criterion variables. Regression equations indicated that race/ethnicity predicted PSC, $F(1, 99) = 4.32$, $p = .040$, and RSA, $F(1, 99) = 5.13$, $p = .026$. Race/ethnicity accounted for 4% of the variance explained in PSC and 5% of the variance explained in RSA. Additionally, NCQ-Full was predicted by race/ethnicity, $F(1, 99) = 6.75$, $p = .011$, $R^2 = .06$.

Race/ethnicity also served as the predictor variable in two linear regression analyses exploring academic achievement. With CPCE scores as the criterion variable, the model was statistically significant, $F(1, 99) = 11.18$, $p = .001$, $R^2 = .10$. When CPCE was replaced with Graduate GPA, the linear regression equation rejected the null hypothesis, $F(1, 99) = 7.23$, $p = .008$, $R^2 = .07$.

Main Analysis

We tested the hypothesis that grit is positively and significantly related to the intrapersonal and interpersonal competencies measured by the NCQ. An assessment of Pearson product-moment correlation coefficients revealed that CoI has a significant moderate positive relationship with PLRG, $r(99) = .47$, $p < .001$. Additionally, weak positive relationships were found between CoI and SNS, $r(99) = .23$, $p < .05$; LE, $r(99) = .32$, $p < .001$; KAF, $r(99) = .22$, $p < .05$, and the full-scale score of the NCQ, $r(99) = .28$, $p < .01$. An analysis of PoE indicated weak relationships with SNS, $r(99) = .22$, $p < .05$; PLRG, $r(99) = .32$, $p < .001$; ASSP, $r(99) = .29$, $p < .01$; LE, $r(99) = .27$, $p < .01$; KAF, $r(99) = .31$, $p < .001$; and the NCQ composite score, $r(99) = .31$, $p < .001$. Finally, we considered the correlation coefficients for full-scale Grit. Grit was moderately related to PLRG, $r(99) = .47$, $p < .001$. A weak relationship was found between grit and SNS, $r(99) = .26$, $p < .01$; ASSP, $r(99) = .19$, $p < .05$; LE, $r(99) = .37$, $p < .001$; KAF, $r(99) = .32$, $p < .001$; and the NCQ composite score, $r(99) = .35$, $p < .001$.

Analysis of correlation coefficients guided multivariate linear regression modeling. Given the moderate correlation with CoI, PLRG served as a predictor variable in the first analysis. The analysis yielded a significant regression equation with CoI as the criterion variable: $F(1, 99) = 28.06$, $p < .001$. The model explained a significant amount of variance in CoI ($R^2 = .22$). With Grit serving as the criterion variable, the variance explained remained consistent, $F(1, 99) = 28.16$, $p < .001$, with PLRG accounting for 22%.

Pearson product-moment correlation coefficients were analyzed to explore the relationships between NCFs and CPCE scores. A weak negative relationship was found between CPCE scores and LE, $r(99) = -.22$, $p < .05$. No other statistically significant relationships existed between CPCE scores and non-cognitive variables. A linear regression was conducted to test the hypothesis that NCFs predict CPCE scores. In this analysis, the CPCE score was the criterion

variable; LE served as the predictor variable. The model yielded a statistically significant regression equation, $F(1,99) = 5.25$, $p < .05$, $R^2 = .05$.

We tested the hypothesis that NCFs predict cumulative graduate GPA. Pearson product-moment correlation coefficients were analyzed to determine the relationships between GPA and the NCFs under investigation. The analysis indicated that no significant relationships exist.

Discussion

The analyses of the data collected during this study led to partial support for and refute of the posed hypotheses. For example, the hypothesis that race/ethnicity and gender are related to student achievement and NCFs was partially supported. In this study, race/ethnicity predicted PSC, RSA, and NCQ-Full, as well as CPCE scores and graduate GPA. The results of this study suggest that students of Color view and appraise themselves more favorably and overall possess greater intrapersonal and interpersonal competence when compared to White students; they score lower on the CPCE and graduate with a lower GPA. Cultural bias of standardized testing may be, at least, partly responsible for these results (Au, 2023). While these results suggest statistical significance and require consideration, the lower CPCE scores and GPA appear practically insignificant. In other words, the discrepant findings did not negatively impact or impede the successful matriculation and graduation of students of Color. Additionally, undergraduate GPA was not related to race/ethnicity. As such, perhaps barriers or obstacles exist that influence test scores and GPA despite students of Color reporting a greater level of non-cognitive skills than their counterparts. Perhaps the higher scores on the NCQ for students of Color translate to greater success in the school counselor role.

The hypothesis that grit is positively and significantly related to the intrapersonal and interpersonal competencies measured by the NCQ was partially supported. PLRG predicted CoI

as well as overall Grit, in general. These results suggest that school counseling students who prefer long-term planning are likelier to have a stronger passion or desire and fortitude to persevere academically and professionally. Goal orientation may lead students to informal sources of knowledge. This knowledge may be concentrated given the student's interest and dedication. However, it appears that PLRG does not influence academic performance, although it may have implications for professional practice (Savitz-Romer & Rowan-Kenyon, 2020; Williams et al., 2022).

Our exploration of the hypothesis that NCFs predict CPCE scores was not supported. While a weak relationship did exist between CPCE and LE, no non-cognitive variable predicted CPCE. However, the negative relationship between LE and CPCE, albeit weak, may indicate that students who are engaged in leadership roles may place less emphasis on their studies and academic preparation and lack awareness of their strengths and areas for improvement and, therefore, may perform more poorly on the CPCE than other students. Similar to results found by Pilotti et al. (2023), perhaps some students generally have a false, positive sense of their strengths and are not inclined to thoroughly prepare for the CPCE. Alternatively, some students may prefer or value academic tasks over participation in leadership activities. In these instances, students may dedicate more energy to examination preparation and be more attuned to their areas of strength and weakness. These students may overcompensate for perceived weaknesses when preparing for the CPCE, a concept described by Parkman (2016). Additionally, these students may be more diligent when completing course assignments and their efforts to grasp concepts in courses that prepare students for the CPCE.

Finally, NCFs do not appear to predict cumulative GPA at graduation. As such, the hypothesis that NCFs predict cumulative GPA was not supported; results similar to those noted

by Lerman (2022). However, it is expected that students who possess intrapersonal and interpersonal competencies are more adept at engaging in academic processes and navigating them and are, therefore, more likely to perform better academically (Sedlacek & Shue, 2008). Students possessing the noncognitive skills to successfully address, overcome, or navigate the various systems within a university setting may find themselves best positioned for success. However, the results of this study do not confirm this. These intrapersonal and interpersonal skills, however, may translate well to the work of school counselors.

Implications

While the results of this study are inconclusive to varying degrees, the positive effects of NCFs on academic and workplace success are well documented. Several considerations emerge based on the results of this study. Kyllonen et al. (2005) suggested that graduate faculty largely believe that considerations for NCFs are essential during the admissions process, increase fairness, and serve as a gauge for potential success in graduate education. However, at this time, we do not recommend using the non-cognitive measures employed in this study as heavily weighted decision-making tools for admission to school counseling graduate programs. Faculty must be aware of and recognize their limitations. The NCQ and the Grit-S may be more viable and better determinants of success than the GRE, however, given the ongoing concerns surrounding the cultural sensitivity of the exam. Recommendation letters also present issues, but to a lesser extent, regarding their use to glean NCF information (Kyllonen et al., 2005). Measures of NCFs can provide programs with more nuanced insights into the potential for student success.

Understanding the non-academic factors (e.g., preference for long-range goals, leadership, grit, etc.) students possess is invaluable for programs that aim to equip their students with individualized tools and resources for success as a school counselor. For example, scores on

these measures could be shared with program advisors and discussed with students at the outset of their plan of study. Advisors can encourage students who score low on LE or KAF to engage in activities that help to bolster these areas.

School counseling graduate programs can also use the NCQ and the Grit-S to guide programming decisions that support the non-cognitive development of all students. Given the roles and responsibilities of school counselors, such as collaboration and consultation with parents, teachers, and administrators, as outlined in the ASCA National Model (ASCA, 2019b), training programs must include opportunities for students to develop non-cognitive skills. However, most non-cognitive development occurs at the undergraduate level, focusing on persistence toward graduation rather than emphasizing workplace preparation. Institutes of higher education and employers alike are interested in developing these skills among their students and future employees, respectively (Savitz-Romer & Rowan-Kenyon, 2020).

Programming to promote non-cognitive skill development can take many shapes. School counseling training programs are encouraged to take inventory of or assess opportunities that promote non-cognitive development among their students. For example, service-learning assignments, required poster presentations at conferences, and interviews with practicing school counselors can facilitate various aspects of non-cognitive development. Additionally, faculty can intentionally embed non-cognitive concepts, readings, or activities into coursework. For instance, each course can revisit long-term goals students establish or include field experiences that foster hands-on school counseling knowledge acquired beyond academic means (i.e., lectures, readings, etc.). Assignments aimed to enhance self-awareness can be grounded in non-cognitive development, thus more broadly strengthening the skills of school counselors in training. These

efforts can foster CoI and grit, based on the results of this study, and better equip students with the knowledge, attitudes, and skills requisite for effective school counseling.

Finally, effective advocacy efforts at the local, state, or national level require the ability to navigate the system, engage in leadership, seek help when needed, and maintain consistent effort. As such, school counseling programs should allow students to engage in advocacy efforts or professional development opportunities to build leadership capacity, positive self-concept, and realistic self-appraisal. This effort is especially worthwhile for the role of the school counselor and the challenges they often face. School counselors provide a plethora of services to myriad stakeholders. As such, school counselors who possess non-cognitive skills are more likely to succeed in their role.

Limitations

There are several limitations this study presents. First, the internal consistency for some of the Grit and NCQ subscales is considered low by most accounts. However, given that many subscales have few items, low alpha coefficients are expected (Taber, 2018). More items would likely increase reliability; the alpha coefficients for the full-scale measures are acceptable due to this phenomenon. Regardless, researchers have deemed alpha coefficients ranging from .45 to .95 acceptable and sufficient, according to Taber (2018). Furthermore, Schmitt (1996) suggested that low alpha coefficients do not prevent measures from offering valuable data.

Additionally, due to sample size, Type II errors may exist for several hypotheses. Several model equations were approaching statistical significance; a larger sample of student data may have yielded different results. For example, gender may predict the availability of a strong support person. However, the subsample of male applicants in this study was very small. In this instance, the subgroups may be underpowered; there was not enough difference between the

subgroups for the analyses to detect. The preliminary power estimates suggested that the sample size was sufficient to detect a medium effect. However, perhaps a larger sample size was needed to increase sensitivity.

Additionally, the measures require self-reporting, which may have elicited socially desirable responses. This is a common participant behavior in self-reporting and likely in this study since the measures were a component of a graduate admission application. Finally, researchers should use caution in generalizing these findings to other graduate school counseling programs across the state or country. While commonalities may exist across programs, the student bodies of these programs may vary significantly, thus yielding variance in the data collected.

Future Research

Given the results of this study, several opportunities for future research emerge. First, it seems appropriate to replicate this study using a larger sample size. Doing so would help to clarify the predictive power of NCFs on student achievement. A modified version of this study could include additional variables such as age, field placement evaluations, and further testing data. Furthermore, researchers are encouraged to consider the influence of gender differences on NCFs. With a modified replication, considering additional NCFs such as growth mindset, perseverance, and the Big Five personality constructs can serve to inform researchers and school counselor educators of the relationship between student achievement and other related constructs.

This study also leads to other avenues of inquiry. For example, we recommend that researchers compare the NCFs of school counseling students who graduated and students who did not persist or stopped out of their program. Additionally, exploring the degree to which

NCFs predict the success of school counselors with non-traditional experiences or backgrounds may yield valuable results. An analysis of NCFs and the professional standards and competencies of school counselors espoused by ASCA (2019a), as well as the professional dispositions described by CACREP (2024), also appears vital as the profession advances and further aligns with evidence-based practice.

Several qualitative inquiries may be viable to further understand the lived experiences of school counselors within the context of NCFs. For example, researchers can employ a qualitative investigation to better understand how NCFs may influence school counselors' efforts and work habits. Considering themes related to how school counselors engage in leadership opportunities and long-range plans may offer insights for training programs.

Conclusion

This study explored the relationships between NCFs and the academic achievement of school counseling students. The results suggest some evidence that NCFs are related to and predictive of student success; however, more research is needed. While inconclusive, this study has the potential to advance program admission efforts and enhance school counselor training.

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