Time Management, Planning, and Decision Making in Student Athletes: A Systematic Review

Grace Wong

Abstract

My systematic review paper will discuss how participation in sports can impact life skills, specifically planning, decision-making, and time management. My project doesn't just talk about how sports impact physical health, but also about critical skills helpful for success later in life. My project is based on the following research question: How does participation in sports influence planning, decision-making, and time management in student-athletes compared to non-athletes? How do these factors contribute to academic performance and success later in life? After deciding on the structure of my paper, I will gather a lot of data and find articles useful to my topic. I will use many examples and data, and then explain each one to answer my research question, and explain the causes and effects more thoroughly. My main goal is to find very specific data that clearly shows the differences between athletes and non-athletes to help me compare their lifestyles and outcomes in life.

Introduction

A student athlete is a currently enrolled student who participates in a sport; a non-athlete is an enrolled student who doesn't participate in any sport. Student athletes explore their ability to achieve excellence in both academics and a sport, with the potential to be physically, intellectually, and emotionally committed to high-level achievement in both areas (Cross & Fouke, 2019). Their success requires the development of skills including teamwork, a strong work ethic, commitment, leadership, time management, and physical and emotional health (Cross & Fouke, 2019). Generally, athletes tend to have better health habits, including better physical activity, diet, and sleep, than non-athletes (Capranica et al., 2022). Studies have shown that participation in sports is associated with lower levels of stress and loneliness and an increase in sleep satisfaction (Kwon & Jang, 2024). Additionally, positive effects on perceived stress, loneliness, and sleep, sports are a good tool for suicide prevention (Kwon & Jang, 2024). Physical activity has also been shown to be beneficial for coping with study demands and promoting feelings of joy and pride, similar to previous evidence that it can help with stress, leading to better moods and an increase in motivation, energy, and well-being (Teuber et al., 2024).

Time management is a learned process of planning and controlling time spent on tasks to be able to meet goals efficiently (Stroud et al., 2021). The skill of time management is linked with academic performance and well-being, with those with better time management skills performing better in school and showing better overall well-being (Stroud et al., 2021). Decision-making is the process of choosing between options to reach a goal, considered an important skill within executive functions (Stroud et al., 2021). Planning is an executive function that involves figuring out and organizing the steps needed to achieve a goal (Stroud et al., 2021). Each of these skills is essential to the athletic, academic, and overall success and well-being of student athletes.

Prior literature has examined differences in student-athletes' physical and mental health, but to date, no study has systematically examined differences in time management, decision making, and planning. As such, the purpose of this paper is to perform a systematic review of

the literature comparing time management, decision making, and planning in student athletes and non-athletes.

Methods

Search Terms

I searched PubMed from inception through June 16, 2025. The search included variations of search terms such as: ("planning" OR "decision making" OR "time management") AND ("athlete" OR "student-athlete" OR "non-athletes"), (planning OR decision making OR time management) AND (athlete OR student-athlete OR non-athletes OR student athlete OR non-athlete), (planning OR decision making OR time management) AND (student athlete OR student-athlete OR student athletes OR student-athletes). The following search term was the final version: (planning OR decision making OR time management) AND (student athlete OR student-athlete OR student athletes OR student-athletes).

Inclusion/Exclusion criteria

Articles were eligible for inclusion if they met the following criteria: 1) the study population was student athletes, 2) the study compared student athletes and non-athletes, 3) the manuscript presented primary outcomes data, 4) study outcomes were related to planning, time management, or decision making, and 5) the manuscript was available in English. Articles were excluded if they: 1) did not focus on student athletes (e.g., focus on athletic trainers), 2) did not compare student athletes and non-athletes, 3) primary outcomes were not related to planning, time management, or decision making (i..e, related to concussion, injury, or COVID-19), 4) described models of physical activity or sports implementation in schools, or 5) were not available in English.

Screening strategy

Articles were downloaded from PubMed and uploaded into Rayyan, a systematic review management software. For each article, I first reviewed the title. If the relevance was unclear, I read the abstract. For the title and abstract screening, I sorted each article into one of three categories: included, maybe, and excluded. Articles placed in the “included” category were the ones that I believed most directly addressed my research question. Then the “maybe” category contained articles I was unsure about or those that only partially met my criteria. I excluded articles that either related to my topic but were not my research question or articles that were completely unrelated to my topic.

Since we had two reviewers, we revisited the “maybe” articles together to decide whether to include or exclude them. After completing the title and abstract screening, we concluded with 59 articles for inclusion in the full-text screening. I then downloaded the PDFs for all articles marked for full-text screening. I read through each one, focusing on trying to find articles that will provide the most evidence on the differences between athletes and non-athletes to support comparisons in lifestyle and life outcomes.

Results

Initial search yielded 1327 articles. After title and abstract screening, 1287 articles were excluded for the following reasons: wrong population (n=607), wrong outcome (n=1124), wrong publication type (n=28), wrong study design (n=20). Some are excluded for more than one reason. After full title/abstract screening, 59 articles were included in the full text screening. Following full text screening, 48 articles were excluded for the following reasons: wrong population (n=5), wrong outcome (n=34), foreign language (n=1), wrong study design (n=8), and background article (n=1). For a brief overview of included articles, see Table 1.

Table 1.

Study	Population	Primary Outcome Measure	Results
Thompson et al., 2024	72 student athletes from one sports school in the United Kingdom	Student athletes developed positive long-term impacts, including high sports confidence, academic motivation, general recovery, life skills, and resilience.	Student athletes developed positive long-term impacts academically, athletically, and personally. But besides these positive impacts, managing school and sports can be a challenge, leading to fatigue, stress, and injury.
Capranica et al., 2022	77 athletes	Athletes learn from sport participation skills and attitudes, including energy, commitment, teamwork, goal orientation, adjustment, self-efficacy, time management, responsibility, and autonomy. These skills can also have positive effects on career success.	No direct comparison, but shows that student-athletes succeed best when schools intentionally plan, resource, and formalize dual-career support, rather than leaving it up to individual athletes to figure it out.
Forst, 2017	61 participants, 18 athletes, and 43 nonathletes	Student nurse athletes have a high academic motivation. Time management and prioritization were ranked highest in both groups as needed skills for academic success. Athletes more focused on their athletic careers find it easier to manage academic challenges caused by scheduling.	Doesn't directly compare to non-student athletes. But time management and prioritization were ranked highest in skills needed for academic success. With student nurse athletes having to deal with rigorous schedules, time management is a skill that more athletes are faster to learn.
Stroud et al., 2019	62 athletes out of 441 total students	Hypothesized that student athletes have better time management skills coming into medical school, adapting to the more intense schedules.	No difference in MCAT scores between athletes and non-athlete medical students. There was a big difference in step 1, step 2 CK, NBME shelf exams, cumulative year 3

		Athletes outperformed peers in all the categories as well. Students with more athletic experience suffered less burn out compared to peers.	performance, and AOA status, with the athletes outperforming their peers. Psychological, behavioral, and organizational skills developed through athletics play a key role in their success.
Babenko & Mosewich, 2017	640 medical students, 267 participated	With more involvement in sports/PA, students experiencing less academic burnout, specifically tolerating the pressure of school and managing school work well, while having enough energy for other activities. Pursuit of sports is associated with motivation and well-being of medical students.	Student-athletes generally show advantages over non-athletes in academic performance, motivation, and well-being. Athletes in medical school also reported lower burnout, healthier motivational styles, and stronger time-management and resilience skills. While also facing stress, fatigue, and balancing workloads, the evidence suggests participation in sports gives students skills transferable and helps with success in other environments.
Teuber et al., 2024	57 Participants	PA is beneficial for coping with study demands and helps promote feelings of joy, pride, and learning progress. Similar to previous evidence that PA breaks in lectures can help with stress, leading to better mood ratings and an increase in motivation, vigor, energy, and well-being.	Doesn't directly compare athletes with non-athletes, but shows that students who take physical activity breaks only positively affect stress load and perceived academic performance; leisure time physical activity affects parameters of stress load. Home study behavior also shows associations with recovery and academic performance.
Wu et al., 2025	127 college Athletes, 84 male, 43 female	Athletes are able to adapt better to complex competitive situations by switching between different	Mainly compared elite athletes to semi-athletes, elite athletes have significantly better working

		thinking methods. They examined the role of perceptual cognitive skills in decision making within the sport, focusing on the ability to quickly process and analyze visual information and make split-second decisions in the game.	memory than non-athlete controls; reaction time is similar across groups. Elite athletes can adapt better to complex competitive situations by switching between different cognitive processing methods rather than relying on unconscious autonomy.
Xu, 2022	124 students, 58 male, 66 female	Student athletes demonstrated stronger focus, emotional control, positive cognition, and interpersonal support, essential for decision making, adapting to challenges, and prioritization. This suggests that participation in sports can strengthens the psychological skills needed for planning and managing complex demands.	Active students had significantly higher mental toughness and self-harmony, meaning they were better at regulating emotions, maintaining balance, and handling stress. While less active students scored lower in these areas.
Kwon & Jang, 2024	A total of 51,850 adolescents participated in the survey	Participation in team sports was associated with less stress, loneliness, and an increase in sleep satisfaction in students who have attempted suicide. Sports should be emphasized in follow-up and management strategies to help prevent the recurrence of suicidal behavior.	Doesn't directly compare athletes to non athletes but the results shows that greater participation in team sports at school was associated with a reduction in stress and loneliness and an increase in sleep satisfaction among people who have attempted suicide.
Stroud et al. 2021	15 student athlete interviews, 5 physician faculty interviews, and 3 college coach	Athlete's application of life skills is an ongoing cycle over time, one of which is decision-making. Student athletes developed these time management skills in	This article doesn't directly compare to non-athletes but six themes were identified as important factors to academic success of students in medical school:

	interviews	college, triggered by external drivers: high demands of their sport and academic requirements. Successfully developing this skill and ability to prioritize can help in the future.	goal setting and pursuit, performance appraisal, time management, planning, and organizational skills; team values and teamwork, communication and interpersonal skills; coping strategies, response to stress, and prioritization. Athletes showed to be strong in these skills, helping them succeed over non-athletes in medical school.

Discussion

As no prior literature has specifically examined the differences in time management, decision-making, and planning among student athletes compared to non-athletes, the purpose of this paper was to conduct a systematic review. We identified 10 articles that met the inclusion criteria. Most of the articles focused on college/university student athletes or medical/nursing school student athletes, and a mix of team sports, individual sports, or just regular physical activity.

Regarding time management skills, overall, articles suggest that student athletes have better time management skills compared to their non-athlete peers, and that stronger time management skills predict long-term success. Stroud et al. (2021) reported that coaches and faculty agree that effective time management is crucial for achieving both academic and athletic goals, and suggested that schools should carefully design, manage, and review their systems to help athletes balance their schedules and responsibilities. Forst (2017) stated that balancing academics and athletics puts heavy demands on student-athletes, making time management, decision-making, and planning essential skills for success. Experience and participation in sports increase mental toughness and resilience, which are the key to building those skills, allowing student athletes to thrive in both academics and perform well in their sport. Similarly, Thompson et al. (2024) showed that the student-athletes who develop these skills are more likely to enjoy many positive long-term outcomes. These students report higher levels of academic motivation, sport confidence, resilience, and life skills. For example, student nurse-athletes showed strong time management and prioritization abilities, and offering support can help build these skills early (Forst, 2017). Similar to medical students, those who participated in sports excelled because of the skills they learned from their sport. These traits included planning under pressure, goal setting, and working in teams; these skills are useful in both academic and athletic settings. Overall, these results suggest that time management, planning, and decision-making are crucial skills for these students in order to succeed. But with the competitive experience of playing sports for years, athletes already have higher reported levels of these skills, helping them succeed further than just in their sport.

With respect to decision making and planning, participation in sports promoted stronger cognitive skills, was protective against mental health struggles, and improved long-term academic and career outcomes. Specifically, Wu et al. (2025) showed that athletes demonstrate particularly advanced perceptual-cognitive skills, allowing them to adapt quickly to complex situations and problem solve by shifting between different ways of thinking. These abilities are tied to better decision-making. Decision-making and planning are very important skills needed, like goal setting, which allows students to prioritize and get things done while handling busy schedules. To develop planning and decision-making skills, athletes need to meet basic psychological needs, including autonomy, competence, and connection. With these needs met, athletes are reported to have improved life skills, well-being, and motivation. Coaches, teachers, and family all play a big role in helping athletes build these skills. Additionally, Babenko and Mosewich (2017) reported that physical activity reduces stress and prevents burnout, and showed that participation in structured sports can even play a role in preventing suicide recurrence. In particular, they showed that medical students who take part in extracurricular sports strengthen their resilience, motivation, and goal-setting, playing a part in their success. Lastly, athletic identity also influences how students plan their futures. Those who identify themselves more as athletes may initially struggle with career planning and only focusing on sports (Lally & Kerr, 2013). However, as their athletic identity decreases, they start to pay more attention to academics and explore their academic career. This suggests that supporting athletes in balancing both the student and athlete roles will later expand their options. Overall, this provides evidence for teachers, parents, and schools to adjust to their students' needs. These findings will lead to student-athletes having the highest potential to succeed in both academics and athletics.

In summary, these findings show that balancing sports and academics can be challenging, as it pushes student-athletes to obtain important skills such as time management, decision-making, and planning. These skills not only help athletes succeed in school and sports but will also benefit them in the future, preparing them for more advanced environments and careers. With the right support from family, coaches, and teachers, student athletes will be able to manage using these skills, allowing them to excel in both academics, athletics, and in future obstacles.

References

Cross, J. L., & Fouke, B. W. (2019). Redefining the Scholar-Athlete. *Frontiers in sports and active living*, *1*, 10. https://doi.org/10.3389/fspor.2019.00010

Capranica, L., Doupona, M., Abelkalns, I., Bisenieks, U., Sánchez-Pato, A., Cánovas-Alvarez, F. J., Figueiredo, A. J., García-Roca, J. A., Leiva-Arcas, A., Meroño, L., Paegle, A., Radu, L. E., Rus, C. M., Rusu, O. M., Sarmento, H., Stonis, J., Vaquero-Cristóbal, R., Vaz, V., Ghinassi, B., Izzicupo, P., … Di Baldassarre, A. (2022). Understanding dual career views of European university athletes: The more than gold project focus groups. *PloS one*, *17*(2), e0264175. https://doi.org/10.1371/journal.pone.0264175

Kwon, J., & Jang, J. (2024). The Associations between the Number of School Sports Teams That a Student Regularly Participates in and Factors Such as Perceived Stress, Loneliness, and Sleep Satisfaction among Korean Adolescents Who Have Attempted Suicide. *Children (Basel, Switzerland)*, *11*(1), 77. https://doi.org/10.3390/children11010077

Teuber, M., Leyhr, D., & Sudeck, G. (2024). Physical activity improves stress load, recovery, and academic performance-related parameters among university students: a longitudinal study on daily level. *BMC public health*, *24*(1), 598. https://doi.org/10.1186/s12889-024-18082-z

Stroud, R. (2021). Performance Goal-Setting and Feedback for Second Language Tasks: An Empirical Study of TBLT Group Discussions. GRIN Verlag.

Thompson, F., Rongen, F., Cowburn, I., & Till, K. (2024). A Longitudinal Mixed Methods Case Study Investigation of the Academic, Athletic, Psychosocial and Psychological Impacts of Being a Sport School Student Athlete. Sports medicine (Auckland, N.Z.), 54(9), 2423–2451. https://doi.org/10.1007/s40279-024-02021-4

Forst K. A. (2017). Motivational Factors of Student Nurse Athletes Attributing to Academic Success. *Nurse educator*, *42*(6), 324–327. https://doi.org/10.1097/NNE.0000000000000386

Babenko, O., & Mosewich, A. (2017). In sport and now in medical school: examining students' well-being and motivations for learning. *International journal of medical education*, *8*, 336–342. https://doi.org/10.5116/ijme.59b7.8023

Wu, K.-C., Lin, H.-C., Cheng, Z.-Y., Chang, C.-H., Chang, J.-N., Tai, H.-L., & Liu, S.-I. (2025). The Effect of Perceptual-Cognitive Skills in College Elite Athletes: An Analysis of Differences Across Competitive Levels. Sports, 13(5), 141. https://doi.org/10.3390/sports13050141

Xu H. (2022). Research on the Relationship Between College Students' Participation in Sports Activities and Self-Harmony Assessment Based on the Moderating and Mediating Effects of Mental Toughness. *Frontiers in psychology*, *13*, 919247. https://doi.org/10.3389/fpsyg.2022.919247

Lally, P. S., & Kerr, G. A. (2005). The career planning, athletic identity, and student role identity of intercollegiate student athletes. *Research quarterly for exercise and sport*, *76*(3), 275–285. https://doi.org/10.1080/02701367.2005.10599299