



MISSOURI PROFESSIONAL SCHOOL COUNSELORS: RATIOS MATTER, ESPECIALLY IN HIGH-POVERTY SCHOOLS

Results link lower student-to-school-counselor ratios to better graduation rates and lower disciplinary incidents across Missouri high schools. An interaction favorable for promoting student success in school was found between increasing percentages of students receiving free or reduced-price lunch and smaller student-to-school-counselor ratios. In high-poverty schools, those schools that met the ASCA criteria of having at least one professional school counselor for every 250 students had better graduation and school attendance rates, and lower disciplinary incidents.

In the 21st century, the United States and the state of Missouri continue to undergo changes industrially, occupationally, socially, and economically. These changes are creating challenges for students in Missouri. A rapidly changing workplace and labor force; violence in homes, schools, and communities; divorce; and teenage suicide, substance abuse, and sexual experimentation are just a few examples. These challenges are real, and they are having substantial impact on the personal/social, career, and academic development of students in Missouri.

One of the ways in which the state of Missouri is attempting to address these challenges is by developing and implementing effective comprehen-

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sive school guidance and counseling programs (www.missouricareereducation.org). These programs are designed to be integral parts of school districts' total educational programs. They are developmental and include sequential activities organized and implemented by professional school counselors in collaboration with parents/guardians, teachers, administrators, and the community. As developmental programs, they address the needs of all students by facilitating their academic, career, and personal/social development, while helping to create positive and safe learning environments in schools. At the same time, these programs assist students as they face issues and resolve problems that may prevent their healthy development.

Empirical research conducted in the state of Missouri since the 1990s has shown that certified, professional school counselors, when allowed the time, resources, and structure of comprehensive guidance and counseling programs, contribute to positive student academic success, entry into college and postsecondary training, and career development. They also support the creation and maintenance of positive and safe climates in schools. For example, Lapan, Gysbers, and Sun (1997) found that Missouri students in small, medium, and large high schools with more fully implemented guidance and counseling programs (as judged by school counselors) reported that they earned higher grades, their education better prepared them for the future, and their schools had a more positive climate than schools without such programs. Similarly, Lapan, Gysbers, and Petroski (2001) found that, when classroom teachers in small, medium, and large middle schools in Missouri rated guidance and counseling programs as more fully implemented, seventh graders reported they felt safer in their schools, earned higher grades, understood school to be more relevant for them, had more positive relationships with teachers, and were more satisfied with their education. Finally, according to Lapan, Gysbers, and Kayson (2006), when Missouri school

counselors worked in schools that had more fully implemented guidance and counseling programs, they made significant contributions to overall student success including student academic achievement. Specifically, students in these schools had higher scores on 10th-grade standardized achievement tests, in 10th-grade mathematics, and in 11th-grade language arts and communication. They also had better attendance and fewer

for DESE held a two-day conference with counselor educators, Missouri School Counselor Association leadership, and state guidance personnel. These meetings travelled across the state to each of the school counselor training programs and focused on how to ensure that effective, comprehensive school counseling programs could be implemented in every Missouri school—training of new school counselors, professional development

MISSOURI WAS JUDGED TO BE ONE OF THE 17 STATES THAT HAD AN ESTABLISHED COMPREHENSIVE PROGRAM.

discipline problems and out-of-school-suspensions. Supporting these research findings are similar positive results from several independent evaluations of the impact of comprehensive guidance programs for Utah students that began in the 1990s and continue in the present (e.g., Nelson, Fox, Haslam, & Gardner, 2007).

Although efforts to transform school counseling practice in Missouri into the implementation of comprehensive programs had been well underway since the 1960s (Gysbers & Moore, 1974; 1981), the momentum for statewide adoption expanded greatly in the 1980s when the Missouri Department of Elementary and Secondary Education (DESE) began recommending the Missouri Model (Gysbers, Stanley, Kosteck-Bunch, Magnuson, & Starr, 2011) as the standard for best practice and the criteria by which school counseling was evaluated in the rigorous Missouri School Improvement Program accountability initiative (Missouri DESE, 2012). By the late 1990s, intensive and extensive efforts to implement the Missouri Model with fidelity and strength had been incorporated into the ongoing efforts of state guidance directors for DESE, the Missouri School Counselor Association, and counselor educators at all the certified programs training future Missouri school counselors. For example, twice yearly, the state director of guidance

needs of experienced counselors, and support for school counselors presenting their work and results to their schools' boards of education.

The outcomes of these efforts can be seen in the findings from research studies cited above and national studies on the status of school counseling in different states. For example, following up and expanding on the work of Sink and MacDonald (1998), Martin, Carey, and DeCoster (2009) argued that 17 states could be categorized as having established a comprehensive counseling program (24 states were progressing toward model implementation and 10 were just beginning). Missouri was judged to be one of the 17 states that had an established comprehensive program. According to the criteria for this study, this meant that evidence was clearly available that Missouri had a written model, had carried out extensive professional development to implement this model, the features of this model were up to date, the model was endorsed by policy makers and supported in legislation, clear school counseling leadership was evident, the model was strongly linked to career planning efforts, support was available from licensure and accreditation, and evaluation of the model was being carried out. The collaborative efforts of state guidance directors, counselor educators, and school counseling association leaders over a 25-year span led

to transformative changes in school counseling services that are now being more fully delivered statewide to Missouri youth.

Purpose of the Study

One of the most important yet least studied areas in the research on implementation of comprehensive school counseling programs is the issue of ratios of students to school counselors. Many different studies and authors clearly make the case that what school counselors do matters greatly to student growth and development (e.g., Sink & Stroh, 2003; Whiston, Tai, Rahardja, & Eder, 2010). However, researchers have focused less attention on the impact of ratios on school counselor effectiveness, especially in schools that have a history of more fully implementing comprehensive

strongest for low income and minority youth.

The state of Missouri provides an excellent environment to further understanding of the impact of student-to-school-counselor ratios on important outcomes related to academic success. As an established comprehensive program state (Martin, Carey, & DeCoster, 2009), Missouri has established substantial uniformity across schools and school districts in terms of what work tasks school counselors carry out and how they spend their workday. This is not to say that significant variability does not exist, but that, across the state of Missouri, a general commitment to implement a comprehensive program in each school has now become more the norm than the exception. The purpose of the present study was to capitalize on this

ment of Elementary and Secondary Education. The unit of analysis used in this study was the high school building.

Research Questions. This study examined the following research questions:

1. Are student-to-school-counselor ratios related to critical student outcomes (i.e., graduation rates, discipline incidents, attendance, and ACT Composite scores)?
2. After statistically controlling for differences between Missouri schools related to key demographic factors (i.e., enrollment size and the percentage of students receiving free or reduced-price lunch), do smaller student-to-school-counselor ratios predict crucial academic outcomes for Missouri students?
3. In a post hoc analysis, among schools with large percentages of students receiving free or reduced-price lunch, do those schools that meet the ASCA recommended ratio of 250 students for every 1 school counselor have better student outcomes (i.e., graduation rates, disciplinary incidents, attendance, and ACT Composite scores) than schools that do not meet the ASCA criterion?

THE COLLABORATIVE EFFORTS OF STATE GUIDANCE DIRECTORS, COUNSELOR EDUCATORS, AND SCHOOL COUNSELING ASSOCIATION LEADERS OVER A 25-YEAR SPAN LED TO TRANSFORMATIVE CHANGES IN SCHOOL COUNSELING SERVICES THAT ARE NOW BEING MORE FULLY DELIVERED STATEWIDE TO MISSOURI YOUTH.

school counseling programs. The ASCA National Model (American School Counselor Association [ASCA], 2012) recommends that every professional school counselor work with no more than 250 students. National studies estimate that actual ratios are consistently much higher. This strongly suggests that the day-to-day reality of school counselors' work experience is far from the ASCA goal (e.g., 1 school counselor for every 479 students; Young, 2004). In one of the strongest studies to date on the role of school counselor ratios, Carrell and Carrell (2006) found that lower ratios decreased the disciplinary incidents and recurrence of disciplinary problems for Florida schoolchildren. Effects were

situation and examine the relationship between student-to-school-counselor ratios and key outcome markers of student success (i.e., graduation rates, disciplinary incidents, attendance, and ACT Composite scores).

The authors collected existing and publicly available data on Missouri schools to explore the relationship between gains in important outcomes for high school students and student-to-school-counselor ratios. Student outcome data (e.g., graduation rates) and school-level demographic data (e.g., the percentage of students receiving free or reduced-price lunch and student-to-school-counselor ratios) were obtained for each high school in Missouri from the Missouri Depart-

METHOD

Procedures and Participants

The authors obtained all data analyzed in this study from the Missouri Department of Elementary and Secondary Education (<http://dese.mo.gov>). Local districts for all of Missouri's public schools annually report data on school building-level student outcomes, student-to-school-counselor ratios, and school demographics. Data on 481 schools were analyzed in this study. The grade ranges for the schools were as follows: 4% of the schools included grades 6 through 12; 36% had 7 through 12; 58% had 9 through 12; and 2% had grades 10 through 12. Every school in the sample brought

students through to graduation in grade 12. This sample of 481 schools was representative of the wide diversity of Missouri schools in terms of location (urban, suburban, and rural), enrollment size, socioeconomic level, state geography, and minority student enrollment. All data was analyzed using SPSS (2007).

Variables

School-level student outcome variables. The authors used data on four student outcome variables as dependent measures in this study. The outcome measures included (a) percentage of students graduating from each high school ($M=89.38\%$ graduated, $SD=8.82\%$), (b) suspension rates per 100 students ($M=2.58$ suspensions, $SD=3.6$), (c) average daily attendance ($M=93.33\%$ attendance, $SD=3.26\%$), and (d) ACT Composite scores ($M=20.63$, $SD=1.88$).

Student-to-school-counselor ratios. The ratio of students to school counselors was used as the primary independent predictor in this study. For the 481 schools participating in this study, on average, 240 students ($SD=106$) were assigned to every 1 Missouri school counselor

School-level demographic variables. The authors also obtained data on two demographic variables from the Missouri Department of Elementary and Secondary Education for each school participating in this study. The demographic measures included (a) the percentage of students receiving free or reduced-price lunch ($M=39.84\%$ receiving free or reduced-price lunch, $SD=16.47\%$) and (b) the student enrollment size for each school ($M=553$ students, $SD=548$).

RESULTS

Research Question 1

Table 1 reports the correlations between student outcomes, student-to-school-counselor ratios, and school-level demographic variables. Schools with better ratios (i.e., where each school counselor is responsible for

TABLE 1 INTERCORRELATIONS BETWEEN STUDENT OUTCOMES, STUDENT-TO-COUNSELOR RATIOS, AND SCHOOL DEMOGRAPHICS

Predictors	Student Outcomes			
	Graduation	Disc Inc	Attendance	ACT Comp
1. Ratios	-.24**	.23**	-.17**	.20**
2. Free Lunch	-.19**	.21**	-.28**	-.59**
3. Enrollment	-.18**	.28**	-.27**	.32**

Note. Ratios = Student-to-school-counselor ratios in each school. Free Lunch = the percentage of students receiving free or reduced-price lunch in each school. Enrollment = the total number of students attending each school. Graduation = the percentage of students graduating from each high school. Disc Inc = disciplinary incidents per 100 students reported by each school. Attendance = the average daily attendance reported for each school. ACT Comp = the average ACT composite score for each school.

$N=481$ schools. ** $p < .001$.

assisting fewer students) had higher percentages of seniors graduating from high school, fewer disciplinary incidents, and better attendance rates. Schools with larger percentages of their students receiving free or reduced-price lunch had poorer graduation rates, more disciplinary incidents, worse attendance, and much lower ACT Composite scores. And

sional school counselors have better ratios to assist students. This explains the apparently paradoxical correlation in Table 1 where higher ACT scores are related to counselors working with larger student ratios ($r = .20$, $p < .001$). As is clear from the regression analysis presented below, this relationship is an artifact of the profound impact that poverty has on test scores. In order

RESEARCHERS HAVE FOCUSED LESS ATTENTION ON THE IMPACT OF RATIOS ON SCHOOL COUNSELOR EFFECTIVENESS.

finally, schools with larger numbers of students enrolled had lower graduation rates, more disciplinary incidents, worse attendance, but much higher ACT Composite scores.

The authors found a strong relationship between ratios and the percentage of students receiving free or reduced-price lunch ($r = -.27$, $p < .001$). Across Missouri schools, as the percentage of students receiving subsidized lunch increases, the student-to-school-counselor ratio tends to improve. As Table 1 points out, higher percentages of students receiving free or reduced-price lunch is a major predictor of markedly lower ACT Composite scores ($r = -.59$, $p < .0001$). Fortunately, in higher poverty schools in Missouri, profes-

to test for possible benefits or adverse consequences to low income students for attending schools that had lower ratios of students to school counselors, the authors computed an interaction term between ratios and free or reduced-price lunch and used it in all regression analyses reported below.

Research Question 2

Table 2 reports multiple regression analyses predicting student outcomes from school demographic variables and student-to-school-counselor ratios. The statistically significant correlations between ratios and student outcomes could merely be an artifact of underlying differences across Missouri schools related to such potent in-

TABLE 2 HIERARCHICAL MULTIPLE REGRESSION ANALYSES PREDICTING STUDENT OUTCOMES FROM SCHOOL DEMOGRAPHICS AND STUDENT-TO-COUNSELOR RATIOS

Percentage of Students Graduating					
Predictor	R	R2	R2 Change	F Change	Beta
Model 1	.17	.03	.03	14.85***	
Enrollment					-.17
Model 2	.31	.10	.07	34.48***	
Free Lunch					-.28
Model 3	.36	.13	.04	19.02***	
Ratios					-.22
Model 4	.37	.14	.01	5.62**	
Interaction between Free Lunch and Ratios					-.33
Disciplinary Incidents					
Predictor	R	R2	R2 Change	F Change	Beta
Model 1	.28	.08	.08	40.90***	
Enrollment					.28
Model 2	.42	.18	.10	59.10***	
Free Lunch					.35
Model 3	.44	.19	.01	5.61**	
Ratios					.12
Model 4	.45	.21	.02	10.16**	
Interaction between Free Lunch and Ratios					.42
Attendance					
Predictor	R	R2	R2 Change	F Change	Beta
Model 1	.27	.07	.07	36.71***	
Enrollment					-.27
Model 2	.47	.22	.15	93.05***	
Free Lunch					-.43
Model 3	.47	.22	.001	5.61	
Ratios					-.05
Model 4	.48	.23	.01	4.79*	
Interaction between Free Lunch and Ratios					-.28
ACT Composite Scores					
Predictor	R	R2	R2 Change	F Change	Beta
Model 1	.31	.10	.10	52.07***	
Enrollment					-.31
Model 2	.59	.35	.25	180.07***	
Free Lunch					-.55
Model 3	.59	.35	.00	.15	
Ratios					.02
Model 4	.59	.35	.00	.35	
Interaction between Free Lunch and Ratios					.07

Note. * $p < .05$, ** $p < .02$, *** $p < .001$. $N = 481$ schools.

fluences as the percentage of students receiving free or reduced-price lunch and the enrollment size of each school. Multiple regression analyses statistically controlled for these potentially confounding factors and tested for the unique contribution ratios make after removing the influence of free or reduced-price lunch and enrollment size.

Student-to-school-counselor ratios and the interaction between lower ratios and higher poverty schools predicted unique variance in high school graduation rates. Lower student-to-school-counselor ratios predicted an additional 4% of the variance and the interaction between ratios and poverty accounted for an additional 1%. Both of these incremental gains in explaining graduation rates were statistically significant. Between them, ratios and the interaction term uniquely predicted 5% of the variance after removing the substantial effects of school enrollment size and the percentage of students receiving free or reduced-price lunch.

The remaining regression analyses reported in Table 2 were as follows. Lower ratios and the interaction of ratios to poverty predicted small but statistically significant reductions in disciplinary incidents (a total of 3% of the variance between them). Although lower ratios did not predict attendance rates after removing the effects of enrollment and subsidized lunch, the interaction between ratios and poverty did significantly predict a small increase in attendance across Missouri schools. And finally, as pointed out above in reporting the correlations from Table 1, neither ratios nor the interaction between ratios and poverty had any effect on ACT Composite scores. Student-to-school-counselor ratios were not related to either higher or lower ACT scores.

Research Question 3

The authors explored whether advantages existed for students in high-poverty schools who were provided student-to-school-counselor ratios recommended by ASCA. The ASCA National Model (ASCA, 2012) takes the

position that if students are to receive the full benefits of a comprehensive school counseling program, the student-to-school-counselor ratio should not exceed 250:1. To explore this question, Missouri schools with greater than 40% of students receiving free or reduced-price lunch were selected from the study's total sample of 481 schools. Two hundred forty three schools met this criterion. These 243 schools were then subdivided into two groups, one that had ratios of 250 students or less for every 1 school counselor and a second group that had more than 250 students for every 1 school counselor. Of the 243 high-poverty schools, 156 met the ASCA ratio criterion and 87 did not. The two groups of schools had no difference in terms of percentage of students receiving free or reduced-price lunch ($t=1.46, p>.05$). The mean for schools who met the 250:1 criterion was approximately 53% of students receiving free or reduced-price lunch, compared to a 51% subsidized lunch percentage in schools that did not meet the ASCA criterion (the standard deviations were 9.82 and 9.31, respectively).

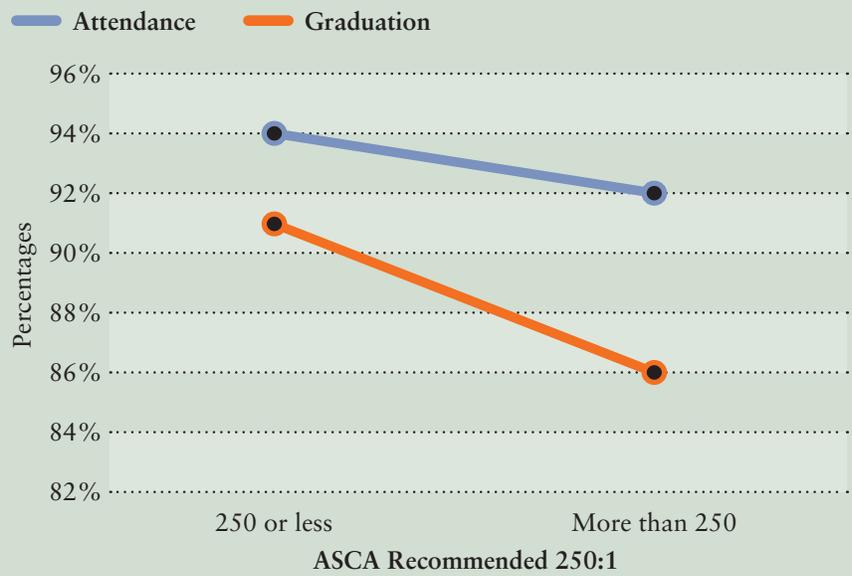
As depicted in Figure 1, the authors found statistically significant differences between these two groups of schools. Those that met the ASCA criterion of having 1 school counselor for every 250 students had better graduation rates (91% versus 86%, $t=3.91, p<.001$), higher attendance (94% versus 92%, $t=2.71, p<.007$), fewer disciplinary incidents (2.17 versus 4.03, $t=-3.35, p<.001$), and no differences in ACT Composite scores (19.81 versus 20.17, $t=-1.49, p>.10$). Students attending high-poverty schools that afforded them the advantage of the ASCA recommended 250:1 student-to-school-counselor ratio had better outcomes on key markers of academic success.

DISCUSSION

Findings from this study suggest that lower student-to-school-counselor ratios play a positive and influential role in promoting student academic

FIGURE 1

STUDENT/COUNSELOR RATIOS IN HIGH-POVERTY SCHOOLS



success, especially in high-poverty schools. In a state that has, over the past 20 years, successfully carried out extensive work implementing comprehensive school counseling programs (Martin, Carey, & DeCoster, 2009), smaller ratios matter to student success. Recent national studies critiquing the adequacy of college counseling services being provided in the public schools point to the negative impact of high ratios of students to school counselors and the encumbrance of school counselor work time with an extensive range of clerical and “non-

social/emotional, and career development) and limits the carrying out of non-guidance tasks to needed “fair share” duties that all educational professionals contribute to make a school operate (Gysbers & Hendersen, 2012). With this programmatic structure in place, smaller ratios make a consistent and meaningful statewide difference for Missouri students.

In this study, smaller student-to-school-counselor ratios were significantly associated with higher graduation rates and lower disciplinary incidents. Ratios were not related to

THE AUTHORS EXPLORED WHETHER ADVANTAGES EXISTED FOR STUDENTS IN HIGH-POVERTY SCHOOLS WHO WERE PROVIDED STUDENT-TO-SCHOOL-COUNSELOR RATIOS RECOMMENDED BY ASCA.

guidance” tasks (e.g., The College Board, 2010; Lapan & Harrington, 2009; Public Agenda, 2010). In a state that has taken major steps to implement comprehensive school counseling programs in every school district, counselor work time has become more organized and apportioned around a framework that focuses counselor attention on promoting holistic development for all students (i.e., academic,

attendance rates or ACT Composite scores (after removing the influence of the enrollment size and the percentage of students receiving free or reduced-price lunch in each school). Furthermore, the interaction between ratios and free or reduced-price lunch did significantly predict unique variance in better graduation rates, lower disciplinary incidents, and higher school attendance rates. As the percentage of

students receiving subsidized lunch increased across schools, lower student-to-school-counselor ratios became an important ingredient for promoting student success.

Figure 1 reports post hoc analyses that further explored the relationship between student-to-school-counselor ratios and student success in high-poverty schools. Two hundred forty three schools with more than 40% of the total student body receiving free or reduced-price lunch (i.e., the mean free

(with enrollment size and free or reduced-price lunch held constant at their mean values) is associated with a high school graduation rate of 89.9%. If 50 students are added to counselors' caseloads so that the mean ratio of students to school counselors is now 300 to 1, the predicted graduation rate for students drops to 89.1%. For every increase of 50 students, this study's sample shows a .8% decrease in graduation rates. In comparison, for every 5% increase in students

(Utphall, 2006) and a school's success in meeting Adequate Yearly Progress for No Child Left Behind (McIntosh, 2010).

In Alabama, the state's financing system that increases subsidies to hire additional elementary school counselors in some schools (thereby improving elementary student-to-school-counselor ratios) was statistically connected to significantly lower rates of student disciplinary incidents (Reback, 2010a). States with policies strongly supporting the hiring of elementary school counselors showed success in reductions of a wide range of student behavioral problems (e.g., fighting, missing class, and stealing) and positive teacher perceptions (e.g., their school has a better climate; their classroom instruction was less likely to suffer because of student misbehavior) (Reback, 2010b). Finally, Carrell and Hoekstra (2011) make a compelling statistical argument that school counselors are a cost-effective educational input that meaningfully improves academic achievement and student behavior.

The Public Agenda (2010) nationwide study of young adults found that approximately half of the study's sample reported that their school counselor saw them as just "another face in the crowd." However, 47% of the Public Agenda sample reported that their counselor made a real effort to get to know them and help them. The young adults whose counselors reached out and made a personal connection with them were more likely to transition from high school and (a) go directly to college, (b) receive financial aid or scholarships to pay for college, (c) be more satisfied with their choice of a college, (d) choose a college based on its academic reputation and/or the financial offers that were made to them, and (e) feel that their college would help them get a good job after graduation. Effective counseling in schools can make a substantial difference in the successful trajectory of young people as they progress in school and transition into core life roles (e.g., learner, worker, and citizen

SMALLER STUDENT-TO-SCHOOL-COUNSELOR RATIOS WERE SIGNIFICANTLY ASSOCIATED WITH HIGHER GRADUATION RATES AND LOWER DISCIPLINARY INCIDENTS. RATIOS WERE NOT RELATED TO ATTENDANCE RATES OR ACT COMPOSITE SCORES

or reduced-price lunch percentage for the distribution of all schools in the sample) were divided into two groups based on whether they met the ASCA recommended ratio of 250 students for every 1 professional school counselor. One hundred and fifty seven of the 243 schools met that criterion. As Figure 1 points out, in high-poverty schools that have the advantage of lower student-to-school-counselor ratios, better academic outcomes are evident. Compared to students in high-poverty schools that have higher ratios, students in high-poverty schools where the ratios met or exceeded recommended ASCA levels had higher graduation rates, better school attendance, and fewer disciplinary incidents.

Results reported in this study represent meaningful differences of a magnitude helpful to policymakers' attempts to realize crucial outcomes such as making progress in closing the achievement gap between lower income students and their more affluent peers. For example, in Missouri, the ASCA recommended ratio of 250 students for every school counselor

receiving free or reduced-price lunch, high school graduation rates decrease by .7%. At the sample's mean of 40% free or reduced-price lunch, the graduation rate is 90%. If the subsidized lunch rate increases to 45%, the predicted value for graduation rates falls to 89.3%.

This study replicates and extends findings from previous research. Its results do not stand alone as an anomaly. They are clearly consistent with the growing body of work that has taken place in different states, populations of students, and academic outcomes targeted for improvement. For example, in a particularly well-designed study, Carrell and Carrell (2006) found that lower student-to-school-counselor ratios in a Florida school district helped prevent student discipline problems from recurring and decreased student involvement in disciplinary incidents. Lower ratios were especially helpful in reducing discipline involvement for lower income and minority elementary school children. Research has also linked better student-to-school-counselor ratios to lower dropout rates in Wisconsin public high schools

roles) (Lapan, Ayoki, & Kayson, 2007; Rothney, 1958). Student-to-school-counselor ratios that meet the ASCA recommended ratio of 250 students for every 1 professional school counselor play a critical role in facilitating student success.

Limitations

Readers should carefully consider three limitations when interpreting the findings from this study. First, although Missouri has been identified as a high implementation state (Martin, Carey, & DeCoster, 2009), this does not mean that clear uniformity exists across all school districts or schools. Studies continue to find significant variability across schools in the level of implementation of comprehensive guidance and counseling programs (e.g., Lapan, Gysbers, & Kayson, 2006). Second, the unit of analysis in this study was at the school building level. Not having data for individual students likely underestimates the strength of the impact effective counseling programs can make. Data that measure the effect for individual students when they have a deep and meaningful relationship with their school counselor would better estimate the true relationship between comprehensive school counseling programs and student success. Finally, as with all studies that use correlations and multiple regression techniques, the possibility exists that other confounding factors not measured in the analyses may be responsible for the results that have been reported. Those interpreting findings from correlational studies should always exercise caution and make tentative interpretations. The authors made every effort to carry out a rigorous test of the research questions stated in the introduction, and they first removed the substantial impact of free or reduced-price lunch and school enrollment size from all regression equations. This resulted in a very difficult test of the possible impact of student-to-school-counselor ratios on critical markers of academic success.

AS THE PERCENTAGE OF STUDENTS RECEIVING FREE OR REDUCED-PRICE LUNCH INCREASED ACROSS SCHOOLS, LOWER STUDENT-TO-SCHOOL-COUNSELOR RATIOS BECAME AN IMPORTANT INGREDIENT FOR PROMOTING STUDENT SUCCESS.

Conclusion

What are the implications of lower ratios for the work of professional school counselors? The authors believe that lower ratios allow school counselors to have more time to work intentionally with all students, helping them become more connected to school and more engaged in their learning. When this happens, students will be more successful academically, personally, and socially. These young people will also be more successful in their transitions to postsecondary education and careers. Although the study found significant relationships between student-to-school-counselor ratios and markers of student success across all school types, particularly strong connections were evident in high-poverty schools. Schools that had a large percentage of students receiving free or reduced-price lunch and that met the ASCA recommended ratio of at least one school counselor for every 250 students were more effective in promoting student success than high-poverty schools that did not meet the ASCA recommended student-to-school-counselor ratio. As the United States attempts to effectively remediate critical longstanding and debilitating conditions (e.g., the achievement gap between lower income students and their more affluent peers), school counselor ratios clearly matter, both to the success of students and to the effectiveness of state and federal policy initiatives.

In Missouri, the research findings reported in this study have played a positive role in collaborative efforts to attempt to set new state standards. The newly proposed goal is to es-

tablish a “desirable standard” under which every full time school counselor would have a caseload between 201 and 250 students, or slightly less than the recommended ASCA ratio (Missouri School Improvement Process, 2012). The authors hope that findings reported in this article—and in this special issue as a whole—will effectively link with current research to shape a new generation of state and federal policies for school counseling that will support the profession’s efforts to enhance the academic, career, and personal/social development of all students. ■

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