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An Investigation of Student Outcomes Based on Student-to-School Counselor Ratios

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Abstract

The authors of this study examined the differences in students' four-year college enrollment, graduation rate, chronic absenteeism, and standardized test scores (i.e., ELA and Math) based on student-to-school counselor ratios (i.e., < 200 students per counselor; 200-300 students per counselor; > 300 students per counselor) across New York State (NYS) during the 2021-2022 school year. Archival data were collected from accessible data through the NYS Education Department. Multivariate analyses of variance (MANOVA) indicated significant differences between groups. Namely, our results revealed that 1.1% – 4.2% of the variance in student outcomes was explained by the student-to-school counselor ratio. We discussed implications for school counseling.

Keywords: school counseling, school counselor caseloads, student-to-school counselor ratio, New York State, student achievement

School counselors are uniquely positioned to play a critical role in facilitating students' academic, personal-social, and career development and success (American School Counselor Association [ASCA], 2019). Research demonstrates the positive impact that school counselors and school counseling programs have on enhancing the educational outcomes of students (e.g., Hilts et al., 2025; Lemberger-Truelove et al., 2025). Such positive impact lends support toward student access to school counselors with the condition of having manageable student caseloads (Gagnon & Mattingly, 2016). States across the country have recognized the vital role school counselors play in today's schools and have implemented key policies, such as mandated caseloads and guaranteed

student access to school counselors. These policies directly influence school counselors' ability to effectively fulfill their roles and responsibilities (Savitz-Romer et al., 2024). That said, there is much variation in schools' practices across states, often due to budget constraints and school leaders' determination of the need for and understanding of school counselors' roles (Brown & Knight, 2023; Domina et al., 2022).

In New York State (NYS), all K-12 students are mandated to have *access* to school counseling services; however, both the New York State Education Department's (NYSED) website and regulation documents lack clear operationalization of what is meant by access. Such policy may encourage school districts to add more school counselors across school levels (K-12), thereby lowering school counselors' caseload sizes; unfortunately, this does not ensure that school counselors are always in the building nor that every student has access to the school counseling program's services (Savitz-Romer et al., 2024). Currently, there is no formal evaluation process by NYSED to assess the extent to which school counselors' practices and schools attend to the requirements outlined in the regulations (R. Rotunda, personal communication, August 13, 2024).

Additionally, since NYS updated regulations mandating school counselor access (NYSED, 2017) went into effect in 2019, the average student-to-school counselor ratio has increased from 314:1 (2016-2019; A. Hickman, personal communication, December 22, 2023) to 390:1 (2019-2022). During the 2021-2022 school year, the average caseload size per counselor in NYS was 460 students; this is substantially higher than the American School Counselor Association's (ASCA) recommended ratio of 250:1, and is a higher average student caseload than 84% (n = 42) of other states (including the District of Columbia) during the same year. This disparity is particularly concerning given the profound impact of the COVID-19 pandemic on student functioning and outcomes (Savitz-Romer et al., 2024), as well as research that demonstrates the positive effects of lower student-to-counselor

ratios on student academic performance, graduation rates, and post-secondary enrollment, along with outcomes like attendance (Brown & Knight, 2023; Donohue et al., 2022; Kearney et al., 2021).

There is limited empirical literature that examined the relationship between student-to-school counselor ratio and student outcomes in NYS (Liu et al., 2024). Using 2021-2022 archival data from the NYS Education Department (NYSED) data website (NYSED, n.d.), we aimed to expand our empirical knowledge of this gap by exploring the association between student-to-school counselor ratios and student outcomes. We operationalize student outcomes as comprising two distinct types of data: achievement and achievement-related data (Dimmitt et al., 2007). Student achievement data (e.g., standardized achievement test scores, graduation rates) denotes "big ticket items" that reflect the "academic learning and progress of students", whereas, achievement-related data (e.g., absenteeism rates) refers to "factors that contribute to students' ability to achieve and that directly impact student achievement data" (Dimmitt et al., 2007, p. 29).

School Counseling and Student Outcomes

School counselors create and deliver comprehensive school counseling programs (CSCPs) aimed at maximizing student achievement and success (ASCA, 2019). Indeed, the extant literature highlights the impactful role that aspects of CSCPs have on student achievement (e.g., Carey, Harrington, Martin, & Hoffman, 2012; Carey, Harrington, Martin, & Stevenson, 2012; Hilts et al., 2025). For instance, in two state-specific studies (i.e., Utah, Nebraska), results suggest that when school counseling programs are more aligned with the ASCA National Model, student outcomes were generally better as compared with programs with less adequately implemented CSCPs (Carey, Harrington, Martin, & Hoffman, 2012; Carey, Harrington, Martin, & Stevenson, 2012). However, school counselors report time constraints (e.g., having a 250:1 student-to-school counselor ratio) as a barrier to implementing a CSCP aligned with the ASCA National Model (Hilts et al., 2019).

Challenges such as high caseloads are particularly concerning given the heightened need for school counselors, especially among K-12 students from racially/ethnically marginalized groups and lower-income families who have been disproportionately impacted by COVID-19 (Zink & Anderson, 2023). Historically, students in less affluent school districts with higher rates of racial/ethnic diversity have had limited access to school counselors (Hilts et al., 2023; Gagnon & Mattingly, 2016). Research suggests that smaller caseload sizes are particularly beneficial for low-income students and students of color (Carrell & Carrell, 2006; Mulhern, 2020). Furthermore, over the past two decades, there has been a surge in scholarship focusing on students' access to school counselors, as measured by their caseload size, and its implications on student outcomes (Bryan et al., 2022; Carey, Harrington, Martin, & Hoffman, 2012; Carey, Harrington, Martin, & Stevenson, 2012; Carrell & Carrell, 2006; Hurwitz & Howell, 2014; Lapan, Gysbers et al., 2012; Lapan, Whitcomb et al., 2012; Reback, 2010). In the following sections, we briefly describe the existing literature for each of the student achievement and achievement-related variables examined in the current study.

Chronic Absenteeism

School counselor ratio research in relation to attendance and absenteeism student outcomes has generally produced positive student outcomes (Carey, Harrington, Martin, & Stevenson, 2012; Domina et al., 2022; Donohue et al., 2022). Using six years of school-level data (2009-2015) from North Carolina, Domina and colleagues (2022) investigated the relationship between ratios and attendance rates along with several other student outcomes variables at the elementary and middle school levels. The researchers' results showed that when schools had more school counselors at both the elementary and middle school level, absent rates declined by a 0.1 and 0.2 percentage point, respectively. In another recent study based on the 2017-2018 school year, Donohue et al. (2022) employed multivariate outcome, multilevel analysis to examine the association between student-to-

school counselor ratios and chronic absenteeism rates across six states, along with several other student outcomes. The researchers' results indicated that across three states—Arizona, Missouri, and Rhode Island—schools with higher school counselor caseloads also had higher rates of chronic absenteeism (1%, 1%, and 15%, respectively).

Other studies have found similar but more nuanced results on the relationship between school counselor ratios and student attendance, aligning with the aforementioned literature on absenteeism rates (Carey, Harrington, Martin, & Hoffman, 2012; Carey, Harrington, Martin, & Stevenson, 2012; Lapan, Whitcomb et al., 2012). For example, through examination of schools in Missouri, Lapan, Gysbers and colleagues' (2012) results suggested that high-poverty schools, in particular, benefited the most from having more manageable school counselor caseloads; however, when omitting this interaction effect (i.e., ratios and free or reduced-price lunch) and controlling for enrollment size and students receiving free or reduced-price lunch, ratios did not significantly predict attendance rates. In a similar state-level study in Connecticut, Lapan, Whitcomb et al.'s (2012) results demonstrated that lower caseload sizes were associated with higher student attendance at the high school level.

Four-Year College Enrollment Rates

Several studies have documented a positive relationship between lower school counselor ratios and higher post-secondary or college-related student outcomes (Bryan et al., 2022; Engberg & Gilbert, 2014; Hurwitz & Howell, 2014; Lapan, Whitcomb et al., 2012; Stephan & Rosenbaum, 2013). Using a national data set (Education Longitudinal Study 2002), Woods and Domina (2014) found that schools with larger school counselor caseloads had lower bachelor degree program attendance rates, particularly for students in 10th grade. In a more recent study using another national data set (High School Longitudinal Study 2009), Bryan and colleagues (2022) employed regression analysis to investigate school counseling college-going culture and high school students' post-

secondary enrollment. The researchers found that when school counselors had higher caseload sizes, students were less likely to enroll in baccalaureate degree granting institutions.

Hurwitz and Howell (2014) conducted a national study using regression discontinuity analysis on three years of data (1999-2000, 2003-2004, 2007-2008) to measure the impact of high school counselors on student outcomes. They found that adding just one high school counselor led to a 10% increase in the four-year college enrollment rate. In contrast, other researchers have not found significant associations between caseload size and college attendance. For instance, based on the dataset from the High School Longitudinal Study of 2009, Engberg and Gilbert (2014) employed multiple regression and found that higher caseloads were related with higher four-year college-going rates. That said, through latent class analyses, the researchers revealed that schools in their study classified as "divergent" (schools with school counseling departments that did not center a college-going culture) had lower student caseloads; therefore, such results should be interpreted in context.

Graduation Rates

In addition to investigating students' college enrollment rates and absenteeism, researchers have examined the association between school counselors' caseload size and high school graduation rates (Brown & Knight, 2023; Donohue et al., 2022; Lapan, Gysbers et al., 2012; Mulhern, 2020). Donohue and colleagues (2022) found that higher ratios in Arizona were negatively associated with graduation rates (-2%). This finding aligns with Brown and Knight's (2023) study which used regression analysis to reveal that school districts in Texas had approximately 1% higher graduation rates when school counselors had caseloads of 350 or fewer students. In another state-level study, Lapan, Gysbers et al. (2012) found that high-poverty high schools with school counselors with more manageable student caseloads (< 250) had significantly higher graduation rates (5% difference) than when counselors had more than 250 students on their caseload. That said, the researchers did not report effect sizes or means of their results. In Goodman-Scott and colleagues' (2018) study using a

national dataset (High School Longitudinal Study 2009), they employed regression analysis to assess whether ratios predicted high school students' graduation rates, along with other student outcome variables. The researchers' results suggested that students were nearly twice as likely to graduate from high school if their counselors had relatively lower caseload sizes (i.e., < 250 students).

Standardized Test Scores

Kearney and colleagues' (2021) metanalysis—six studies of which examined standardized exams scores—indicated that school counselor-to-student ratios were positively related to student achievement by "4% of a standard deviation change…equivalent to roughly 3 weeks of learning" (p. 424). Individual studies revealing such a relationship have been mixed (Brown & Knight, 2023; Carrell & Hoekstra, 2014; Domina et al., 2022; Lapan, Gysbers et al., 2012; Reback, 2010). For instance, Reback (2010) used regression discontinuity on several years of data (1999-2006) to assess the relationship between school counselor subsidies and achievement and achievement-related outcomes. While the researcher's result indicated that larger counselor subsidies did not have a significant impact on student test scores, they did find that higher subsidies were linked with a decreased likelihood of student disciplinary referrals (e.g., weapon-related incidents, suspensions).

In a 2012 study, Lapan, Gysbers and colleagues' Missouri study demonstrated a positive correlation between schools' ACT composite score ($r = .20$) and school counselors' caseload size. At the elementary level, Carrell and Hoekstra (2014) investigated the extent to which students' standardized test scores were higher when Florida school counseling practicum and internship students were placed in the school. The researchers' results suggested that an addition of a practicum or internship student within the school improved students' math and reading performance by .85 percentile points, though such a relationship was more modest for female than for male students. More recently, state-level studies in North Carolina (Domina et al., 2022) and Texas (Brown & Knight, 2023) have also documented a positive relationship between student-to-

school counselor ratio and students' academic outcomes. Namely, Brown and Knight (2023) found that higher student caseloads were negatively associated with math and reading achievement scores and increased racial achievement gaps. Similarly, in their 2022 study, Domina and colleagues' results indicated that each additional full time-equivalent (FTE) school counselor in elementary and middle schools was positively related to higher math scores (approximately 1% of a standard deviation increase for elementary students). Although modest in size, through further analyses, the researchers found that Hispanic and Black students had higher math achievement scores with an increase in a school's FTE school counselor ratio; however, an increase in the FTE school counselor ratio did not predict math test scores for White students.

Caseload Size

While most of the extant literature demonstrates that lower student-to-school counselor ratios are correlated with marginally better outcomes for students (Kearney et al., 2021), scholars have asserted that further investigation of optimal ratios is warranted beyond a "blanket 250 caseload" or "one-size-fits-all" approach (Nicola, 2024, p. 643). In recent years, researchers have begun examining and organizing caseload size into multiple categories beyond the recommended 250:1 student-to-school counselor ratio (e.g., Brown & Knight, 2023; Bryan et al., 2022) which may offer and contribute to a more nuanced understanding to the growing body of literature. Further, since the average student-to-school counselor ratio in NYS during the 2021-2022 year was 460:1—approximately 10 students higher than the average caseload size over the past 36 years in NYS (A. Hickman, personal communication, December 22, 2023)—we elected to organize school counselors' caseload size into multiple categories in the current study ratios. Transforming student-to-school counselor ratio into a categorical variable is commonplace in ratio research (e.g., Bryan et al., 2022, Goodman-Scott et al., 2018).

Purpose of Study

Although there has been growing attention on the impact of school counselors' caseload size on student outcomes, and despite the NYSED's recommendation for school districts to maintain comparatively low student-to-school counselor ratios (i.e., 250:1; NYSED, 2017), limited research has specifically examined caseload-student outcome relationships in NYS (Kearney et al., 2021; Liu et al., 2024). Likewise, although the ASCA advocates for a ratio of one school counselor to 250 students (ASCA, 2019), NYS's student-to-school counselor ratio during the 2021-2022 school year was 460:1, exceeding both the recommended ratio and national average during the same year (i.e., 408:1; ASCA, n.d.). This is perplexing since recent literature has suggested those in leadership positions (e.g., principals, school counseling supervisors) generally understand the importance of school counselors' roles and responsibilities since the amended regulations went into effect (Cinotti et al., 2022). Thus, it is not particularly surprising that the ASCA and New York State School Counseling Association (NYSSCA) disseminated calls for research grant proposals during the 2022–2023 year, prioritizing research addressing school counselors' caseload size and its impact on student outcomes.

Kearney and colleagues' (2021) meta-analytic review of 16 studies that satisfied inclusion criteria revealed that the majority of the extant empirical literature on this topic has focused on the high school level; therefore, they emphasized the need for further investigation of the influence of school counselor caseloads on outcomes for younger students. In the current study, we explored student achievement (i.e., post-secondary enrollment, high school graduation, standardized exam scores) and achievement-related (i.e., attendance) outcomes across school levels (e.g., elementary, middle, high school). Specifically, the following research questions guided our study:

Research Question 1: Are there differences in high schools' four-year college enrollment and graduation rate based on student-to-school counselor ratios in NYS?

Research Question 2: Are there differences in absenteeism and academic achievement (i.e., ELA and Math statewide standardized performance) across grade levels in NYS, based on student-to-school counselor ratios in NYS?

Method

We used publicly available 2021-2022 school year data gathered from NYSED Data Website (NYSED, n.d.), including the Enrollment Database (ENROLL2022.mdb), Report Card Database (SRC2022_GroupIV), and Graduation Rate Database (GRAD_RATE_AND_OUTCOMES_2022.mdb). We further requested the NYS School Counselor Count (2021-2022) file from NYSED. The Enrollment Database provided information about the number of students in total for each school. The Report Card Database included students' absent rate, statewide standardized exam performance, and percentage of four-year college enrollment within 16 months of high school graduation. The Graduation Rate Database included students' high school graduation rate. The NYS School Counselor Count file provided the number of full-time school counselors from each school and district. We used the NYS School Counselor Count file as a base to merge other data files by ENTITY_CD, which is a 12-digit code for state, district, public school, and charter school in New York State.

Variables

Chronic absenteeism rate. The chronic absenteeism rate is defined as the percentage of students who were enrolled for 10 or more instructional days, were present for at least one of those days, and were absent for 10% or more of their enrolled days during 2021-2022 school year.

Four-year college enrollment rate. Four-year college enrollment rate is measured by the percent of high school graduates who enrolled at a four-year college institution within 16 months of high school graduation.

High School Graduation rate. Graduation rate is the percent of students in the cohort who earned either a Regents or Local diploma.

Math achievement and English Language Arts and Literacy achievement. The NYSED administers tests in English Language Arts (ELA) and math to students in grades 3-8 each year. The scaled scores of these tests are then used to determine the student's performance level, which is based on a four-point scale: Level 1 (below standard), Level 2 (partially proficient), Level 3 (proficient), and Level 4 (exceeds proficiency). The Core Math/ELA Performance Index is an indicator derived by NYSED for accountability determination. It was calculated using the formula and denominator indicated below:

Formula**:** $100 * \frac{(Level\ 2)+(Level\ 3)+2.5(Level\ 4)}{Denominator}$

Denominator**:** The greater of 1) continuously enrolled students who have valid test scores, OR 2) 95% of continuously enrolled students with or without valid test scores.

Core Math Performance Index was used to measure math achievement, while Core ELA Performance Index was used to measure ELA achievement in this study.

Student-to-school counselor ratio. We calculated the ratio of students-to-school counselors at each school. To enhance the clarity of our findings, we categorized the ratios into three groups: (a) Low: Less than 200 students per counselor, (b) Medium: Between 200 and 300 students per counselor, and (c) High: Greater than 300 students per counselor.

Data Analysis

To avoid potential inflation of the Type 1 error rate in subsequent ANOVAs and post-hoc comparisons, we performed one-way multivariate analysis of variance (MANOVA) to address both research questions using the same independent variable, student-to-school counselor ratio. For Research Question 1, the two dependent variables are high school graduation rate and four-year

college enrollment rate. Meanwhile, Research Question 2 incorporates three dependent variables: absent rate, ELA index, and Math index, spanning all Grade 3-12 public schools in NYS.

Table 1

Pearson Correlations, Means, and Standard Deviations for Dependent variables

		1	2	3	4	5	*M*	*SD*
Research	1. Graduation rate	-					92.35	6.21
Question 1	2. Four-year college enrollment rate	.59*	-				47.05	19.42
(*N* = 631)								
Research	3. Absent rate			-			26.77	16.18
Question 2	4. Math Achievement			-.57*	-		139.05	39.83
(*N* = 1507)	5. ELA Achievement			-.51*	.77*	-	131.09	44.78

Note. School *N = 631 in Research Question 1 (includes all schools with graduation rate and enrollment rate measures, excluding Charter schools).* School *N = 1507 in Research Question 2 (includes elementary, middle, and high schools with absent rate and ELA/Math achievement measures, excluding Charter schools). *All correlations are statistically significant (p < 0.01).*

However, before proceeding with the MANOVAs, a series of Pearson correlations were calculated between all of the dependent variables for each research hypothesis in order to test the MANOVA assumption that the dependent variables would be correlated with each other in the moderate range (Meyers et al., 2006). As shown in Table 1, a meaningful pattern of correlations was observed amongst the dependent variables within each research questions, suggesting the appropriateness of a MANOVA.

Results

A one-way MANOVA was first conducted to test the first research question: whether there would be mean difference(s) between student-to-school counselor ratio categories (Low, Medium, and High) on high school's graduation rates and four-year college enrollment rates. A statistically significant MANOVA effect was obtained, Pillai's Trace = .022, $F_{(4, 1256)} = 3.56$, $p < .01$. The multivariate effect size was estimated at .011 which implies that 1.1% of the variance in high school's graduation rate and four-year college enrollment rate was attributed to the student-to-school counselor ratio.

Table 2

One-way ANOVAs with Graduation Rate and Four-Year College Enrollment Rate as Dependent Variables

	Levene's *F*		ANOVAs			High Ratio (> 300)		Medium Ratio (200~300)		Low Ratio (< 200)	
	$F_{(2,628)}$	*p*	$F_{(2,628)}$	*p*	η2	*M*	*SD*	*M*	*SD*	*M*	*SD*
GR	2.05	.130	2.48	.085	.01	91.05	6.54	92.11	6.83	92.80	5.55
FYCER	7.23	.001	7.21	.001	.02	40.12	16.24	45.84	17.87	49.46	20.78

Note. GR=Graduation rate; FYCER=Four-year college enrollment rate

Prior to conducting a series of follow-up ANOVAs, the homogeneity of variance assumption was tested for both dependent variables of Research Question 1. Although the Levene's *F* test suggested that the variances associated with the four-year college enrollment rate was not homogenous, an examination of the standard deviations (see Table 2) revealed that none of the largest standard deviations were more than four times the size of the corresponding smallest, suggesting that the ANOVA would be robust in this case (Howell, 2007). Post hoc one-way ANOVAs on each of the two dependent variables was conducted as a follow-up test to the MANOVA. As shown in Table 2, the ANOVA for four-year college enrollment rate was statistically

significant, with an effect size (partial η^2) of 0.02, while the ANOVA for graduation rate was not statistically significant (p =.085).

Finally, a post-hoc analysis (Scheffe) was performed to examine individual mean difference comparisons across all three levels of student-to-school counselor ratio on four-year college enrollment. As showcased in Table 3, on average, schools with a Medium ratio (i.e., Student-to-SC-Ratio between 200:1 and 300:1) exhibited a higher four-year college enrollment rate than those with a High ratio (Student-to-SC-Ratio greater than 300:1); and Low ratio schools (Student-to-SC-Ratio less than 200:1) had a higher four-year college enrollment rate than Medium ratio schools. However, only the difference between High ratio schools and Low ratio schools in four-year college enrollment was statistically significant (p = .001). A similar linear trend was observed in graduation rates; however, no statistically significant differences were found in graduation rates.

Table 3

Results of Post-hoc Analyses for Mean Difference of Four-Year College Enrollment Rate

Comparisons on four-year college enrollment rate	Mean Difference	SE	p	95% Confidence Interval	
				Lower Bound	Upper Bound
High - Medium	-5.67	2.66	.085	-11.92	.58
High - Low	-9.30*	2.60	.001	-15.41	-3.18
Medium- High	5.67	2.66	.085	-.58	11.92
Medium – Low	-3.63	1.63	.067	-7.45	.20
Low – High	9.30*	2.60	.001	3.18	15.41
Low - Medium	3.63	1.63	.067	-.20	7.45

*Note. * Difference is significant at the 0.05 level*

Another MANOVA was conducted to explore the second research question, investigating potential mean difference(s) between student-to-school counselor ratio (Low, Medium, and High) in public schools concerning absent rates, math achievement, or ELA achievement. The result of this MANOVA was also statistically significant, with Pillai's Trace = .079, $F_{(6, 3006)} = 20.48$, $p < .01$, and a partial $\eta 2$ of .042. This suggests that 4.2% of the variance in absent rates, math achievement, and ELA achievement was explained by the student-to-school counselor ratio.

Before conducting a series of follow-up ANOVAs, the assumption of homogeneity of variance was tested for all dependent variables of Research Question 2. Although the Levene's *F* tests for ELA achievement was statistically significant ($p < .001$)—suggesting that the variances associated with ELA achievement was not homogenous—an inspection of the standard deviations (See Table 4) revealed that none of the largest standard deviations were more than four times the size of the corresponding smallest. This suggests that the ANOVA would be robust in this case (Howell, 2007).

Table 4

One-way ANOVA's with Absent Rate, ELA Achievement, and Math achievement as Dependent Variables

	Levene's *F*		ANOVAs			High Ratio (> 300)		Medium Ratio (200~300)		Low Ratio (< 200)	
	$F_{(2,1504)}$	*p*	$F_{(2,1504)}$	*p*	$\eta 2$	*M*	*SD*	*M*	*SD*	*M*	*SD*
Absent rate	.55	.579	.19	.828	.00	26.92	16.01	26.92	16.89	26.33	15.43
ELA achievement	21.64	<. 001	39.46	**< .001**	.05	128.16	34.02	143.63	38.99	149.05	44.99
Math achievement	2.59	.075	37.78	**< .001**	.05	119.39	42.04	135.09	43.94	143.14	45.87

A series of post hoc one-way ANOVAs on each of the three dependent variables in Research Question 2 were conducted as a follow-up test to the MANOVA. As illustrated in Table 4, the ANOVAs for both ELA achievement and Math achievement was statistically significant, with effect sizes (partial η^2) of 0.05 ($p < .001$) for each, while the ANOVA for absent rate was not statistically significant.

Table 5

Results of Post-hoc Analyses for Mean Difference of ELA and Math Achievement

Comparisons		Mean Difference	SE	*p*	95% Confidence Interval	
					Lower Bound	Upper Bound
ELA	High - Medium	-15.47*	2.32	< .001	-20.92	-10.02
achievement	High - Low	-20.90*	2.55	< .001	-26.88	-14.92
	Medium- High	15.47*	2.32	< .001	10.02	20.92
	Medium – Low	-5.43	2.59	.091	-11.50	0.65
	Low – High	20.90*	2.55	< .001	14.92	26.88
	Low - Medium	5.43	2.59	.091	-0.65	11.50
Math	High - Medium	-15.70*	2.62	< .001	-21.84	-9.57
achievement	High - Low	-23.75*	2.87	< .001	-30.48	-17.02
	Medium- High	15.70*	2.62	< .001	9.57	21.84
	Medium – Low	-8.05*	2.91	.016	-14.89	-1.21
	Low – High	23.75*	2.87	< .001	17.02	30.48
	Low - Medium	8.05*	2.91	.016	1.21	14.89

*Note. * Difference is significant at the 0.05 level*

Post-hoc analyses (Scheffe) were conducted to explore individual mean difference comparisons across all three levels of student-to-school counselor ratio for ELA achievement and Math achievement. As shown in Table 5, Medium ratio schools (student-to-school counselor ratios between 200:1 and 300:1) generally exhibited better ELA achievement than high ratio schools (student-to-school counselor ratios greater than 300:1); and Low ratio schools (student-to-school counselor ratios less than 200:1) demonstrated better ELA achievement than medium ratio schools. A similar linear trend was observed in Math achievement. All mean differences were statistically significant, except for the difference between Low ratio schools and Medium Ratio Schools in ELA achievement.

Discussion

Our study employed two, one-way MANOVAs to examine the relationships between school counselor caseload sizes and student achievement and achievement-related outcomes across several metrics: chronic absenteeism, four-year college enrollment, high school graduation, and standardized exams results. Although such associations were modest, our analysis suggest that employing more school counselors may improve several student outcomes, building on previous research concerning school counselor ratios and student outcomes (Brown & Knight, 2023; Bryan et al., 2022; Carey, Harrington, Martin, & Hoffman, 2012; Carey, Harrington, Martin, & Stevenson, 2012; Carrell & Carrell, 2006; Goodman-Scott et al., 2018; Hurwitz & Howell, 2014; Lapan, Gysbers et al., 2012; Lapan, Whitcomb et al., 2012; Reback, 2010). Our study further contributes to the limited but growing empirical evidence of state-level student outcomes in NYS based on student-to-school counselor ratios (Liu et al., 2024).

Research Question 1

Our multivariate results indicated that students attending lower ratio schools had significantly higher four-year college enrollment and graduation rates. The significant effects

accounted for 1.1% of the variance in high school students' graduation rate and four-year college enrollment. Despite the small amount of explained variance in student achievement outcomes, our result is generally consistent with previous research concerning school counselors' caseload size and high school student outcomes (e.g., Lapan, Gysbers et al., 2012; Woods & Domina, 2014). For example, Bryan and colleagues' (2022) findings showed that higher student-to-school counselor ratios were negatively related to students' enrollment in bachelor's degree programs. Instead, they found that when school counselors had higher caseloads (450 vs. 250 students), students had greater odds enrolling in associate degree programs, other post-secondary education programs, or not enrolling in programs at all.

When examining the individual effects on these two student achievement outcomes, however, only four-year college enrollment rate was statistically significant; whereas, graduation rates were not significantly different based on lower student caseloads, as measured in the current study. Despite Pearson correlations indicating that graduation and four-year college enrollment rates were moderately correlated (.59), the univariate result that student-to-school counselor ratio was not significantly related to graduation rates contrasts with previous findings (Kearney et al., 2021). A possible explanation from such divergence might be the interactional influence of other environmental factors on high school graduation rates such as the lingering effects of COVID-19, especially considering most of data used in previous literature on graduation rates is from before the pandemic (e.g., Brown & Knight, 2023; Lapan, Gysbers et al., 2012; Mulhern, 2020). Additionally, across states, there may be differences in how graduation data is tracked and reported (Donohue et al., 2022) which could have implications on interpretation. For instance, in Texas, graduation rates are tracked when students first begin in Grade 9 and by the end of their fourth year "had either graduated, continued high school, passed an equivalent exam, or dropped out" (Brown & Knight, 2023, p. 4). In contrast, in New York, NYSED tracks graduation rate by reporting the number or

percent of students in the cohort who earned either a Regents or Local diploma (NYSED, n.d.); therefore, this result needs to be further explored.

Research Question 2

We sought to investigate whether school counselor ratios were associated with elementary, middle, and high school students' chronic absenteeism rates and achievement test scores (i.e., ELA and Math). Similar to our findings in Research Question 1, our multivariate analyses showed that caseload size accounted for 4.2% of the explained variance in ELA and math achievement and absenteeism. Indeed, our result is consistent with previous studies illuminating the influential role that school counselors may play in facilitating students' achievement and achievement-related outcomes (e.g., Brown & Knight, 2023; Reback, 2010).

Through further examination of the univariate results for each dependent variable separately, mean differences among caseload size were only significantly related to students' ELA (partial η^2 of 0.05) and Math achievement (partial η^2 of 0.05); whereas, the relationship between caseload size and chronic absenteeism was nonsignificant. In other words, students were more likely to achieve academically when school counselors had lower caseload sizes; however, students' chronic absenteeism rates were generally similar regardless of school counselors' caseload. The results provided nuanced illustration of the role of student-to-school counselor ratios on student outcomes. Namely, while lower student-to-SC ratios were positively related to higher academic achievement in ELA and Math, this was not the case for chronic absenteeism indicating a need for further exploration of how ratios may impact different aspects of student outcomes.

Our univariate result concerning academic achievement (higher standardized test scores) is consistent with previous research (Brown & Knight, 2023; Domina et al., 2022; Reback, 2010); however, our result regarding the relationship between ratios and students' chronic absenteeism seems to both converge (Donohue et al., 2022) and diverge from other findings (Carey, Harrington,

Martin, & Hoffman, 2012; Carey, Harrington, Martin, & Stevenson, 2012; Domina et al., 2022). For example, while Donohue and colleagues (2022) state-level analyses found that in Arizona, Missouri and Rhode Island, schools with higher school counselor ratios had higher rates of chronic absenteeism, this was not the case for three other states examined in their study (i.e., Idaho, Maine, New Hampshire). As noted by Donohue and colleagues, however, differences in the relationships between school counselor ratios and students' chronic absenteeism rates across states may be explained by differences in chronic absenteeism thresholds. For instance, in NYS, a student is considered chronically absent when they miss 10% or more of the school year; however, other states may have different thresholds (e.g., Arizona; Donohue et al., 2022).

Limitations

There are several important limitations to consider when interpreting the results of our research. First, our study focused on NYS which may have different reporting procedures or use different metrics on student outcome data as compared with other state Departments of Education (e.g., Donohue et al., 2022). For instance, the NYSED's four-year college enrollment rate was based on 16 months post-high school graduation; however, such reporting may not be standardized across states which may limit cross-state generalizability of our results.

Second, this study was based on a single school year (2021-2022) and did not explicitly account for student or school counselor demographics (e.g., race/ethnicity) or other environmental influences (e.g., need-to-resource capacity, school level; Liu et al., 2024) which may further contextualize the results given that are a "myriad of factors or systems influencing student academic performance" and other student outcomes (Goodman-Scott et al., 2018, p. 396; Hilts et al, 2023; Hilts et al., 2025). For example, Hilts et al. (2023) found that when there was a greater percentage of White school counselors and White students in the school building, school counselors had greater odds to have a 250:1 student-to-school counselor ratio.

Third, since the student-to-school counselor ratio was calculated based on the number of full-time school counselors in each school, this may not consider the potential influence of part-time school counselors (e.g., one school counselor working part-time in multiple schools) in contributing to student outcomes. For example, participants in Savitz-Romer and colleagues' (2024) study reported that, especially in small rural schools, school counselors may be hired to work across multiple schools each day of the week which may reduce students' access to programmatic services and limit school counselors' ability to forge strong relationships with the school community; thereby, lessening the potential influence of school counselors' programmatic efforts in contributing to student outcomes.

Finally, while it is common in school counseling research to measure the student-to-school counselor ratio categorically, keeping it as a continuous variable (when prerequisites are met) could enable researchers to use more sophisticated regression models. This approach would allow for the consideration of additional systemic factors, such as school budgets and per-student funding, providing a more nuanced analysis.

Implications

We sought to examine the relationship between student-to-school counselor ratios and student achievement and achievement-related outcomes in NYS. Our results indicate the lower school counselor ratios are associated with positive student outcomes (e.g., Math and ELA standardized test scores, four-year college enrollment rates). Specifically, our findings illustrate the important role that school counselors may play in delivering academic and college/post-secondary counseling support (Bryan et al., 2022). Therefore, school counselors should continue to advocate for more manageable student caseloads (Kearney et al., 2021); at the same time, recognizing that ratios alone may not solely determine school counselors' ability to influence student outcomes (Hilts et al., 2023; Nicola, 2024). For instance, Hilts et al. (2023) results suggested that school counselors

having ratios higher than 250:1 were more likely to engage in leadership practices (e.g., securing resources to improve services for students) which is linked to CSCP implementation (ASCA, 2019). Moreover, while school counselors may continue to advocate in their respective schools and districts to have more manageable student-to-school counselor ratios, they may also advocate for engagement in appropriate roles and responsibilities (ASCA, 2019) which may situate themselves to more effectively contribute to student success and development.

Cinotti and colleagues (2022) examined similarities and differences in school counselors' and other educational partners' (e.g., principals, school counseling supervisors) perceptions of school counselors' roles and responsibilities, expectations and priorities following the 2019 NYS amended regulations. The researchers found that participants generally had shared agreement on the perceptions (e.g., school counselors use data to assess student performance and develop necessary skills), priorities (e.g., improve student access to academic support services), activities (e.g., engaging in preventative activities addressing issues such as truancy and dropout), and expectations (e.g., involvement in student programming) of school counselors. While this result offers promising preliminary support for the potential positive impact of such mandates (e.g., delivering a comprehensive school counseling program aligned with the ASCA National Model) on contributing to educational partners' understanding of appropriate roles and responsibilities of school counselors, it seems that districts' following of the amended regulation's *recommended* 250:1 student-to-school counselor ratio in NYS has not taken precedence. Our results suggest that school leaders may engage in increased efforts toward and consideration of expanding school counseling staffing levels. In particular, based on our analyses, increased investment in school counseling resources in schools with lower academic achievement and four-year college enrollment rates may be especially impactful. In other words, it may be "essential that resources are directed toward bolstering those schools that would benefit most from reduction in caseloads" (Nicola, 2024, p. 643).

Relatedly, given that national (e.g., Hilts et al., 2023) and state-level studies (e.g., Brown & Knight, 2023; Donohue et al., 2022) have found schools with higher proportions of students of color (e.g., Black, Latinx) to have higher student-to-school counselor ratios yet such student populations often most benefit from having access to a school counselor (Bryan et al., 2022; Domina et al., 2022), future research that accounts for such potential distinctions in NYS may be helpful. "State-level analyses of such data can inform policy makers and education leaders…to make data-informed decisions about the number of school counselors they will employ to meet the specific needs of each school" (Donohue et al., 2022, p. 10).

Given that student-to-SC ratios alone may not be enough to make a considerable impact on student outcomes, especially since school counselors are often engaged in inappropriate duties (e.g., coordinating testing, building the master schedule; Burnham et al., 2024), school counselors, researchers, and policy makers need to further expand the scope of their advocacy efforts. For example, given the emerging research illustrating the positive relationship between a school's Recognized ASCA Model Program (RAMP) designation and some student outcomes (e.g., ELA and Math achievement; Akos et al., 2019; Hilts et al., 2025), both NYS and the counseling profession may draw their attention toward state-level advocacy taking place in states with more RAMP-designated schools (e.g., Indiana, Virginia, Georgia). In Virginia, for instance, "each school counselor employed by a school board in a public elementary or secondary school shall spend at least 80 percent of his staff time during normal school hours in the direct counseling of individual students or groups of students" (Legislative Information System, n.d., para. 9). By mandating time spent on appropriate roles and responsibilities for school counselors, they may be better positioned to promote student success and development. Therefore, in conjunction with advocating for more manageable ratios, further attention should be directed toward addressing how school counselors spend their time which may correspond with students gaining actual access to school counselors.

Such policy is supported by school counselor ratio research, in which scholars argue that advocating for appropriate ratios should be done in tandem with ensuring high-quality service delivery (e.g., Hilts et al., 2025; Kearney et al., 2021).

Last, the NYSSCA and NYSED might collaborate, as done in other states, to develop a state-approved and monitored evaluation tool for schools and school counselors. For example, Georgia has adopted the Counselor Keys Effectiveness System, which is aligned with the ASCA National Model (ASCA, 2019). This system serves as a method for accountability, and aims to enhance program effectiveness, job performance, and to ensure that school counselors engage in practices that reflect their training and expected responsibilities. Furthermore, implementing a statewide evaluation tool for schools and counselors could enable NYS to more effectively monitor compliance with current school counseling regulations. This would also help identify areas where further policy development may be needed to enhance school counseling programs and improve student outcomes.

Conclusion

In the past decade, there has been a considerable uptick in school counseling scholarship and by professional counseling associations advocating for lower student-to-school counselor ratios as a modality for school counselors to more effectively deliver programmatic services aimed at facilitating students' development and achievement (Goodman-Scott et al., 2018; Hilts et al., 2025). Our study examined the relationships between student-to-school counselor ratios and achievement (i.e., Math and ELA standardized test scores, four-year college enrollment, graduation rates) and achievement-related (i.e., chronic absenteeism) student outcomes in NYS. Despite limitations, our analyses generally support that investment in school counseling resources (e.g., more school counselors) may yield important benefits for students across grade levels. We echo sentiments from other scholars that state and national policy makers and school leaders may advocate for relatively low student-to-

school counselor ratios so that school counselors may have more adequate time (Bryan, 2022; Hilts et al., 2019) to design and deliver comprehensive school counseling programs (ASCA, 2019). Yet, we also recognize that *optimal* caseload sizes should be further considered and explored in conjunction with other system and ecological contexts (e.g., school levels, student demographics, changes in school leadership). Likewise, advocating for policies that result in a state-approved and monitored evaluation tool and mandate schools' tracking of the aggregate time that school counselors spend in direct and indirect services could be particularly beneficial for improving service delivery in schools.

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