COMPREHENSIVE SCHOOL COUNSELING PROGRAMS AND STUDENT ACHIEVEMENT OUTCOMES: A COMPARATIVE ANALYSIS OF RAMP VERSUS NON-RAMP SCHOOLS

This study compares school-wide Annual Yearly Progress (AYP) results in Indiana schools earning the Recognized ASCA Model Program (RAMP) designation (n = 75) with a sample of control schools stratified by level and locale (n = 226). K-12 schools earning the RAMP designation in 2007, 2008, and 2009 comprise the experimental group. Findings indicate that school-wide proficiency rates in English/Language Arts and Math are significantly higher in RAMP-designated elementary schools compared to elementary controls. Four-year longitudinal results indicate a significant positive difference between RAMP-designated elementary schools and their controls in Math. Findings provide support for the impact of comprehensive, data-driven, accountable school counseling programs at the elementary level and suggest further research is needed at the middle and secondary levels. This article presents and discusses additional results and implications for practice.

The American School Counselor Association (ASCA) developed *The ASCA National Model: A Framework for School Counseling Programs* (2003a) in order to clarify the roles and expectations of an entire profession. Revised in 2005 and again in 2012, the ASCA National Model was written:

> to reflect a comprehensive approach to program foundation, delivery, management, and accountability. The ASCA National Model provides the mechanism with which school counselors and school counseling teams will design, coordinate, implement, manage and evaluate their programs for students' success. It provides a framework for the program components, the school counselor's role in implementation, and the underlying philosophies of leadership, advocacy, and systemic change. (ASCA, 2005, p. 9)

On the heels of the ASCA National Model, ASCA developed the Recognized ASCA Model Program (RAMP) designation (2003b). Based on the fundamental tenets of the ASCA National Model, RAMP status is conferred only after school counselors complete a detailed application substantiating their efforts to develop and implement comprehensive, data-driven, accountable school counseling programs guided by their schools' specific, identified needs. In spring 2004, the first time RAMP schools were recognized, three schools

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earned this designation. By 2010, 309 schools had earned this distinction (ASCA, 2011). This growth in the number of schools earning the RAMP designation over a period of 6 years appears to represent an increased commitment by many school counselors to move their programs towards greater accountability and data-driven, comprehensive programming. However, if school counselors are to invest time and energy with the RAMP process, investigation of the potential impacts of such efforts on student outcomes is important.

Thus, the purpose of the current study was to gather school-wide, comparative student outcome data in K-12 RAMP and non-RAMP schools in order to investigate the impact of comprehensive school counseling programs on student academic success.

Educational Reform, Student Outcomes, and Accountability

On the heels of the No Child Left Behind Act (NCLB) of 2001 and the more recent Reauthorization of Elementary and Secondary Education Act (U.S. Department of Education, 2010), measuring student outcomes has become the prevailing expectation for schools and school professionals. Public schools are required to assess student learning on an annual basis by administering standardized tests to students in grades 3-8 and again in grade 10. Student achievement in the areas of English/Language Arts (ELA) and Math is assessed universally on an annual basis. These standardized tests are used to evaluate progress at the individual student level, within each specific school or district, and throughout each state. Results can be disaggregated by grade, gender, ethnicity, and student socio-economic status. Statewide accountability efforts and enhanced access to such comprehensive outcome information make it possible to conduct sound, comparative research. This type of research has become increasingly important, especially in light of recent findings indicating that even in "Blue Ribbon Schools," a designation by the U.S. Department of Education for those schools scoring in the top 10 percent on state assessments, "at least 25 percent of students in at least one grade were not proficient in at least one core subject tested" (Murray, Randolph, & Stacey, 2008, p.1).

Comprehensive School Counseling Programs

There have been distinct calls for rigorous research that evaluates the impacts of school counselor efforts on student outcomes (Bodenhorn, Wolfe, & Airen, 2010; Brigman, Webb, & Campbell, 2007; Clemens, Carey, & Harrington, 2010; Dahir & Stone, 2009; Dimmit, Carey, McGannon, & Henningson, 2005). Research has shown tentative support for specific school counselor activities like career planning, group counseling, and social skills training (Whiston & Sexton, 1998). This support for specific activities has been bolstered by more recent meta-analysis indicating that various school counseling interventions have a positive effect on students, particularly in the area of problem solving and the reduction of disciplinary issues (Whiston, Tai, Rahardja, & Eder, 2011). Studies also have given some indication that school counseling interventions can impact academic achievement (Hadley, 1988; Hoag & Burlingame, 1997; Lee, 1993) and standardized achievement scores (Brigman & Campbell, 2003; Carns & Carns, 1991). However, these investigations have been limited to distinct school counselor activities and interventions, not entire programs. Thus, one additional area for examination is to analyze the impact that comprehensive, data-driven, accountable school counseling programs as a whole have on student outcomes.

The evidence suggesting that comprehensive school counseling programs are associated with improved student success is limited (Lapan, Gysbers, & Petroski, 2001; Lapan, Gysbers, & Sun, 1997; Sink & Stroh, 2003; Steen & Kaffenberger, 2007). However, only one study has evaluated achievement outcomes for students attending schools with Recognized ASCA Model Programs (RAMP). Ward (2009) investigated 31 elementary school RAMP programs in Indiana, Georgia, and North Carolina and found that students in those schools had significantly higher overall student achievement, attendance rates, third grade reading achievement, and third grade, low-income-related achievement compared to state averages. These findings suggest that fully implemented RAMP school counseling programs may have a positive impact on student achievement and achievement-related outcomes. However, Ward's study had three principle limitations. First, it did not investigate RAMP-designated middle and secondary schools. Second, it did not examine sustained impact beyond the initial year of RAMP designation. Third, since the study made student achievement comparisons based on aggregated statewide outcomes, it did not utilize a randomized control group. These limitations represent current gaps in the literature that the present study was designed to address.

IF SCHOOL COUNSELORS ARE TO INVEST TIME AND ENERGY WITH THE RAMP PROCESS, INVESTIGATION OF THE POTENTIAL IMPACTS OF SUCH EFFORTS ON STUDENT OUTCOMES IS IMPORTANT.

Recognized ASCA Model Programs (RAMP) and the Application Process

Due to the burgeoning number of RAMP-designated schools, a new avenue for investigating comprehensive school counseling programs

now exists. This designation presents researchers with important new opportunities to investigate the effects of school counseling programs on achievement and achievement-related outcomes. A significant portion of ASCA's website is devoted to the ASCA National Model and its associated RAMP application process.

RESEARCH HAS SHOWN TENTATIVE SUPPORT FOR SPECIFIC SCHOOL COUNSELOR ACTIVITIES LIKE CAREER PLANNING, GROUP COUNSELING, AND SOCIAL SKILLS TRAINING.

In addition to completing a required information section, RAMP applicants must document their efforts across 12 different areas, including their work to create a school counseling program philosophy and mission statement; develop school counseling program goals; utilize a school counseling program advisory council; implement outcomes-based classroom and small group programming; and conduct what ASCA refers to as "closing the gap" activities. A narrative that provides a rationale for, and a description of, the implementation process for each component of the application is also required. A 28-page scoring document (ASCA, 2012) describes the 12 required program components and includes a five-point scoring rubric for each one. A RAMP application deadline is established each year and completed applications are reviewed by an independent panel composed of school counseling professionals. RAMP status is awarded to programs that receive scores of 54 or higher (out of a possible 60 points). RAMP designation is valid for 3 years, and schools may apply for re-RAMP status at the conclusion of each 3-year cycle.

RAMP for the Current Study

At the time of this study (spring 2011), ASCA reported that more than 400 schools across the country had earned RAMP status, with the highest number (n = 95) in Indiana from 2007 to 2010: 49 schools earned this distinction in 2007; 22 in 2008; 14 in 2009; and 10 in 2010. Within this 4-year time frame, those totals translate to 28 elementary schools, 18 middle schools, and 49 high schools in Indiana that earned this designation. Thus, due to the large number of RAMP schools in Indiana, and in order to control for the variability that exists between states in terms of school reform efforts, resource allocation, and educational priorities, public schools from only one state, Indiana, served as the population of interest for this particular study.

Purpose of the Study

Given the limited body of research on student achievement outcomes related to the presence or nonexistence of comprehensive school counseling programs, the current study investigated the following four research questions:

1. Is there a difference in school-wide student pass rates on English/Language Arts (ELA) assessments between an experimental group of elementary, middle, and secondary RAMP-designated schools (2007-2009) and a stratified sample of control schools at one particular point in time (2009)?
2. Is there a difference in school-wide student pass rates on Math assessments between an experimental group of elementary, middle, and secondary RAMP-designated schools (2007-2009) and a stratified sample of control schools at one particular point in time (2009)?
3. Is there a difference in school-wide student pass rates on English/Language Arts (ELA) assessments between an experimental group of elementary, middle, and secondary RAMP-designated schools (2007) and a stratified sample of control schools over time (from 2005-2006 to 2008-2009)?
4. Is there a difference in school-wide student pass rates on Math assessments between an experimental group of elementary, middle, and secondary RAMP-designated schools (2007) and a stratified sample of control schools over time (from 2005-2006 to 2008-2009)?

METHODOLOGY

Sampling Procedures

An initial description of the sampling procedures used for the current study will facilitate a greater understanding of the ensuing *Participants* section.

Sampling frame. The authors used a comprehensive, statewide school database (N = 1,972) provided by the Indiana Department of Education on February 14, 2011 (Indiana Department of Education, 2011a), to generate the sample for the study.

Data cleaning and sampling preparation.

Control schools. To reduce the possibility of Type 1 errors prior to selecting the schools to be included in the study, the authors took several steps. First, Indiana awards what is termed "Gold Star" status to its exemplary school counseling programs. Similar to the RAMP application process, individuals seeking the Gold Star award for their school counseling programs must submit a portfolio to the Indiana Department of Education that documents their efforts to develop comprehensive programs that focus on student standards, program standards, and professional practice standards (American Student Achievement Institute, 2012). In most cases, but not all, schools with Gold Star status have also earned RAMP designation. At the time of this study, 41 Gold Star schools in Indiana had not earned RAMP status, and the authors removed these from the sampling frame in order to decrease

the potential threat of an unidentified, well-implemented RAMP-like school counseling program being assigned to the control group.

Next, remaining schools were sorted by level. The Indiana Department of Education designates schools as "Primary," "Intermediate," "Elementary," "Middle," "Jr/Sr High School," "High School," "Vocational," etc. In the present study, only those schools designated as "traditional" elementary, middle, and secondary schools (the same designations used by ASCA for RAMP designees) were maintained in the sample. Removal of "non-traditional" schools from the sampling frame at this stage included those schools labeled as "primary" ($n = 65$), "intermediate" ($n = 73$), and "Jr/Sr High Schools" ($n = 107$).

Third, in order to increase the likelihood that experimental and control schools would closely match one another on important demographic indicators (e.g. ethnicity, free/reduced lunch percentages, student-to-school-counselor ratios), all schools were sorted by locale, a standard approach used in educational research to minimize external validity concerns and enhance generalizability. The Indiana Department of Education categorizes schools using eight different locale designations: Large City, Mid-Size City, Urban Fringe of a Large City, Urban Fringe of a Mid-Size City, Large Town, Small Town, Rural Outside Metropolitan Statistical Area (MSA), and Rural Inside Metropolitan Statistical Area (MSA). To maintain adequate cell sizes for subsequent analysis, these eight categories were consolidated into four: "Large" and "Mid-Size" city designations were coded as "Urban;" "Urban Fringe" designations were coded as "Suburban;" "Large" and "Small" towns were coded as "Town;" and the two "Rural" designations were coded as "Rural." Schools lacking a specific locale designation (urban, suburban, town, rural) were removed from eligibility ($n = 33$).

Finally, remaining schools that were not similar in designation to the RAMP schools in the study were eliminated. These schools ($n = 152$) included those listed as "Vocational," "Special Education," or "Detention Centers." Since no RAMP schools carried these designations, comparative analysis was not possible.

Eliminating all of the above-noted schools ($n = 471$) from the database resulted in a final sampling frame of 1,501 schools, organized by the two principle stratification designations of level (elementary, middle, and secondary) and locale (urban, suburban, town, and rural).

RAMP identification. Initially, all RAMP schools in Indiana served as the experimental group. However, for this study, the authors excluded 2010 RAMP designees ($n = 10$) due to changes in the Indiana assessments implemented at the secondary level during that school year. These schools were removed from the sample in order to maintain the reliability and validity of any comparisons to be conducted later on. Furthermore, the authors eliminated nine additional RAMP-designated schools from the experimental group because they did not match the "traditional" elementary, middle, or secondary school designations to be used in this particular study. For example, six RAMP schools were designated as "Jr/Sr High Schools." In order to maintain the integrity of the three designated school levels, these schools were removed from the experimental group. After assigning the remaining RAMP-designated schools ($n = 75$) to the experimental group, all remaining schools within Indiana ($n = 1,406$) were available for control group sampling.

> THIS [RAMP]DESIGNATION PRESENTS RESEARCHERS WITH IMPORTANT NEW OPPORTUNITIES TO INVESTIGATE THE EFFECTS OF SCHOOL COUNSELING PROGRAMS ON ACHIEVEMENT AND ACHIEVEMENT-RELATED OUTCOMES.

Sampling method. In order to control for variability across districts and settings, a stratified control group sample ($n = 226$) three times the size of the experimental group was drawn from the comprehensive list of all remaining public schools in Indiana. This 1:3 sampling ratio is supported by Rosenbaum (2010), who showed that the percent reduction of the total amount by which sample variance can be reduced through the addition of controls is 1-1/k x 100, where k is the number of controls. Thus, the use of two controls reduces the variance by 50% of the total reduction possible; three controls reduces the variance by 67.7% of the total reduction possible; and four controls reduces the variance by 75% of the total reduction possible. Using multiple controls for each RAMP school served to reduce the error of the estimated difference between the RAMP schools and the control schools. Rosenbaum suggests that, if available, the use of at least two controls per treatment is worthwhile. However, using many more than four controls per treatment will yield little improvement. Cell sizes for the control schools available for selection in this particular study (e.g. elementary schools located in suburban locales) were large enough to support the 1:3 sampling ratio, but not quite large enough in all cases to support the 1:4 ratio.

The authors selected control schools using stratified sampling to match the RAMP schools on the two strata of level and locale. For example, nine out of the 24 RAMP elementary schools in the study were located in suburban areas. As a result, the authors selected 27 elementary schools from suburban areas to serve as controls. To assist with longitudinal analysis and comparisons over time, controls were also assigned "dummy codes" by year

TABLE 1 2009 DESCRIPTIVE STATISTICS FOR ALL RAMP AND CONTROL SCHOOLS

Groups		2009 School-wide Proficiency Rates – ELA		2009 School-wide Proficiency Rates – MATH	
RAMP/Controls by level	N (Sample)	*M* (%)	*SD*[a]	*M* (%)	*SD*[a]
Elementary RAMP schools (2007-2009)	24	78.2%	8.1	80.0%	8.0
Elementary controls	72	72.1%	12.3	73.6%	12.4
Middle RAMP schools (2007-2009)	17	71.4%	15.7	73.3%	16.0
Middle controls	53	70.2%	8.1	71.8%	10.4
Secondary RAMP schools (2007-2009)	34	71.6%	8.1	70.1%	10.9
Secondary controls	101	68.4%	11.0	65.5%	13.9

Note. School-wide ELA and MATH proficiency rates for RAMP (2007-2009) and control schools by level (elementary, middle, secondary).
[a]*SD* scores have been translated to %

(e.g., control school, 2007). In another example, 10 of the RAMP elementary schools from 2007 were located in rural areas; therefore, three times that many rural elementary schools (n = 30) were selected and dummy coded as "2007 elementary control schools." A random number generator was used to select the appropriate number of control schools within each designated strata (e.g. urban/elementary, suburban/middle).

Participants

Sample schools. The final sample for this particular study (refer to Table 1) consisted of 301 schools. Of those, 75 were RAMP designees (2007-2009): elementary (n = 24), middle (n = 17), and secondary (n = 34). The authors selected 226 schools as controls: elementary (n = 72), middle (n = 53), and secondary (n = 101). Where particular locales were not present within the experimental group (e.g., 2007 elementary schools from urban areas), no matching controls were selected. For this particular data set, 43 RAMP schools initially designated in 2007 were included: elementary (n = 17), middle (n = 8), and secondary (n = 18). Decreasing in frequency the following year, 21 RAMP schools from 2008 were eligible for analysis: elementary (n = 5), middle (n = 7), and secondary (n = 9). Finally, in 2009, 11 RAMP schools were included: elementary (n = 2), middle (n = 2), and secondary (n = 7). In terms of locale, RAMP schools were distributed across the following locales: rural (n = 31), suburban (n = 25), towns (n = 11), and urban centers (n = 8). Control schools represent the 1:3 sampling ratio explained in previous sections.

Total number of students represented by the sample. In order to aid the reader with generalizability assessment, the authors calculated the annual mean size of each sample school's student testing population using student testing numbers from the Indiana Department of Education reports (Indiana Department of Education, 2011a). Over the 4-year period of the study (2005-2006 through 2008-2009), the annual mean size of the testing population within each of the 24 RAMP elementary schools (M = 267, SD = 148) was smaller than the mean size of the testing population among the 72 elementary school controls (M = 295, SD = 121). The mean testing population within the 17 RAMP middle schools each year (M = 457, SD = 129) was larger than the mean within the 53 middle school controls (M = 264, SD = 94). Finally, the mean size of the testing population among the 34 RAMP secondary schools (M = 309, SD = 176) was larger than it was among the 101 secondary school controls (M = 263, SD = 179). Although overall student testing numbers across the two achievement subjects were not exactly the same, multiplying the means above by the number of schools in each category indicates that the 301 schools in the present study's sample represented approximately 86,478 K-12 students during each year of this 4-year time period: RAMP elementary school students (n = 6,408), control elementary school students (n = 21,240), RAMP middle school students (n = 7,769), control middle school students (n = 13,992), RAMP secondary school students (n = 10,506), and control secondary school students (n = 26,563).

Instrumentation

Indiana Statewide Testing for Educational Progress Plus (ISTEP+) and the Graduation Qualifying Examinations (GQEs). The ISTEP+ is a set of criterion-referenced tests administered annually to Indiana students in grades 3-8 and grade 10. These tests were designed to assess student performance with respect to the Indiana Academic Standards established by the Indiana State Department of Education (Indiana Department of Education, 2011b). The tests do not provide norm-referenced information. Test results are reported as pattern, scale, and vertical scores. For No Child Left Behind reporting, student scores are divided into three performance levels: Pass+, Pass, or Did Not Pass. In Indiana, "Pass" represents the designated proficiency level. Students take the English/Language Arts (ELA) and Math tests every year from third through eighth grade. Students in grades 4 and 6 also complete a Science assessment and stu-

dents in grades 5 and 7 complete a Social Studies assessment. Tenth-graders also complete ELA and Math tests. At the high school level, the assessments are referred to as the Graduate Qualifying Examination (GQE). The GQEs measure student performance on skills from the K-9 ELA standards and the K-8 and Algebra I math standards. Indiana moved to End-of-Course Assessments (ECAs) in 2010, thereby altering the standardized assessment approach previously in place. Thus, 2010 results were eliminated from the current study to insure consistency of comparisons across years.

Test reports include subscale scores that indicate student progress towards meeting the state academic standards. The current study used only school-wide pass rates for English/Language Arts (ELA) and Math. The ISTEP+ was administered during the fall in grades 3-8 and grade 10 from 2003-2004 to 2008-2009. Students were tested twice (fall and spring) during the 2008-2009 school year as the state transitioned testing over to the spring. The current study used only fall testing results from 2005-2006 through 2008-2009 (a 4-year period). Inter-rater reliability statistics for the ISTEP+/GQE tests are within acceptable limits at the item level (Indiana Department of Education, 2010). The average of the state-level reliability coefficients for the ELA and Math content areas from the spring 2009 administration were as follows: ELA $\alpha = 0.91$(range 0.88–0.94), Math $\alpha = 0.91$ (range 0.88–0.95).

Data Analysis

The authors used archival information provided on the Indiana Department of Education's public website (Indiana Department of Education, 2011a) to access school-wide student achievement outcomes. School-wide proficiency rates for English/Language Arts (ELA) and Math assessments were used to compare student outcomes in experimental RAMP schools with student outcomes in the control schools. The authors conducted two separate analyses.

First, a factorial ANOVA (Heppner, Wampold, & Kivlighan, 2008) was conducted to evaluate the percentage of students passing ELA and Math assessments within all RAMP schools (2007, 2008, and 2009) compared to a stratified sample of students attending control schools using one data point in time only (2009 percent passing rates). For this first analysis, the authors compared school-wide proficiency rates for ELA and Math assessments within all RAMP-designated elementary schools to student proficiency rates within the elementary school controls. Similarly, student proficiency rates within RAMP-designated middle and secondary schools were compared to the proficiency rates of students within the assigned control group schools to determine whether or not a statistically significant difference existed between groups on the two dependent variables. Levene's test was used to test the assumption of homogeneity of variance (Huck, 2000).

Second, using the largest group of RAMP schools (2007) and a stratified group of control schools, the authors executed a mixed-design ANOVA (Graziano & Raulin, 2007) to conduct a 4-year longitudinal analysis of school-wide proficiency rate outcomes from 2005-2006 (1 year prior to RAMP designation) through 2008-2009 (2 years after RAMP designation). This analysis yielded within-subject time effects, time x level effects, and between-subject effects.

In cases where between-subject effects resulted in a significant *F*, the authors used Duncan's multiple range test. Although that test provides less control over Type I error, this disadvantage is offset by its increased control over Type II errors (i.e., greater power) (Huck, 2000). These post hoc analyses were conducted to determine which specific pairs of comparisons were most likely to be significantly different from one another. The authors also calculated post hoc effect sizes and power analyses (computed using $\alpha = .05$), which are presented in Tables 2 and 4.

> IT COULD BE THAT MORE DISCRIMINATING CHANGES IN SCHOOL-WIDE PROFICIENCY RATES WITHIN RAMP SCHOOLS ACTUALLY OCCURRED AT SOME POINT PRIOR TO THE YEARS UNDER INVESTIGATION.

RESULTS

Research Questions 1 and 2

Question 1: Is there a difference in school-wide student pass rates on English/Language Arts (ELA) assessments between an experimental group of elementary, middle, and secondary RAMP-designated schools (2007-2009) and a stratified sample of control schools at one particular point in time (2009)?

Question 2: Is there a difference in school-wide student pass rates on Math assessments between an experimental group of elementary, middle, and secondary RAMP-designated schools (2007-2009) and a stratified sample of control schools at one particular point in time (2009)?

Table 1 presents descriptive statistics for the first analysis. In this instance, aggregated results for all RAMP schools (2007, 2008, and 2009) are provided by level using school-wide proficiency data from the 2009 ELA and Math administrations. Basic percentage comparisons can be made between RAMP and control schools at each level (elementary, middle, and secondary). In all cases,

TABLE 2 2009 ANOVA SUMMARY TABLE RESULTS FOR ALL RAMP SCHOOLS VS. CONTROL SCHOOLS

Dependent Variable	*SS*	*df*	*MS*	*p*	n^2*	Observed Power
ELA Proficiency Rates	.207	5	.041	**.004**	.06	.922
Error	3.39	295	.011			
Math Proficiency Rates	.562	5	.112	**.000**	.11	.999
Error	4.54	295	.015			

Note. Tests of between-subject effects for RAMPs vs. Controls on 2009 school-wide proficiency rates (ELA and Math).
*n^2 : effect size (.01 = "small," .059 = "medium," .138 = "large")

student proficiency rates in RAMP schools exceeded their control school counterparts. The largest percentage difference (6.4%) existed between RAMP elementary (80%) and control elementary (73.6%) schools in Math. The smallest percentage difference (1.2%) existed between RAMP middle (71.4%) and control middle (70.2%) schools in ELA.

The authors performed an ANOVA to examine the first two research questions. In this analysis (see Table 2), outcomes on the two dependent variables (ELA and Math) were evaluated using the six distinct groups identified in Table 1 (elementary, middle, and secondary RAMP schools; and elementary, middle, and secondary control schools). In this instance, the authors identified significant between-subject effects among the six different groups on both the ELA and Math outcome variables: ELA Proficiency Rates ($F(5,295) = 3.60$, $p \leq .004$); Math Proficiency Rates ($F(5,295) = 7.31$, $p \leq .000$). Medium effect sizes for both the ELA outcome ($n^2 = .06$) and the Math outcome ($n^2 = .11$) were detected and observed power was adequate (ELA = .922; Math = .999)

The authors conducted a post hoc analysis using Duncan's multiple range test to determine the nature of the differences between the groups. This analysis indicated that school-wide proficiency rates in ELA and Math were significantly higher in RAMP elementary schools (ELA = 78.2%; Math = 80.0%) when compared with their elementary control schools (ELA = 72.1%; Math = 73.6%). No further statistically significant differences between matching level groups were detected.

Research Questions 3 and 4

Question 3: Is there a difference in school-wide student pass rates on English/Language Arts (ELA) assessments between an experimental group of elementary, middle, and secondary RAMP-designated schools (2007) and a stratified sample of control schools over time (from 2005-2006 to 2008-2009)?

Question 4: Is there a difference in school-wide student pass rates on Math assessments between an experimental group of elementary, middle, and secondary RAMP-designated schools (2007) and a stratified sample of control schools over time (from 2005-2006 to 2008-2009)?

Table 3 presents descriptive statistics for the second analysis. For this evaluation, the authors compared the largest subgroup of RAMP schools, those earning the designation in 2007 ($n = 43$), to control schools ($n = 130$) over a 4-year period. This time period, 2005-2006 through 2008-2009, included data from 1 year prior to initial RAMP designation to 2 years beyond. Here, school-wide ELA and Math proficiency rates in RAMP schools can be compared to their control school counterparts during a 4-year period. Preliminary investigation of this particular table indicates very little fluctuation over time for any of the different subgroups. For example, ELA proficiency rates for students in secondary RAMP schools remained fairly consistent during the 4-year investigation period, with 70.8% of the students reaching proficiency in 2005-2006, 70.0% in 2006-2007, 71.8% in 2007-2008, and 70.8% again in 2008-2009. Other subgroups also exhibited fairly similar levels of consistency on school-wide ELA proficiency rates over time. This pattern is replicated within the Math portion of the table. Despite what appear to be negligible changes within groups over time, however, overall ELA and Math proficiency rates during the designated 4-year period of this analysis within RAMP schools exceeded control school proficiency rates at every level and in all cases (refer to the "% Proficient (Overall)" column on the right side of Table 3).

The authors conducted a mixed-design ANOVA to determine whether or not these observed differences could be attributed to something other than chance. This longitudinal analysis yielded within-subject time and time x level results, and between-subject level effects for the two dependent variables of school-wide ELA and Math proficiency rates (see Table 4). In this analysis, no significant time or time x level interaction effects existed for either dependent variable. However, statistical significance did exist at the between-subject effects level for both the ELA and Math outcomes: ELA Proficiency Rates ($F(5,167) = 3.1$, $p \leq .01$); Math Proficiency Rates ($F(5,167) = 7.57$, $p \leq .00$). The ELA effect size ($n^2 = .09$) was medium and the Math effect size ($n^2 = .19$) was considered large. For these two results, observed power was adequate (ELA = .868; Math = .999).

The authors conducted a post hoc analysis to evaluate existing differenc-

TABLE 3 LONGITUDINAL DESCRIPTIVE STATISTICS FOR 2007 RAMP VS. CONTROL SCHOOLS

ELA

Groups		2005-2006		2006-2007		2007-2008		2008-2009		% Proficient (Overall)	
RAMP/Controls by level	N	*M* (%)	*SD*[1]	*M* (%)	*SD*[1]	*M* (%)	*SD*[1]	*M* (%)	*SD*[1]	*M* (%)	*SE*
Elementary RAMP schools (2007)	17	76.9%	9.7	78.5%	9.5	78.4%	9.4	78.8%	8.9	78.1%	.024
Elementary controls	51	73.4%	13.2	71.0%	15.1	73.8%	12.9	71.9%	13.8	72.5%	.014
Middle RAMP schools (2007)	8	67.2%	17.2	73.5%	14.8	71.9%	10.3	72.4%	15.2	71.3%	.035
Middle controls	24	68.3%	7.0	69.7%	8.4	69.7%	7.7	70.5%	6.8	69.5%	.020
Secondary RAMP schools (2007)	18	70.8%	9.1	70.0%	9.5	71.8%	8.9	70.8%	8.1	70.8%	.023
Secondary controls	55	68.0%	11.7	68.0%	10.7	68.3%	12.5	68.4%	11.2	68.1%	.013
TIME (Overall)		**70.8%**		**71.8%**		**72.3%**		**72.1%**			

MATH

Groups		2005-2006		2006-2007		2007-2008		2008-2009		% Proficient (Overall)	
RAMP/Controls by level	N	*M* (%)	*SD*[1]	*M* (%)	*SD*[1]	*M* (%)	*SD*[1]	*M* (%)	*SD*[1]	*M* (%)	*SE*
Elementary RAMP schools (2007)	17	81.1%	7.5	82.3%	7.0	81.5%	10.4	80.6%	7.7	81.4%	.025
Elementary controls	51	76.5%	11.9	72.7%	16.1	75.8%	12.5	72.9%	13.3	74.5%	.015
Middle RAMP schools (2007)	8	74.7%	14.1	75.7%	14.8	75.3%	9.2	71.5%	18.1	74.3%	.037
Middle controls	24	69.9%	7.6	69.8%	8.4	69.8%	8.9	68.5%	8.5	69.5%	.021
Secondary RAMP schools (2007)	18	69.5%	12.1	69.7%	11.6	70.5%	10.3	70.0%	10.5	69.9%	.024
Secondary controls	55	64.6%	14.3	65.9%	12.5	66.8%	14.3	66.0%	13.8	65.8%	.014
TIME (Overall)		**72.7%**		**72.7%**		**73.3%**		**71.6%**			

Note. Descriptive statistics for experimental RAMP schools (2007) by level (elementary, middle, secondary) compared to random control schools on school-wide proficiency rates (ELA and MATH) over time (2005-2006 through 2008-2009).
[1]*SD* scores have been translated to %

es between the groups. Results indicated that the overall 4-year, school-wide proficiency rates in Math were significantly higher in RAMP elementary schools (81.4%) than in the control elementary schools (74.5%). In terms of ELA proficiency rates, although a 5.6 percentage point difference existed between RAMP elementary schools (78.1%) and their elementary controls (72.5%), this outcome did not result in a statistically significant finding. No further statistically significant differences existed between relevant comparison groups (RAMP middle vs. control middle; RAMP secondary vs. control secondary).

DISCUSSION

The major purpose of the current study was to compare school-wide annual proficiency rates on English/Language Arts (ELA) and Math achievement tests for Indiana schools with Recognized ASCA Model Programs to a stratified sample of control schools without such programs. In accordance with this line of questioning, three discussion points merit attention.

First, given the limited body of research that has been conducted on RAMP schools, and the preliminary, exploratory nature of the research questions presented herein, the descriptive findings from this study bear mention. In the current study, descriptive data on school-wide achievement outcomes favored RAMP schools at every school level in both analyses. In the first analysis (refer to

TABLE 4 LONGITUDINAL MIXED DESIGN ANOVA SUMMARY TABLE RESULTS FOR 2007 RAMP SCHOOLS VS. CONTROL SCHOOLS

ELA

Source	*SS*	*df*	*MS*	*p*	n^{2*}	Observed Power
Within-Subject Effects						
Time	.016	3	.005	.35	.01	.295
Time x Level	.048	15	.003	.84	.02	.424
Error (time)	2.52	501	.005			
Between-Subject Effects						
Level	.593	5	.119	**.01**	.09	.868
Error	6.37	167	.038			

MATH

Source	*SS*	*df*	*MS*	*p*	n^{2*}	Observed Power
Within-Subject Effects						
Time	.018	3	.006	.41	.01	.264
Time x Level	.063	15	.004	.79	.02	.465
Error (time)	3.05	501	.006			
Between-Subject Effects						
Level	1.63	5	.327	**.00**	.19	.999
Error	7.21	167	.043			

Note. Tests of within-subject time effects, time x level effects, and between-subject effects for 2007 RAMP vs. control school-wide proficiency rates (ELA and MATH) over time (2005-2006 to 2008-2009).
*n^2 : effect size (.01 = "small," .059 = "medium," .138 = "large")

Table 1), school-wide ELA and Math proficiency rates for the experimental groups of RAMP-designated schools at one point in time (2009) exceeded non-RAMP control schools across the board. School-wide proficiency scores in elementary RAMP schools exceeded their controls by 6.1% on the ELA assessment and by 6.4% on the Math assessment. At the secondary level, RAMP schools exceeded their controls by 3.2% on the ELA assessment and 4.6% in Math. Middle schools with the RAMP designation also outperformed their non-RAMP counterparts by 1.2% on the ELAs and 1.5% in Math. This pattern of differences at the descriptive level persisted in the second analysis (refer to Table 3). In this case, the overall means on school-wide ELA proficiency rates in RAMP schools for the four years under investigation exceeded control school outcomes by 5.6% at the elementary level, 2.7% at the secondary level, and 1.8% at the middle school level (refer to "% Proficient (Overall)" column results). Likewise, in Math, school-wide proficiency rates in RAMP schools exceeded their controls at every school level with a 6.9% difference realized at the elementary level, a 4.8% difference at the middle level, and a 4.1% margin at the secondary level. Additional research to investigate these trends further is warranted.

Second, in both analyses, the differences in school-wide proficiency levels among RAMP elementary schools were significantly different compared to their elementary controls. In the first analysis (refer to Table 1), both the 6.1% difference in school-wide ELA proficiency rates and the 6.4% difference in school-wide Math proficiency rates were statistically significant. In the second longitudinal analysis, significance was also reached in the school-wide proficiency scores for Math at the between-subjects level for 2007 elementary RAMP schools (81.4%) compared to their elementary school controls (74.5%) (refer to Table 3). Aside from the comparisons at the elementary level, no other differences between RAMP schools and their control school counterparts were statistically significant.

These findings mirror student achievement results outcomes from previous studies. Prior to introduction of the RAMP designation, Sink and Stroh (2003) compared achievement test scores for students attending elementary schools with well-established comprehensive school counseling programs (CSCPs) to scores for students enrolled in schools without CSCPs. They found that, over time,

students attending schools with CSCPs tended to do better on tests of academic achievement than those students attending non-CSCP schools. Similar results are noted in Ward's more recent 2009 study. However, in contrast to Sink and Stroh's CSCP approach, Ward utilized ASCA's RAMP designation as the independent variable for her analysis. Paired with the findings from previous studies, the current results supplement the evidence about comprehensive school counseling programs and student achievement. Once again, CSCPs at the elementary level (defined here by RAMP designation) are associated with a positive impact on student achievement outcomes. In an era of increased accountability, this outcome may provide additional evidence and support for the implementation of data-driven school counseling programs at the elementary school level.

One final point bears note. The second analysis found no significant time or time x level differences. These results are best illustrated in Table 3. As indicated in the "TIME (Overall)" row at the bottom of each assessment category, the mean percentage of school-wide proficiency rates changed very little from 2005-2006 to 2008-2009. Overall ELA proficiency rates were 70.8% in the first year, 71.8% in the second year, 72.3% in the third year, and 72.1% in the fourth year. In Math, those percentages were 72.7% in 2005-2006, 72.7% in 2006-2007, 73.3% in 2007-2008, and 71.6% in 2008-2009. This pattern also is replicated within each subgroup at the time x level interaction, with proficiency rates changing very little from year to year. This indicates that school-wide proficiency rates did not increase or decrease over time in RAMP schools or in control schools during the four years under investigation. These findings contradict the significant time x group interaction effects noted by Sink and Stroh (2003). In that particular study, students attending schools with CSCPs tended to outperform their counterparts in comparison schools over time.

Failure to identify significance over time in the current study could be attributed to one of two issues: (a) lack of significant power or (b) overall study design. Regarding the first issue, in both longitudinal analyses (ELA and Math), observed power at the within-subjects levels was relatively low (refer to Table 4). In all likelihood, this reduction is due to the decreased number of schools within each comparison group. This lack of power might have increased the likelihood of a Type II error. Longitudinal studies that focus on the overall size of future comparison groups is recommended.

> PRACTICING PROFESSIONALS NEED TO CONSIDER HOW THEY MIGHT DEVELOP AND/OR ENHANCE THE SKILLS THAT WILL ENABLE THEM TO CARRY OUT THIS TYPE OF WORK.

Regarding the second issue noted above, the overall study design for the current investigation specified only four years of data for comparison purposes. Data points included in the analysis were proficiency rates 1 year prior to RAMP designation (2005-2006), during the year of designation (2006-2007), and 2 years following initial designation (2007-2008 and 2008-2009). A review of the descriptive data from this particular analysis (see Table 3) indicates that positive differences already existed between RAMP schools and their controls in 2005-2006 with only one exception (middle RAMP schools vs. control middle schools on the ELA assessment). These pre-existing differences could be attributed to the nature of the RAMP application process itself. ASCA notes on its website that the RAMP application process should be the "culmination of the implementation of a comprehensive school counseling program" and that "once your school has a program in place, you will need at least one entire academic year to collect the data and information needed to fulfill the RAMP application requirements." Based on this information, it could be that more discriminating changes in school-wide proficiency rates within RAMP schools actually occurred at some point prior to the years under investigation. This might be a reasonable expectation given the fact that RAMP is granted to schools once they already have their comprehensive school counseling program in place. If RAMP hopefuls have already developed their programs and are solely completing their documentation in the year prior to submitting their applications, the current study may not have reached back far enough to determine where these schools started and when they actually began to separate themselves from the controls. In fact, it is possible that a number of RAMP-designated schools had programs in place for numerous years prior to completing their applications and earning their designations. In other words, school-wide proficiency rates may have started increasing at some point considerably earlier in the process of program development. Furthermore, although the authors made every effort to generate a suitable control group for this study, the stratified sampling procedures used may have been insufficient to control for pre-existing variance among schools in such things as curricular offerings or teacher competence. Overall, the absence of statistically significant differences at the within-subject level for the current study indicates the importance of conducting additional longitudinal analysis in the future.

Implications for Practice and Preparation

Professional School Counselors. Since the introduction of the ASCA National Model in 2003, numerous studies have investigated school counselors' beliefs and dispositions about appropriate and inappropriate professional

roles and responsibilities (Clemens, Carey, & Harrington, 2010; Hatch & Chen-Hayes, 2009; Scarborough, 2005; Whiston & Aricak, 2008). Recently, Young and Kaffenberger (2011) surveyed school counselors in RAMP programs to determine how they utilized data to develop and drive their programs and found that participation in the RAMP process appears to have a positive impact on data-driven practices. This contrasts somewhat with earlier findings by Hatch and Chen-Hayes (2008), who measured school counselor beliefs by surveying ASCA members in general and found that participants viewed the "Use of Data for Program Planning" and "Use of Data for Accountability" as less important than "Mission, Goals, and Competencies" and "Administrative Support." Nevertheless, as positive evidence emerges pointing to the potential achievement advantages for students attending schools with data-driven, comprehensive school counseling programs, practicing professionals need to consider how they might develop and/or enhance the skills that will enable them to carry out this type of work. Participation in professional development opportunities through national and state-level conferences, as well as advocacy for school counselor-specific district and school-level trainings, may be increasingly important.

States. Indiana has been involved in a concentrated and sustained effort to develop comprehensive, data-driven school counseling programs. A recent memo to Indiana School Superintendents and Administrators (Indiana Department of Education, 2011c) noted that there are more RAMP designated schools in Indiana than in any other state in the country. The memo goes on to list a number of state-wide initiatives that are underway to maintain support for school counseling. Some of these initiatives include: work to develop a uniform job description that mirrors the current state of the profession, the development of a model evaluation tool for school counselors, and implementation of the "Choices for Achievement" program that focuses on the impact school counselors have on student achievement. Work of this nature at the state level is to be commended. In many ways, this type of top-down advocacy for change may be what is needed to foster changes within the profession at the district and school levels. As the evidence mounts in support of data-driven, accountable school counseling programs, professionals are encouraged to collaborate with their own state departments of education. Any significant shift in the role and responsibility expectations for school counselors may need to come from concerted efforts at both the bottom-up micro (individual) level and the top-down macro (state) levels.

SCHOOL-WIDE PROFICIENCY RATES IN ELA AND MATH WERE SIGNIFICANTLY HIGHER IN RAMP ELEMENTARY SCHOOLS WHEN COMPARED WITH THEIR ELEMENTARY CONTROL SCHOOLS.

ASCA. The American School Counselor Association developed the Recognized ASCA Model Program designation to recognize school counseling programs that are committed to delivering comprehensive, data-driven, accountable school counseling programs. In the current study, especially at the elementary school level, such programs appear to have a positive impact on student achievement outcomes. However, based on the longitudinal results in the current study, whether or not RAMP programs improve school-wide test scores in an ongoing fashion from one year to the next is not yet clear. In the current process, schools may re-RAMP by going through the same, original RAMP application process every third year. ASCA might refine their re-RAMP expectations by raising the bar for those who seek ongoing recognition. For example, perhaps additional RAMP designations and levels (such as a "RAMP-platinum" level) could be developed to acknowledge programs that show evidence of ongoing improvement to school-wide student outcomes over time. This type of recognition might bolster the argument that school counseling programs contribute to improving the bottom line for all students within each school in a sustained fashion.

Preparation Programs. Standard I.4 of the Council for the Accreditation of Counseling and Related Educational Programs (CACREP) guidelines (CACREP, 2009) states that students who are preparing to work as school counselors must demonstrate knowledge about the "current methods of using data to inform decision making and accountability." Standard J.3 states that students must be able to "analyze and use data to enhance school counseling programs." Although not all school counselor preparation programs are accredited, CACREP currently stands as the premier organization providing assurances that programs meet nationally approved standards. In this case, the above-mentioned standards illustrate the emerging importance of data as it relates to school counselor preparation. As such, it is important for graduate programs to develop and incorporate curriculum that teaches students not just about the importance of data, but about how they can actually use it in their work. For this to happen, school counselor educators must develop the knowledge and competencies to teach their students to perform these crucial tasks.

Strengths, Limitations, and Recommendations for Future Study

The current study was conducted to investigate the impact of RAMP programs on school-wide student proficiency rates in English/Language

Arts (ELA) and Math in the state of Indiana. The strengths of the study include its use of RAMP-designated schools to represent comprehensive school counseling programs and its longitudinal evaluation of such programs compared to a stratified sample of control schools selected to match the experimental schools on the two strata of level and locale. This design builds on research previously conducted and adds support to the claim that comprehensive school counseling programs can have a positive impact on student achievement at the elementary school level. Although similar outcome trends were noted at middle and secondary levels, they were not statistically significant.

The current study has two limitations of note. First, this study was conducted using schools in one state, Indiana. Future investigations might investigate similar outcomes between RAMP and non-RAMP schools in additional states or by utilizing a national sample of experimental and control groups. Second, potential issues of power and research design may have had an impact on the longitudinal analyses conducted in this study. Future investigations of student academic outcomes in RAMP-designated schools should attend to sample size issues and potentially extend the evaluation of school-wide achievement out to points several years prior to and several years beyond initial RAMP designation. Such analyses may provide important insights into the impact trends of school counseling programs over time.

Future studies also might include personal/social development and college/career development as their dependent variables. Finally, studies that focus on the differential impacts of comprehensive programs based on disaggregated student variables like ethnicity, gender, and socioeconomic status are warranted as the profession continues to focus its energy and efforts on identifying and responding to crucial student achievement gaps.

CONCLUSION

The proliferation of Recognized ASCA Model Programs (RAMP) indicates that a growing number of school counseling professionals are willing to document their efforts to create comprehensive, data-driven, accountable programs. The increasing number of such programs across the United States makes possible further research into school counseling and its impact on student achievement and other achievement-related outcomes. The present study yielded encouraging results about the potential impact of RAMP programs on student achievement, particularly at the elementary school level. Additional research into the impact of Recognized ASCA Model Programs is needed, particularly over time and with a focus on additional states. ■

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