School Counselors' Perceptions of Academic Support for Concussed Students

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Objective: School counselors are important members of the concussion management team. However, little is known about their perceptions of academic adjustments for concussed student-athletes. **Methods:** Participants were solicited to complete the Beliefs, Attitudes and Knowledge of Pediatric Athletes with Concussion – School Counselor (BAKPAC-SC) survey. **Results:** In all, 669 school counselors across 50 states responded to the BAKPAC-SC. Most participants agreed that concussion can affect school performance and disagreed that there is too much focus on concussions in sports. Attitudes and experiences were related to access to an athletic trainer, years of experience, and a personal history of concussion. **Conclusions:** Overall, school counselors had positive attitudes toward academic adjustments for concussed student athletes.

Key words: concussion; academic adjustments; return-to-learn; secondary school; mild traumatic brain injury
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Concussions are considered to be a public health issue, particularly among adolescent athletes. Over 44 million children and adolescents participate in sports each year,[1] and it is estimated that 1.1 to 1.9 million sport- and recreation-related concussions occur annually in the United States (US) among children and adolescents 18 years old and under.[2] However, it is possible that these estimates underrepresent the true incidence of concussion due to a potential lack of reporting by adolescents.[2,3]

Currently, physical and cognitive rest followed by a gradual return-to-activity, continue to be the cornerstone of concussion post-injury management.[4,5] Because the primary role of the adolescent is to be a student, an emphasis on properly returning to cognitive activities should be at the forefront of the treatment protocol.[6-9] Cognitive rest, guided by the student's symptom presentation, should be recommended to patients suffering from a concussion. However, data available to support this recommendation are limited, and the amount and timing of rest that should be prescribed is unclear.[5] Brown et al[10] found that patients who reported the greatest amount of cognitive activity took significantly longer to recover from a concussion than their counterparts. Conversely, it also has been reported that complete abstinence from all cognitive activity is not necessary.[10] In fact, strict rest may cause prolonged physical and emotional symptoms due to falling behind in school and being isolated from peers.[11] Therefore, returning an adolescent to school following a concussion often requires some form of academic adjustments.[7] The return-to-school progression will vary by patient depending on symptom presentation, but a general return-to-school guideline has been developed[9] to assist the concussion management team as they determine the most appropriate treatment plan for a successful return to both school and activity.

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The management of adolescent concussion in the secondary school setting is believed to be most effectively implemented via coordination of a multidisciplinary concussion management team,[7,8] which includes key personnel such as athletic trainers, team physicians, neurologists, rehabilitation specialists, the school nurse, school administrators, the athletic director, teachers, and school counselors.[12,13] The concussion management team can be subdivided in to smaller teams, including the family team, medical team, school physical activity team, and the school academic team.[7] Each team member should understand their role in the student's return to academics and physical activity.

As a key member of the school-based academic team, school counselors are ideally positioned to collaborate with the school nurse and athletic trainer to determine the needs of the concussed student, design and monitor an intervention plan, and work with other members of the concussion management team to adjust the plan as needed to fit the needs of the student.[14-16] The school counselor also may be responsible for communicating with the student and their teachers on a daily basis to ensure the student is progressing through the return-to-school progression appropriately.[17] According to the American School Counselor Association (ASCA) National Model,[18] school counselors have roles in leadership, advocacy, and collaboration to promote systemic change. Appropriate responsibilities relevant to concussion management include: individual student academic program planning, providing counseling to students who are tardy or absent, collaborating with teachers to present school counseling core curriculum lessons, and providing teachers with suggestions for effective classroom management.[18] Activities that school counselors may use to facilitate indirect services to students may include referrals for additional assistance along with consultation and collaboration with parents, teachers, other educators, and community organizations.[18] Although school counselors have been identified as important members of the concussion management team,[14-16] there is no known evidence regarding their knowledge, attitudes, and beliefs of academic adjustments specifically for concussed adolescents.

The definition of knowledge is an understanding of factual information,[19] while beliefs are described as personal convictions, ideas, or judgments that influence decisions and are indicative of future behaviors.[20] The Theory of Planned Behavior has been used to understand how attitudes, perceived behavioral control, subjective norms, and intentions may influence behavior.[21] Attitudes are the opinions of the concept and consequences of the action.[21] Beliefs are described as they key component of indirect attitude assessments, and beliefs often align with attitude.[21] Perceived behavior control is described as a person's perceived ability or effort required to perform the behavior.[21] Subjective norms are the perceptions of what other stakeholders believe about the behavior.[21] The intention to participate in a behavior does not always predict the way someone will behave, particularly in situations where an individual lacks complete control.[22]

The Theory of Planned Behavior has been used to improve understanding of concussion reporting in athletes,[23,24] clinical practice behaviors regarding concussion management in school healthcare professionals,[13,25,26] and classroom concussion management in teachers.[27] However, this theory has not been applied to concussion management practices in school counselors. Insight on school counselors' beliefs and perceptions of concussion and academic adjustments can be utilized to facilitate conversations in schools and enhance the support provided to concussed adolescents. This information also could be used to guide school counselor education and professional development. Therefore, the primary research questions for this study were: (1) What are school counselors' familiarity with academic adjustments as part of post-concussion care for student-athletes following a sport-related concussion? and (2) What are school counselors' experiences with academic adjustments for concussed student-athletes?

METHODS

Participants

A cross-sectional survey design was used to collect data. The target population for this investigation was school counselors employed in the secondary school setting. Approximately 8500 school counselors employed in the private school setting were solicited via email. Email addresses were purchased through an online marketing company (www.highschoolcounselormarketing.com) to participate in

this study; due to restrictions in availability, email addresses of school counselors in the public school setting could not be obtained.

Instrumentation

Survey development. This study is a part of a larger series of studies entitled *The Beliefs, Attitudes and Knowledge of Pediatric Athletes with Concussion* (BAKPAC) series. The survey for school counselors (BAKPAC-SC) was modified from a previously validated survey that was initially used to assess the knowledge, attitudes and beliefs of athletic trainers regarding pediatric athletes with concussions.[13,25] Once the survey items were modified for the school counselor population, the BAKPAC-SC was sent to 5 school counselors to re-assess content and face validity. The wording of only one item was modified based on feedback from the 5 school counselors. Thus, the BAKPAC-SC was deemed to be valid.

The survey consisted of questions related to concussion knowledge, attitudes and beliefs, and perceptions regarding academic adjustments for concussed student-athletes in the secondary school setting. The survey was separated into 5 sections: concussion knowledge (10 items), collaboration (9 items), established relationships with healthcare providers (1 item), perceptions of academic adjustments (20 items), and a demographics sections (12 items). Question types included: multiple choice, 4-point Likert scale items, multi-items, and demographic questions.

Perceptions of academic adjustments. The perceptions of academic adjustments subsection assessed school counselors' attitudes and beliefs as well as their perceptions of and experiences with academic adjustments for concussed student-athletes. Questions related to the applicability of academic adjustments to concussed student-athletes, the roles of the different members of the concussion management team, familiarity with academic adjustments (temporary/informal adjustments, 504 Plans, Individualized Education Plans [IEPs]), experience working with concussed student-athletes, management practices, and perceptions of a concussion management team were included in this subsection.

Procedures

The survey was administered using Qualtrics (Qualtrics LLC, Provo, UT). School counselors were sent a recruitment letter via e-mail, which contained an introduction and purpose of the research study, the estimated completion time, a URL link to the online survey, and contact information for the principal investigator (CWB). Recruitment e-mails were sent in March 2016 and school counselors were given 4 weeks to voluntarily complete the survey. Two reminder emails were sent during the 4-week period to potential participants who had not yet completed the survey.

Data Analysis

Data analysis was performed using IBM SPSS Statistics software (version 24.0; IBM Corporation, Armonk, NY). Descriptive statistical analysis was conducted to report frequencies, percentages, means and standard deviations. The independent variables included access to an athletic trainer (yes, no), years of experience, and personal history of concussion (yes, no). The dependent variables included participants' responses to questions within the perceptions of academic adjustments subsection. Non-parametric statistics were selected for the assessment of ordinal, Likert-scale data. Separate Mann-Whitney U tests were conducted to determine if significant differences existed between school counselors who had access to an athletic trainer and those who did not regarding their perceptions of academic adjustments, as well as school counselors who had a previous history of concussion and those who did not. We used chi-Square tests ($p < .05$) to determine group associations for dichotomous responses. We used Spearman's ρ to determine whether a correlation existed between school counselors' years of experience and their perceptions of academic adjustments for concussed student-athletes.

RESULTS

From a convenience sample of 8533 school counselors, 805 individuals accessed the survey (survey access rate = 9.4%), and 669 school counselors completed at least one part of the survey. A total of 548 of the 669 respondents completed the survey in its entirety, for a survey completion rate of 81.9%. Participants consisted of 143 men and 390 women (136 missing responses), and the average age of participants was 48.76 ± 11.39 years. Participants had an average of 13.56 ± 9.57 years of

Table 1
Participant and School Demographics

	N	%
Sex		
Male	143	21.4
Female	390	58.7
Missing	136	20.3
Highest Level of Education		
Associate's Degree	2	0.3
Bachelor's Degree	65	9.7
Master's Degree	437	65.3
Doctorate Degree (eg, PhD, EdD)	26	3.9
Clinical Degree (eg, DNP)	1	0.1
Missing	138	20.6
Personal History of Concussion		
Yes	132	19.7
No	400	59.8
Missing	137	20.5
School Setting		
Urban	151	22.6
Suburban	317	47.4
Rural	60	9
Other	5	0.7
Missing	136	20.3
Enrollment (number of students)		
<250	152	22.7
250-499	155	23.2
500-999	168	25.1
1000-1999	53	7.9
2000-2999	3	0.4
3000-3999	0	0
4000-4999	1	0.1
Missing	137	20.5

experience as a school counselor and managed 6.76 ± 7.96 student-athletes with concussion per year. Additional participant and school demographics are displayed in Table 1.

Perceptions of Academic Adjustments

Overall, school counselors agreed to strongly agreed (3.87/4.0 ± 0.43) that concussions can affect school performance and agreed (3.24/4.0 ± 0.73) that student-athletes with concussions are eligible for special considerations under the Americans with Disabilities Act (ADA). The majority of respondents disagreed (1.56/4.0 ± 0.68) that there is currently too much attention and focus on concussion in sports. Nearly half of school counselors (45.2%, N = 119/263) agreed a school should have an established academic support team for concussed adolescents, while 19.8% (N = 52/263) did not agree. Interestingly, 35% (N = 92/263) reported they did not know if the school should have an established academic support team for concussed adolescents. Overall, respondents agreed (3.48/4.0 ± .65) that a school counselor has a role in implementing academic adjustments for student-athletes who sustain a concussion. Figure 1 shows school counselors' perceptions of other individuals that should have a role in implementing academic adjustments for concussed student-athletes.

Familiarity and Experience with Academic Adjustments

Figure 2 shows school counselors' familiarity with informal and formal academic adjustments. Overall, respondents indicated they were moderately familiar with academic adjustments (3.56/4.0 ± .68), 504-Plans (3.22/4.0 ± .93) and IEPs (3.45/4.0 ± .72).

Most school counselors (87.7%, N = 471/537) reported having personally encountered a situation where a student-athlete experienced decreased school and/or academic performance as a direct result of a symptomatic concussion; only 12.3% (N = 66/537) reported having no personal experience. Most school counselors reported that they recommend academic adjustments always (40.2%, N = 212/527) or almost always (34.0%, N = 179/527); 10.8% of school counselors reported they rarely (5.5%, N = 29/527) or never (5.3%, N = 28/527) recommend academic adjustments for concussed student-athletes. Most school counselors (90.1%, N = 482/535) also reported they have had a student-athlete under their responsibility receive academic adjustments following a concussion; 3.7% of school counselors (N = 20/535) reported they did not know if they have had a concussed student-athlete under their responsibility receive academic adjustments.

School counselors reported a variety of personnel they most often go to if they were concerned about

Figure 1
Perceived Role in Academic Adjustment Implementation

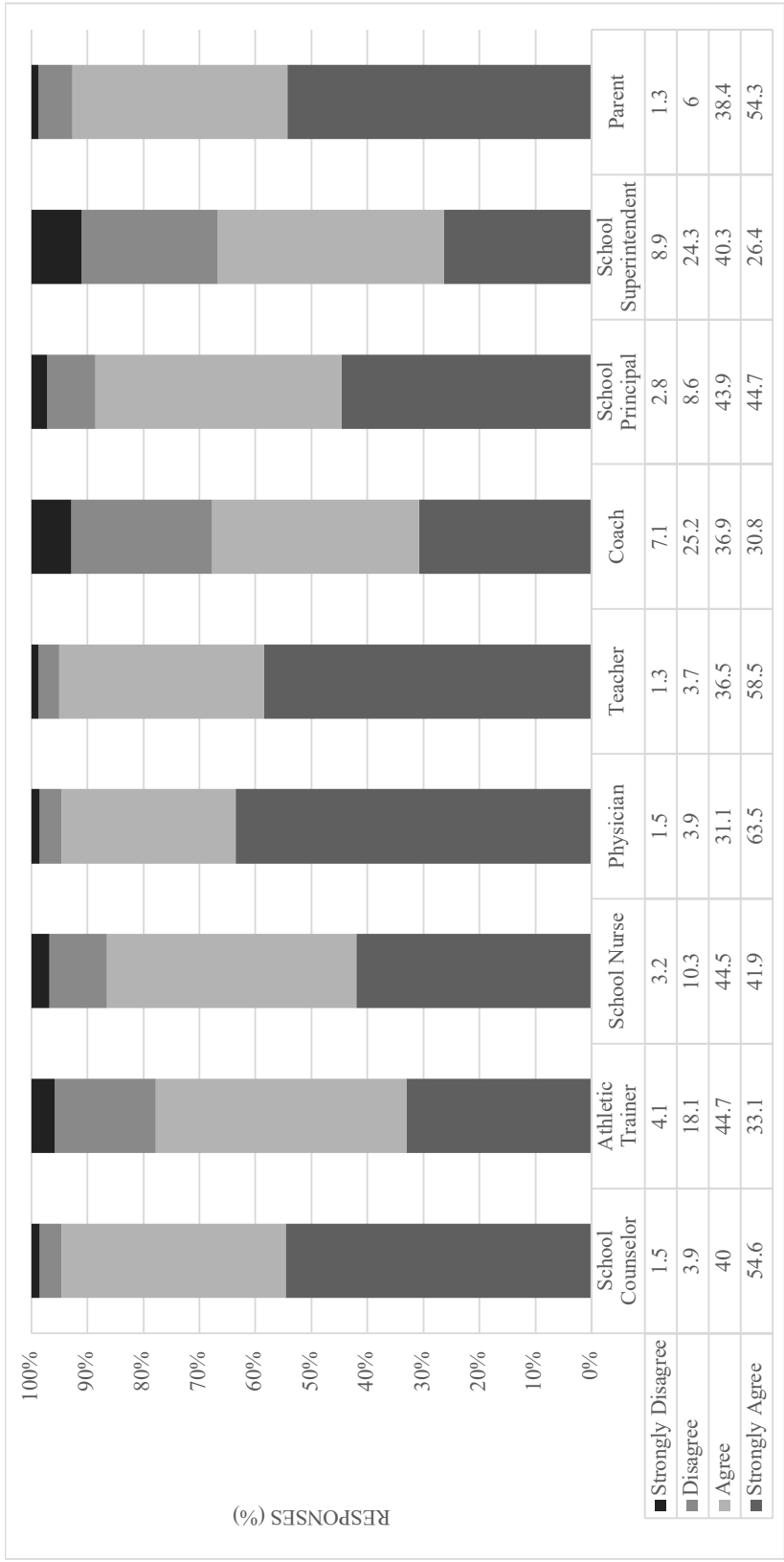
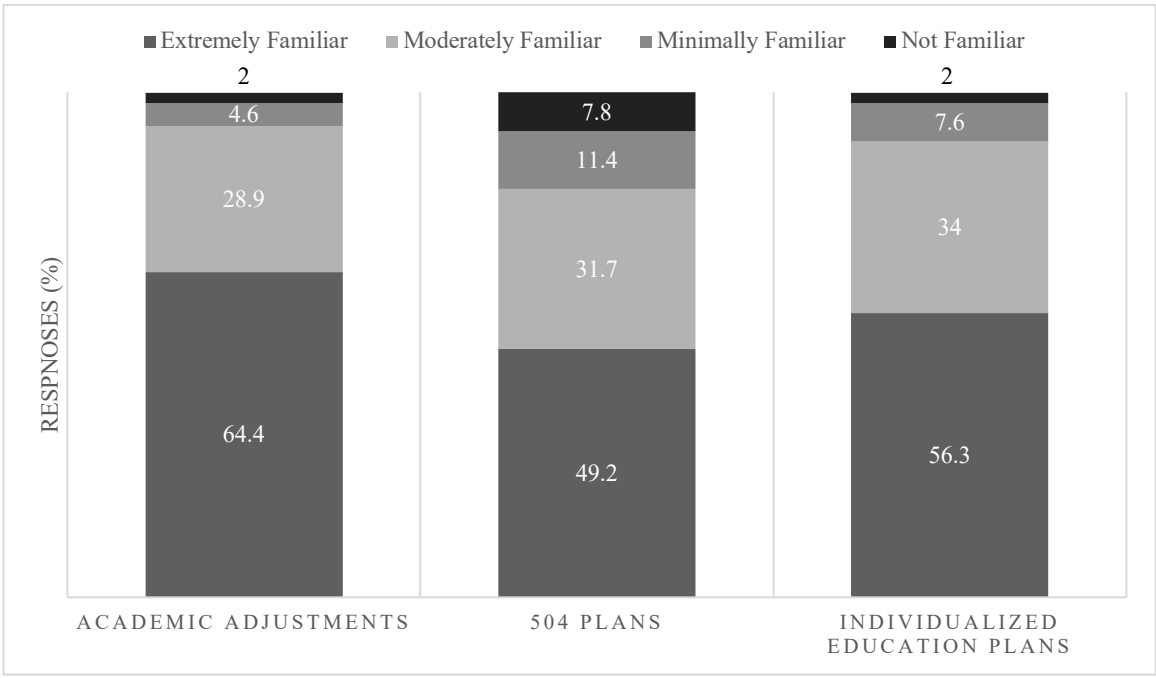


Figure 2
School Counselors' Familiarity with Academic Support for Concussed Students



the academic abilities of a concussed student-athlete at the school. Interestingly, 95.5% of school counselors (N = 639/669) selected "other" and indicated they seek out personnel such as academic deans and various academic support administrators with their concerns. Half of school counselors (50.8%, N = 274/539) reported they have an established academic support team for concussed student-athletes at the secondary school in which they primarily serve. School counselors identified themselves most often as an individual who should be a part of the concussion management team (36.8%, N = 246/669). Figure 3 shows respondents' perceptions of the other individuals who should serve on the concussion management team. Approximately 39% of respondents (N = 185/479) also identified themselves as the primary individual who should serve as the point person for managing the academic adjustments for concussed student-athletes.

Access to an Athletic Trainer

Approximately 80% (N = 432/545) of school counselors reported they had access to an athletic trainer in the school they primarily served. School counselors who had access to an athletic trainer agreed more strongly that concussions can affect school performance ($p < .001$; 3.89/4.0 ± .45) and that concussed adolescents are eligible to receive additional services under the ADA ($p = .003$; 3.29/4.0 ± .72) than school counselors without access to an athletic trainer (3.79/4.0 ± .40, 3.06/4.0 ± .73). They were also more likely to include school counselors ($p = .019$; with access = 3.50/4.0 ± .66, without access = 3.38/4.0 ± .57) and teachers ($p = .035$; with access = 3.54/4.0 ± .65, without access = 3.43/4.0 ± .60) as personnel who should have a role in implementing academic adjustments for concussed student-athletes, while school counselors without access were more likely to suggest that coaches ($p = .009$; without access = 3.11/4.0 ± .82, with access = 2.86/4.0 ± .93) should have a role in implementing academic adjustments for concussed student-athletes (Figure 4). School counselors with access to an athletic trainer were more familiar with academic adjustments ($p < .001$; with access

Figure 3
Perceived Members of the Concussion Management Team Compared to Current Contact Person

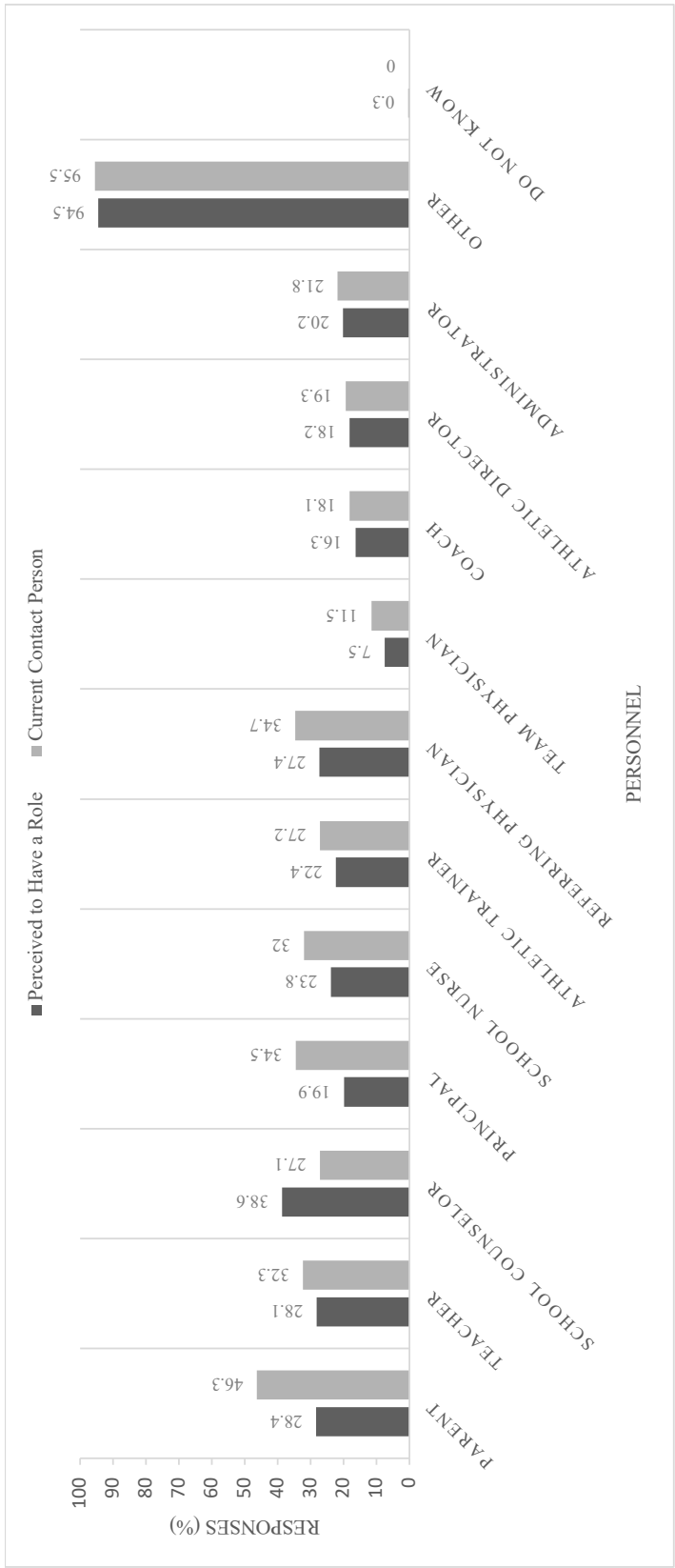
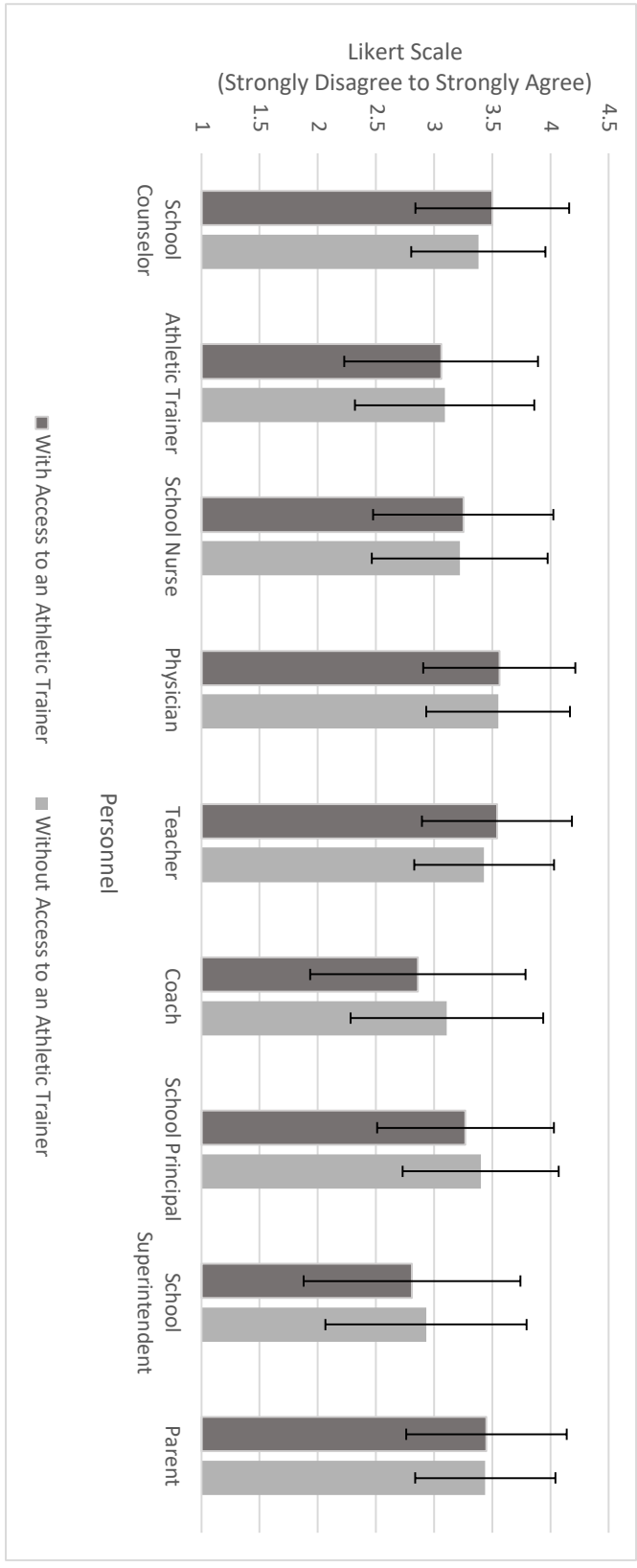


Figure 4
Personnel with a Role in Implementing Academic Adjustments



= 3.65/4.0 ± .58, without access = 3.27/4.0 ± .87) and 504 plans (p = .014; with access = 3.28/4.0 ± .90, without access = 3.00/4.0 ± .90). Furthermore, 83.4% of school counselors with access to an athletic trainer have personally encountered a situation where a concussed adolescent experienced a decrease in school and/or academic function (p < .001), compared to only 16.6% without access. School counselors with access to an athletic trainer were more likely to report having an academic support team for concussed adolescents (p < .001; 56.1%) compared to school counselors without access (33.6%), and 82.6% reported having an adolescent under their responsibility receive academic adjustments following a concussion compared to school counselors without access to an athletic trainer (p < .001; 17.4%). Lastly, 72% of school counselors with access to an athletic trainer always or almost always recommend academic adjustments following a concussion, compared to only 59.3% of school counselors without access.

Years of Experience

A statistically significant positive relationship occurred between years of experience and school counselors' perceptions that adolescents with concussions fell under the ADA (r = .165, p < .001), that a school counselor has a role in implementing academic adjustments for concussed adolescents (r = .163, p < .001), and that principals have a role in implementing academic adjustments for concussed adolescents (r = .094, p = .032). A statistically significant, positive correlation also was found between years of experience and school counselors' perceived familiarity with academic adjustments (r = .144, p = .001), IEPs (r = .121, p = .006), and 504 plans (r = .142, p = .001). However, a statistically significant, negative correlation occurred between years of experience and school counselors' experience with having personally encountered a situation where a concussed adolescent experienced a decrease in academic and/or athletic performance (r = -.135, p = .002), having an established academic support team for concussed students (r = -.163, p < .001), recommending academic adjustments more often following a concussion (r = -.123, p = .005), and having an adolescent under their responsibility that has ever received academic adjustments following a concussion (r = -.194, p < .001).

Personal History of Concussion

One-fourth (24.8%, N = 132/532) of the participants reported having personally sustained a concussion, while 75.2% (N = 400/532) reported not having a personal history of concussion. School counselors with a personal history of concussion reported being more familiar with academic adjustments (p = .020; 3.69/4.0 ± .55), IEPs (p = .025; 3.58/4.0 ± .60), and 504 plans (p = .010; 3.42/4.0 ± .79) than school counselors with no personal history of concussion (3.52/4.0 ± .70, 3.41/4.0 ± .74, 3.17/4.0 ± .90).

DISCUSSION

Perceptions and Familiarity with Academic Adjustments

This investigation examined the perceptions of school counselors regarding academic adjustments for adolescents following concussion. Overall, school counselors agreed that a concussion can affect school performance and that students with a concussion are eligible for special considerations under the ADA. They also felt there was adequate focus on concussions in sports. These findings demonstrate the positive attitude that school counselors have towards concussion and why they should be part of the concussion management team. This is similar to what Kasamatsu et al[28] found with teachers, Williams et al[13] found with athletic trainers, and Weber et al[26] reported from school nurses. Of importance was that almost half of the school counselors surveyed thought that the school should have an established academic support team for concussed adolescents, and most felt that the school counselor has an important role in implementing academic adjustments for concussed adolescents along with physicians, teachers, athletic trainers, school nurses, principals, and parents.

According to the ASCA National Model,[18] school counselors should promote and enhance the learning process for all students, this includes ensuring all students have equal access to an education. School counselors should work to collaborate with the student, parents, teachers, and administrators to facilitate this. Athletic trainers and teachers have reported the inclusion of school counselors as a point person or key member of the concussion management team, which can aid in streamlining communication and monitoring the student's

progress throughout the recovery process.[27,29] They are also responsible for planning individual academic programs as well as providing teachers with suggestions for classroom management. They often are part of individual education plan meetings and are often times the employee who refers students for additional services to help the student succeed academically.[18]

The modification of cognitive activities at school involves the implementation of academic adjustments, these can be both informal and formal adjustments.[13,15] Informal adjustments are short-term temporary adjustments made for the student, and do not require any alterations to the curriculum or standardized testing.[7] These are made during the typical one- to 3-week recovery period,[7] and vary based on symptom presentation.[7,9] For example, a student with visual tracking deficits may experience headaches from switching his/her focus from the board (far object) to the desktop (near object), which may warrant a temporary note-taker, recording of lectures for later review, or access to the teacher's notes in advance. Formal adjustments might include academic accommodations (eg, 504 plan) or long-term academic modifications (eg, IEP),[15] and may take weeks to process.[15] However, most concussion cases typically only require informal and temporary academic adjustments to assist with recovery.[7]

Members of the school academic team, the subdivision of the concussion management team that is responsible for a safe return-to-school, should be knowledgeable and confident in their knowledge regarding academic adjustments. In the current investigation, school counselors reported being familiar with both informal and formal adjustments, similar to teachers,[30,31] and school nurses.[26] Most school counselors reported having personally encountered a situation where an adolescent experienced a decrease in school or academic performance following a concussion, and reported recommending academic adjustments as well as having students under their supervision receive academic adjustments following a concussion, this was similar to teachers.[29] These findings differ from both school nurses[26] and athletic trainers.[13] When taking into consideration the findings from this study in combination with the responsibilities of school counselors laid out in the ASCA National Model,[18] school counselors would best be suited to be the point person for the return-to-school team in the secondary school setting.

Of concern, only about half of the school counselors surveyed reported having an established academic support team for concussed adolescents at their school. School counselors most often indicated themselves as the appropriate point person for the academic management team. This finding is similar to results of a survey of principals[32] suggesting that school counselors are an ideal fit for the academic point person role. When a decrease in academic abilities due to a concussion was suspected, most school counselors reported approaching the parent, referring physician, principal, school nurse, or teacher. School counselors are self-reporting as being moderately familiar with academic adjustments and understand that concussion management is a multidimensional team approach.

The concussion management team is responsible for collectively managing the student's return to both physical and cognitive activities following a concussion. The members and roles of the subdivisions within the concussion management team can be seen in Table 2. Determining which adjustments are necessary for the student will depend on the symptoms and must be communicated with all of the student's teachers by the academic point person. It is the role of the medical and academic point persons to initiate these conversations and lead the way to a safe return to both cognitive and physical activity.

Access to an Athletic Trainer

Most school counselors who responded to this survey reported having access to an athletic trainer. The numbers reported in our survey were greater than those reported in an article where only 58% of private schools and 70% of public schools were found to have some type of athletic training services available.[33] Access to an athletic trainer influenced school counselors' perceptions of the effects of concussion symptoms on school performance, as well as their perceived familiarity with academic adjustments and 504 plans, similar to what has been reported from school nurses.[26] School counselors who had access to an athletic trainer were also more likely to perceive that school counselors and teachers have a role in implementing academic

Table 2
Concussion Management Team Members and Responsibilities[7]

Subdivision	Members	Role
Family Team	Student Parents Guardians Grandparents Peers Teammates Family friends	Enforce adjustments made to both cognitive and physical activities at home
Medical Team	Emergency department personnel Primary care provider Concussion specialists Clinical- and neuropsychologists Team or school physicians Athletic trainers (varies by state)	Diagnose and manage the concussion by prescribing physical and cognitive activity restrictions as appropriate
School Physical Activity Team	School nurse Athletic trainer Coach Physical education teacher Playground supervisor School physician	Limit physical activity as dictated by the medical team
School Academic Team	Teachers School counselor School psychologist Social worker School nurse School administrator School physician	Coordinate the return to the classroom using both informal and formal adjustments as necessary

adjustments for concussed adolescents, whereas school counselors without access were more likely to suggest a coach has a role in implementing academic adjustments.

Similar to our findings, access to an athletic trainer also positively influenced the likelihood of a school nurse having personally encountered a situation where a concussed adolescent had a decrease in school or academic abilities.[26] School nurses were more likely to recommend academic adjustments for concussed adolescents, and more often reported having an adolescent receive academic adjustments following a concussion.[26] Both school nurses[26] and school counselors were also more likely to report having an established academic support team for concussed adolescents when an athletic trainer was accessible at the secondary school. These findings are probably due to several factors; having access to an athletic trainer means that there is likely more concussion education which leads to an increase in concussion diagnoses that are now being recognized by patients, parents, and coaches as a possible concussion, and an attempt by the athletic trainer to assist the concussed students back in to academics and athletics.[13,25] This demonstrates the importance of access to an athletic trainer at the secondary school for more positive perceptions toward academic adjustments and improved preparation for the return to the classroom following a concussion.

Years of Experience

The number of years working in the secondary school setting played an important role for both school counselors and school nurses[26] regarding perceived familiarity with all types of academic adjustments, probably due to more exposure with implementing various types of academic adjustments over their careers. Athletic trainers with more experience only reported being more famil-

iar with 504 plans and IEPs.[13] Greater perceived familiarity in those with more years of experience could also indicate why they were more likely to believe that school counselors and principals have a role in implementing academic adjustments for concussed adolescents compared to their less experienced counterparts.

School counselors with fewer years of experience were more likely to recommend academic adjustments following a concussion and were more likely to report having an established academic support team for concussed adolescents. They were more likely to have personally encountered a student with a decrease in school or academic performance and were also more likely to have an adolescent under their responsibility receive academic adjustments following a concussion. This could be due to inclusion of concussion-related content and discussions within educational programs more recently compared to school counselors with more experience. The plethora of concussion research and continual attention paid by the media may have led to better implementation of concussion education in more current curricula. In addition, it is possible that school counselors with fewer years of experience are younger than their more experienced counterparts. Concussion education not only has begun to be implemented in to education curricula, but also with student athletes. School counselors who were also student athletes may have received concussion education as a part of their participation in athletics.

Personal History of Concussion

About 25% of the school counselors surveyed reported having personally sustained a concussion. Those who self-reported having a concussion reported being more familiar with academic adjustments, IEPs, and 504 plans than school counselors with no history of concussion, similar to what has been noted among teachers.[31] It has been theorized that individuals with a personal history of concussion have an increased knowledge regarding concussion symptoms due to experiencing the symptoms themselves.[34] This has been shown that coaches with a personal history of concussion performed better on surveys about concussion knowledge than their counterparts with no personal history of a concussion.[30,34] In our investigation, it is possible that school counselors' personal experience with concussion may prepare them better to identify school resources (eg, IEPs, 504 Plans) and recommend academic adjustments that fit the symptoms of the concussed student due to their past experience. We encourage school counselors to reflect on their experiences, share pertinent examples with team members without history of a concussion, and promote a supportive environment on campus for students returning to school after a concussion.

Limitations and Future Directions

Prior to the generalization of these results, limitations should be taken into consideration. The survey access rate of 9.4% was lower than what was desired by the researchers. Another limitation was that the survey was only distributed to school counselors in the private secondary school setting. Due to the low access rate and the limitation in employment setting, the results from this study may not accurately reflect all school counselors in the secondary school setting. Along with setting and responsiveness, the survey is based on school counselors' self-reports regarding academic adjustments and concussed adolescents. There is no way to verify school counselors' actual experience and familiarity with academic adjustments for concussed adolescents.

Futures studies should look at school counselors in all settings, not just the private school setting. Different settings such as public schools and schools located in low-income or rural areas could yield different results than were found in this study and would expand upon the growing body of knowledge regarding the concussion management team. Additionally, research investigating how the participation of school counselors as a part of the concussion management team relates to the success of students returning to the classroom would reinforce the importance of their participation with the concussion management team.

Conclusion

Throughout the career of school counselors, particularly those working in the secondary school setting, it is highly likely that they will encounter a student with a concussion. Most school counselors in this investigation agreed or strongly agreed that

concussion can affect school performance and were overall moderately to extremely confident with academic adjustments. School counselors with access to an athletic trainer were more familiar with academic adjustments, more likely to have personally encountered a student with a decrease in academic function, more likely to report having an academic support team for concussed adolescents, and more likely to recommend academic adjustments following a concussion. School counselors with more experience reported being more familiar with academic adjustments and more often felt that school counselors and teachers should be a part of the concussion management team. However, school counselors with less experience were more likely to have a formal concussion management team, report encountering a concussed adolescent, and recommend academic adjustments for concussed adolescents. To our knowledge, this is the first study to look at the perceptions of school counselors regarding concussed adolescents and academic adjustments.

IMPLICATIONS FOR HEALTH BEHAVIOR OR POLICY

Experts recommend the formation of an interdisciplinary concussion management team.[8] School counselors may be the best option to fill the role of point person for the academic support team. Communication among all members of the concussion management team is extremely important in providing the best care possible for adolescents who may be suffering academically by providing continuity of care when transitioning between the various members of the concussion management team such as the academic point person, teachers, the medical point person, and parents. Free resources are available that provide information for different members of the concussion management team such as parents, coaches, educators, healthcare professionals, and students such as BrainSTEPS[35] and REAP.[8] These models can be adapted easily based on school resources and available personnel. At a minimum, schools should implement concussion management policies that are in compliance with state legislation.[36] There is limited evidence regarding return to learn policies and protocols;[36,37] however, policymakers should strive to implement best practice guidelines.[36,37] All 50 states and the District of Columbia have state concussion legislation, but each state differs in its requirements; therefore, personnel in charge of implementing concussion management policies in the school should be aware of the requirements of their state's legislation.

Formal concussion education for all members of the concussion management team will help each member to understand both their role within the team and within their subdivision. Education should be implemented annually and could be part of professional development meetings prior to the start of each school year or periodically discussed within learning communities or department meetings to provide ongoing support for teachers and team members as cases arise. It is essential for the medical and academic point persons to have formal education regarding their responsibilities along with knowledge regarding proper protocols. Along with education, formal return to play[6,38] and return to learn[7,9,39,40] policies should be developed to fit the needs of the school and then disseminated to all relevant faculty and staff, as well as parents and students. Awareness of the resources available and different strategies used for implementing academic adjustments could assist in the reinforcement of policies put in to place to support students who may be struggling in school as a result of sustaining a concussion.

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Human Subjects Approval Statement

Prior to data collection, this study was approved by the University Institutional Review Board as exempt research. Participant consent was assumed upon voluntary completion of the survey.

Conflict of Interest Disclosure Statement

The authors declare that they have no conflict of interest.

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