

The Effects of Sports as a Physical Activity on the Mental Health of Adolescents

Yahir Nunez-Leija

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Prof. Sarah Hague

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Introduction

Sports participation has increased physical activity behavior, therefore improving mental health levels in adolescents (Timothy et al., 2023). Physical activity through sports (soccer, football, basketball, etc.) helps to prevent and/or lessen the effects of many health conditions. Getting involved in sports is vital as this can help strengthen muscles, lower cholesterol levels, prevent obesity, and most importantly, enhance positive mental health outcomes (Timothy et al., 2023). A study conducted by Timothy et al. (2023) found the prevalence of moderate to severe depression in high school student-athletes, with their scores being lower in Spring 2021 (22.8%) than in the Spring of 2020 (37.8%). Schools and sports were being shut down because of the Coronavirus at that time (Spring 2020), explaining the changes in depression scores. Although there are many reasons in which sports participation helps mental health, there are also many negative factors which either influence or discourage an adolescent's desire from participating in any kind of physical activity.

Since mental health is related to a person's emotional, psychological, and social well being, it affects the way people deal with stress, including the challenges that are presented throughout their daily lives (Molly et al., 2019). Negative factors, ranging from the intrapersonal level all the way to the policy level, expand the likelihood of mental problems that unfortunately lead to mental illnesses like depression and anxiety. To be specific, Adverse Childhood Experiences (ACEs) like emotional abuse, parental neglect, and parental incarceration, are a few examples that lead to poor health outcomes, with 49% of adolescents experiencing one of these nationwide (Molly et al., 2019). The adolescents that played sports to escape their problems at home experienced better mental health outcomes in the long run, compared to the ones that didn't and/or couldn't participate due to factors such as socioeconomic status, social support, transportation, etc. In contrast to a collegiate athlete that has everything, their mental health can still deteriorate from social pressure, burn out, and responsibilities, in turn, leading to them experiencing high levels of depression, anxiety, and eating disorders (Harris, 2022). There are different internal and external motivators influencing a change in behavior, affecting every person differently.

Regardless of what affects an adolescent's behavior, the consequences of not treating mental health problems remain the same. Even though adolescent collegiate athletes had a (92%) decrease in risk for death by suicide compared to nonathlete students, these student athletes were

still affected with a 7% mortality from suicide (Haugen, 2022). While many factors still influence negative health outcomes, even towards sports participation behavior, the main objective for the effects of physical activity through sports on an adolescent is to improve their overall health. To further explain, the Healthy People 2030 objectives understand the importance of physical activity, including the objective of increasing the proportion of children and adolescents who play sports (Office of Disease Prevention and Health Promotion, 2020). By spreading awareness about the implications that also occur through sports participation, certain interventions can be applied to further improve the intended purpose of physical activity. The main purpose of promoting behavioral changes through physical activity is to influence positive mental health outcomes, especially in adolescents (Office of Disease Prevention and Health Promotion, 2020).

Theory

Social Cognitive Theory

Alfred Bandura created the Social Cognitive Theory (SCT), a theory that is frequently used to promote well health. This theory concentrates on a group of determinants, exploring how each one functions and converting knowledge of the determinants into health practices (McLeod, 2023). Individuals' health behaviors are not only determined, but also influenced by the combination and interaction of the key constructs of the SCT (McLeod, 2023). Observational (vicarious) learning and self-efficacy are two key constructs of the SCT that can determine whether the behavior is implemented or not. By applying this theory, it is possible to evaluate the factors that influence behavior change in adolescents. Many people are still inactive despite the established health advantages of physical activity through sports, especially on mental health (Merkel, 2013).

According to the SCT, social support may be a deciding factor towards adolescent physical activity and research has shown that social support influences adolescents' decision-making. From the three studies that were conducted on teenagers, the research discovered that those who participated in extracurricular activities, or more specifically, team athletics/sports, had better goal-setting, time-management, and social competent skills, facilitating their desire to continue their participation in sports (Merkel, 2013). Therefore, social support is regarded as the assistance, whether emotionally or socially, provided by a significant other or a group that has been close to the individual. Parental involvement and peer support are

examples of social support (Merkel, 2013). Support/involvement from parents and peers is important for adolescent physical activity, because adolescents who receive more support from their parents, teammates, and/or friends are more likely to participate in sports (Merkel, 2013). In addition to participating in physical activity, adolescents who play team sports rather than individual sports have a higher self-esteem and are at lower risk of engaging in negative behavior (Merkel, 2013). More so, having a high self-esteem also improves a person's self-efficacy, leading to an increased belief in the adolescent's ability to participate in sports, therefore improving their mental health (Merkel, 2013).

Social support from coaches through observational learning and reinforcement also improves and maintains behavior change. Research by Merkel (2013) supports that the majority of adolescent athletes reported better sporting experiences when youth sports coaches received coach effectiveness training. Through positive reinforcement and instruction, these coaches increased player contentment, motivation, cooperation, self-esteem, and retention rates (Merkel, 2013). When physical activity through sports is paired with these positive social constructs, mental health for community-based initiatives are effective.

Self-Determination Theory

The interaction between people's basic needs and environmental factors within social contexts is the foundation of self-determination theory (SDT), which explains aspects of personality and behavioral self-regulation (Ryan & Deci, 2017). Using this concept, researchers investigated the relationships between behavior and motivation for physical activity (Johannes et al., 2022). The SDT proposes three basic psychological needs. These are known as the requirements for autonomy, competence, and relatedness. Autonomy refers to the desire for independence and control over one's own behavior (Ryan & Deci, 2017). Competence is defined as the desire to feel successful in achieving desired outcomes in a given situation (Ryan & Deci, 2017). Relatedness is the desire to feel close to, cared for, and connected by members of a specific community (Ryan & Deci, 2017).

A collegiate athlete has more obligations than the regular student. Due to practice, competition, classes, and personal commitments, student athletes are at a significant risk of feeling unmotivated, which could be detrimental to their mental health (Davoren & Hwang, n.d.). Understanding the psychological factors behind National Collegiate Athletic Association (NCAA) student-athletes' motivation to overcome obstacles and perform at a high level is critical

given the physical, psychological, and social demands of sport participation (Ryan & Deci, 2017). This is where the self-determination theory comes in, to understand how these 3 basic psychological needs determine the engagement of sports as a physical activity. When student-athletes are given the freedom to pick and choose their own practices or training drills, their autonomy may improve (Ryan & Deci, 2017). Athletes must also demonstrate competence, which originates from the desire to work well with others, the desire to finish drills successfully, and for the desire of the players themselves to live up to their own expectations (Ryan & Deci, 2017). Ryan & Deci (2017) also explain that higher amounts of perceived competence in student athletes give them the impression that they can perform well in their sport. Lastly, positive interactions between teammates and coaches are two ways that relatedness can be developed in a sports setting (Ryan & Deci, 2017).

According to a study conducted by Johannes et al. (2022), 180 student-athletes at the collegiate level were recruited, to get their perceived patterns of autonomy, competence, and relatedness examined. These participants completed multiple surveys which included the: Basic Needs Satisfaction in Sport Scale (BNSSS), Athlete Burnout Questionnaire (ABQ), and the Subjective Vitality Scale (SVS). They also evaluated how satisfied they were with their own sport performance on a scale from very poor (1) to very good (7) and not at all satisfied (1) to very satisfied (7) (Johannes et al., 2022). These surveys determined how their basic psychological needs satisfaction correlates with their mental health, and how this can affect their behavior of sports participation. The results indicated that athletes who engaged in activities with a low level of autonomy, competence, and relatedness, usually had higher levels of anxiety, depression, and stress, which is not good for the mental health of adolescents (Johannes et al., 2022). The use of the self-determination theory and the understanding of the basic psychological needs has been proven to be beneficial in determining physical activity through sports, including the effects towards their psychological health.

Intrapersonal Factors

Sports participation among adolescents is dependent on intrapersonal factors, more specifically with demographics. These different characteristics, such as gender, race, and socioeconomic status (SES), can also correlate to one another. According to Zarrett et al. (2020), 43.1% of girls were more likely to have never played sports compared to the 34.5% of boys in the study sample. This means that as of today, girls are less likely than males to be playing sports

(36.4% girls vs. 45.6% boys). Gender does indeed affect the behavior of sports participation in athletes. However, gender alone does not determine behavior. One of the reasons behind females' lower participation, especially in adolescence is body image, leading to low self-esteem and self-consciousness about one's own self (Zarrett et al., 2020). Both males and females go through puberty around adolescence, changing their body image, but females' are more likely to be less motivated and participate in sports. Timothy et al. (2022) explains that playing sports reduces anxiety and depression, but, on the other hand, the girls who did not participate admitted to being self-conscious about playing sports because they disliked how they appeared in uniforms. In spite of the benefits of sports participation on mental health, this can also affect it, depending on gender.

Race and/or ethnicity has been proven to determine the rates of physical activity and sports participation among young adults. A cross sectional study conducted by Armstrong et al. (2018) shows that sports participation in adolescents is lower among Hispanics and African Americans than in Whites. Sports participation still correlates with reduced levels of depression, therefore explaining the differences in psychological health levels among the different races (Armstrong et al., 2018). Research from Armstrong et al. (2018) later explains how race correlates with low income status and how it lowers their rates of physical activity.

Minorities are more likely to have a lower socioeconomic status than Whites (Armstrong et al., 2018). In regards to socioeconomic status, Armstrong et al. (2018) explains that "physical activity facilities, sidewalks, connected streets, bike trails, and perceived safe outdoor spaces are more common in neighborhoods where higher-income families live". In addition, club sports and/or programs require costs for travel, equipment, and registration, impacting the ability for adolescents from low-income families to participate in sports (Hyde et al., 2020). These different factors show how they influence sports participation and how they can be beneficial or detrimental to one's mental health. At the intrapersonal level, these factors/characteristics dictate the consistency of behavior based on their demographics, and the correlation between them as well.

Interpersonal Factors

At the interpersonal level, social support from friends, coaches, teammates, and family are important predictors of behavior. They can positively or negatively influence the adolescents' motivation to participate in sports. Like sports, research shows that social support has also been a

significant factor in reducing stress and anxiety levels among athletes. Parental involvement, pressure from coaches, and encouragement from teammates promote different kinds of behaviors that can change the way an athlete behaves in certain situations. For example, a coach-athlete relationship with a supportive coaching style reports increased levels of autonomy, competence, and relatedness, all of which are constructs of the self determination theory (Raabe & Zakrajsek, 2017). A positive and supportive relationship from a coach impacts sports performance in a good way, compared to a negative, controlling relationship with a coach that does the complete opposite. Research from Rabe & Zakrajsek (2017) also explains that positive interactions and relationships limit athlete burnout and improve participation in team sports. Coaches are supposed to be role models and guides for the athletes, therefore it is beneficial for both the coaches and the athletes to develop a positive relationship. Having a supportive relationship with a coach leads to a positive experience, which in turn also leads to an increased desire to want to engage in that behavior.

Scott et al. (2020) conducted a research survey with 135 student-athletes from the National Collegiate Athletic Association (NCAA) Division II and III levels, explaining how Coronavirus disease 2019 (COVID-19) affected their mental health. As reported, teammate social support and connectedness had a severe effect on adolescent psychological health. The pandemic did not only cause sports cancellations, it also led to a loss of social connectedness and support. Without their teammates, they lost their relationships with the people who gave them the support and motivation. Positive behaviors from teammates resulted in positive changes in their athletic identities (Scott et al., 2020). A strong athletic identity gives the athlete an increased sense of self-esteem and self-efficacy, so without sports or social interaction, there is no influence for behavior change. Scott et al. (2020) explains how these changes in identity are positively associated with mental health and social well-being. This, in turn, reinforces the athlete's desire to want to improve, hence, increasing their social, physical, and most importantly, mental health.

Parental involvement is definitely key in adolescent behavior. Parents are the reason for adolescents playing sports. They contribute to their initial sports involvement as children and are also responsible for providing access, transportation, and financial support towards their participation in sports (Ajay et al., 2017). Through words of encouragement, parents are influencing how their children follow their coach's rules and drills. Different ways that

demonstrate supportive (positive) parental involvement include giving their child the autonomy to let them choose the sport they want to play, providing them with the financial support needed to participate, and to help facilitate any other necessities that are required for them to participate. Controlling (negative) behavior and pressure to succeed or meet a parent's high standards are examples of negative involvement (Ajay et al., 2017). This signifies that the more (positively) invested a parent is in their child's participation in youth sports, the more satisfied the adolescent will be. This focuses back on one of the main objectives that should and must be fulfilled through sports participation, which is the benefit of an improved mental health in adolescent athletes. When this isn't the case, Ajay et al. (2017) reported that teenage athletes may experience stress from parental expectations as a result of being aware of their parents' negative efforts. As negative and/or controlling parental influence on the child's sport is related to stress, this also gives rise to decreased levels of motivation and enjoyment. While sports are meant to reduce levels of stress and anxiety, many interpersonal factors have the ability to enhance this, but they can also do the complete opposite, doing more harm than good for the adolescent's psychological health (Timothy et al., 2022).

Organizational, Community, Environment, and Policy Factors

Timothy et al. (2022) explains that adolescents who play sports display higher academic achievement, more physical activity, and lower levels of anxiety and depression in comparison to students who did not participate in athletics. These are all signs that teenage sport participation has profoundly favorable effects on the health and wellbeing of adolescent students. For U.S. adolescent athletes, participating in sports may have a positive, major impact on their mental health (Timothy et al., 2022). However, various factors play a significant role in influencing behavior, whether this has a positive or negative impact on adolescents' mental health (Timothy et al., 2022).

For instance, at the organizational level, in the spring of 2020, Coronavirus (COVID-19) became a pandemic in the United States (Timothy et al., 2022). To slow the spread of the disease, schools were closed and high school sports were cancelled. A study was conducted to determine the impact of student athletes' participation in sports during the COVID-19 pandemic on their mental health (Timothy et al., 2022). A survey called the General Anxiety Disorder-7 Item (GAD-7) was used to assess the symptoms of anxiety and depression on the athletes who played and those who didn't in the Fall of 2020. While the DNP (Did Not Play) athletes were more

likely to show scores of 10 to 21, suggesting more moderate to severe anxiety than the PLY (Played) athletes group (DNP 44.1% vs. PLY 6.6%), the PLY participants were more likely to show GAD-7 symptom ratings of 0 to 4, demonstrating little or minimal anxiety (PLY 80% vs. DNP 26.4%) (Timothy et al., 2022). The results found that when the COVID-19 pandemic struck in the fall of 2020, high school students who participated in sports were less likely to experience anxiety and depressive symptoms than the athletes who didn't play a sport.

At the community level, using mental health programs help an adolescent's athlete's mental health and wellness (Davoren & Hwang, n.d.). Although not playing sports can increase mental health problems in adolescents, the likelihood of college student-athletes who play sports experiencing depression, anxiety, eating disorders, and substance misuse is high (Harris, 2022). When athletes are required to deliver high-quality performances while struggling mentally, a major problem arises (Davoren & Hwang, n.d.). A collegiate athlete has more responsibilities than the ordinary student, this can cause a student-athlete to be at a high risk of feeling overwhelmed due to practice, competition, academics, and personal life, which can be harmful to their mental health (Davoren & Hwang, n.d.). This is why the community level plays a big factor in behavior change with the vitalness to use mental health programs in colleges for student-athletes.

However, Hong et al. (2018) suggests that there is a stigma with college athletes that prevents them from getting the proper help needed. This is why The National Athletic Trainers' Association (NATA) issued a consensus statement in 2013 on developing a strategy to identify and refer collegiate student-athletes experiencing psychological difficulties (Hong et al., 2018). In 2016, the NCAA also released a paper on Mental Health Best Practices, which focuses on understanding and promoting student-athletes' mental health (Hong et al., 2018) . These consensus documents advocate for the development of standard and emergency referral standards for mental health. Every institution or university will have different resources available to it, but even with limited resources, a basic referral protocol with mental health screenings, like the GAD-7 survey, can and should be implemented, as this has benefited student-athletes since many have indicated higher signs of mental health problems (Hong et al., 2018). These athletes have problems that probably would not have been discovered without a private and confidential screening during the pre-participation exams because of the stigma surrounding it. Furthermore, mental health issues have previously been stigmatized in sports, so not everyone might feel

comfortable discussing them (Hong et al., 2018) . Even so, by proceeding to have discussions regarding mental health and addressing it, this will eventually change toward trying to normalize the discussion of mental health in adolescents. This leads to the ability to create communities for student-athletes with mental health concerns, creating programs like Princeton University's Student-Athlete Wellness Leaders (SAWL) program helps student-athletes receive training in bystander intervention and other topics relating to common mental health concerns so they may help teammates and other students who are in need (Hong et al., 2018).

Research from Daniel et al. (2017) suggests that at the environmental level, lack of access to sports facilities, parks and fields plays a detrimental role in the engagement of behavior towards the impact of sports as a physical activity on an adolescent's mental health. The results showed that teenagers are discouraged from playing sports in parks due to worries about neighborhood safety and the communities from all four regions expressing concern over it. Parents and teenagers voiced their worries in the study about peer violence, dogs running loose, older teens or people they deemed frightening, and badly maintained public areas and equipment (Daniel et al., 2017) . Parents identified a barrier as the absence of sports facilities. Due to poor maintenance or a perception that the local centers are unsafe due to the surrounding areas, several parents in the neighborhoods are hesitant to use the local centers (Daniel et al., 2017). One mother explained how criminal activity from the area, such drug dealing or bullying, flows into the sports and recreation facility (Daniel et al., 2017). Not only does this lack of participation in sports not lower levels of anxiety and depression, lack of security in an unsafe environment will cause a great deal of stress and anxiety (The National Counseling Society, n.d.).

Coronavirus (COVID-19) plays a big role at the policy level. The implementation of regulations and guidelines for the safe return to school and restart of sport for the 2020–2021 academic year relied heavily on athletic trainers (ATs) (Hayley et al., 2022). COVID-19 had a negative impact on adolescent athletes' mental health through the closures of schools and sports (Johnson, 2021). In order to make sure that it doesn't happen again, the athletic trainers created policies to prevent or reduce the athletes from catching COVID-19 and to control the disease's spread in the U.S. (Hayley et al., 2022). A qualitative research study was conducted, interviewing college ATs at the NCAA Division I, II, and III levels regarding their implementation of return-to-sport policies and procedures throughout the 2020–2021 academic

year in the midst of the COVID-19 pandemic (Hayley et al., 2022). Of the 27 people who volunteered to take part in the study, 21 had administrative responsibilities or worked closely on policy creation. The remaining 6 were assistant ATs but had administrative responsibilities (Hayley et al., 2022). The results helped show which implementations were effective, helping adolescent athletes return to their sports, while also making sure that they were following the guidelines. Research by Hayley et al. (2022) shows that the policies made proved to be beneficial, as contact tracing testing for staff, temperature screening, COVID-19 tests, face mask requirements, and vaccines were all proven to be effective in facilitating the transition back to school, limiting the spread of COVID-19. These policies helped encourage the return of participation in sports for athletes. Thus, improving the mental health of adolescents.

Suggestions for Intervention

There are many approaches and strategies used to treat adolescents with mental health conditions. Therapy has been regarded as one of the most effective strategies in improving psychological health these last few years (Mark et al., 2016). A therapeutic intervention that treats symptoms like anxiety and depression which are common in adolescents who play sports is cognitive behavioral therapy (CBT). This psycho-social approach aims to change a person's thought patterns, taking all of the potential factors into account that could explain why the person is feeling that way. CBT has been proven to help athletes deal with stress caused by factors that occur either inside or outside of the sports setting (Mark et al., 2016). With this structured and goal-oriented approach, it will appeal to athletes because of the similarities of turning challenges into desired performance outcomes to be achieved, just like in sports. This has proven to be effective with a study conducted by Brenda et al. (2016), using the CBT to implement a 10 week program called Creating Opportunities for Personal Empowerment (COPE). Alongside teaching these student athletes how to monitor themselves from stressful challenges or situations that potentially trigger a negative belief, they could improve and change the way they respond towards it. By turning that negative thought into a positive one, it will reduce the rates of anxiety and depression in sports while also promoting a positive behavior change (Brenda et al., 2016). Through positive self-talk, an increased self-esteem would reduce the probability of other harmful factors changing the athlete's behavior. Interpersonal factors acquired through negative social support like pressure from parents and/or a controlling relationship from a coach are by all means harmful towards an adolescent's mental health. Following the COPE guidelines would

mitigate the opportunity for these factors to negatively affect one's behavior (Raabe & Zakrajsek, 2017). Turning a negative response into a more encouraging one with a positive mindset will change the way the athlete sees things, therefore reducing stress and anxiety levels, as well as encouraging them to remain engaged in physical activity (Brenda et al., 2016).

The Scarlet and Grit program was an intervention used to provide resources, knowledge, and skills in college athletes' mental health (Lindsay et al., 2021). Building resilience in college athletes with different strategies like breathing techniques when faced with stress, improving stigma awareness, and team building exercises is crucial for the ability to cope with stress inducing factors (Lindsay et al., 2021). The provision of these coping strategies not only improves the ability for them to deal with stressors on and off the field, but also helps them cope with mental health more easily. Only one group session each year throughout the four years of college is all it takes for it to prove beneficial towards positive mental health outcomes. At the end of the program, a survey is given out to the athletes, with 87.9% of them saying that they will use the strategies and skills learned from the intervention (Lindsay et al., 2021). The policy factor in relation to COVID-19 and the Scarlet and Grit program would have been vital for the management of stressors in student-athletes, as they would have had the knowledge needed to cope through lockdowns, school closures, canceled sports seasons, etc (Lindsay et al., 2021). The positive correlation between positive coping strategies and better stress management increased the mental health of these adolescents.

A new intervention that could be used and is usually overlooked could be mental health screenings. Kroshus (2016) says "fewer than half of U.S. collegiate sports medicine departments have written plans for identifying student-athletes with mental health concerns or screening student-athletes for mental health disorders". No strategies could be created without proper research and not enough data. A lot of adolescents could be at risk of developing mental health disorders without them even knowing because of the disparities of mental health screening programs around the United States (Kroshus, 2016). New protocols should be invented that require all healthcare providers at universities to improve and require mental health screenings with the proper resources to increase the quality of care in mental health.

The importance of interventions and strategies to help further treat the disparities in mental health in adolescents is necessary. Many factors prove to be detrimental and beneficial towards the effectiveness of physical activity through sports, thus acknowledging the

significance of the changes needed through interventions (Lindsay et al., 2021). The emotional and mental well being of a person is a sensitive subject that has been growing over the past several years (Harris, 2022). Especially in adolescents, where their change in behavior will depend on the effectiveness of these interventions.

References

- Armstrong, S., Wong, C. A., Perrin, E., Page, S., Sibley, L., & Skinner, A. (2018). Association of Physical Activity with Income, Race/Ethnicity, and Sex Among Adolescents and Young Adults in the United States. *JAMA Pediatrics*, 172(8), 732-740.
<https://doi.org/10.1001/jamapediatrics.2018.1273>
- Buffington, B.C., Melnyk, B.M., Morales, S., Lords, A. & Zupan, M.R. (2016). Effects of an Energy Balance Educational Intervention and the COPE Cognitive Behavioral Therapy Intervention for Division I U.S. Air Force Academy female athletes. *Journal of the American Association of Nurse Practitioners*, (28), 181-187.
<https://doi.org/10.1002/2327-6924.12359>
- Davoren, A. K., & Hwang, S. (n.d.). *Mind, Body and Sport: Depression and Anxiety Prevalence in Student-Athletes*. NCAA.org. Retrieved March 2, 2023, from
<https://www.ncaa.org/sports/2014/10/8/mind-body-and-sport-depression-and-anxiety-prevalence-in-student-athletes.aspx>
- Easterlin, M. C., Chung, P. J., Leng, M., Dudovitz, R. (2019). Association of Team Sports Participation With Long-term Mental Health Outcomes Among Individuals Exposed to Adverse Childhood Experiences. *JAMA Pediatrics*, 173(7), 681–688.
<https://doi.org/10.1001/jamapediatrics.2019.1212>
- Finkelstein, D. M., Petersen, D. M., & Schottenfeld, L. S. (2017, December 14). Promoting Children's Physical Activity in Low-Income Communities in Colorado: What Are the Barriers and Opportunities? *Preventing Chronic Disease*, 14(134).
<https://doi.org/10.5888/pcd14.170111>
- Graupensperger, S., Benson, A. J., Kilmer, J. R., & Evans, M. B. (2020). Social (Un)distancing: Teammate Interactions, Athletic Identity, and Mental Health of Student-Athletes During the COVID-19 Pandemic. *Journal of Adolescent Health*, 67(5), 662-670.
<https://10.1016/j.jadohealth.2020.08.001>
- Harris, M. (2022, December 21). *College Student-Athletes Are Dying in Mental Health Crisis*. Psychology Today.
<https://www.psychologytoday.com/us/blog/letters-from-your-therapist/202212/college-student-athletes-are-dying-in-mental-health-crisis>

- Haugen, E. (2022). Athlete Mental Health & Psychological Impact of Sport Injury. *Operative Techniques in Sports Medicine*, 30(1), <https://doi.org/10.1016/j.otsm.2022.150898>
- Hong, E., Keenan, L., Putukian, M., & Scifers, J. R. (2018). Addressing Mental Health Issues in the Collegiate Student-Athlete. *Athletic Training & Sports Health Care*, 10(2), 54-58. <https://doi.org/10.3928/19425864-20180219-01>
- Hyde, E. T., Omura, J. D., Fulton, J. E., Lee, S. M., Piercy, K. L., & Carlson, S. A. (2020). Disparities in Youth Sports Participation in the U.S., 2017–2018. *American Journal of Preventive Medicine*, 59(5), 207-210. <https://doi.org/10.1016/j.amepre.2020.05.011>
- Johnson, G. (2021). *Pandemic Continues to Impact Student-Athlete Mental Health*. NCAA.org. <https://www.ncaa.org/news/2021/2/16/pandemic-continues-to-impact-student-athlete-mental-health.aspx>
- Kroshus, E. (2016). Variability in Institutional Screening Practices Related to Collegiate Student-Athlete Mental Health. *Journal of Athletic Training*, 51(5), 389–397. <https://doi.org/10.4085/1062-6050-51.5.07>
- Lindsay, S., Jennifer, E. C., James, H., Kele, D., Amanda, H. & Jingzhen, Y. (2023). Evaluation of a Resilience Training Program for College Student-Athletes: A Pilot Study. *Journal of American College Health*, 71(1), 310-317, [10.1080/07448481.2021.1891083](https://doi.org/10.1080/07448481.2021.1891083)
- McGuine, T. A., Biese, K. M., Hetzel, S. J., Schwarz, A., Kliethermes, S., Reardon, C. L., Bell, D. R., Brooks, M. A., & Watson, A. M. (2022). High School Sports During the COVID-19 Pandemic: The Effect of Sport Participation on the Health of Adolescents. *Journal of Athletic Training*, 57(1), 51-58. <https://doi.org/10.4085/1062-6050-0121.21>
- McGuine, T. A., Biese, K.M., Hetzel, S. J., Schwarz, A., Reardon, C.L., Bell, D. R., Brooks, M. A., Dickman, J., & Watson, A. M. (2023). A Multiyear Assessment of the Effect of Sport Participation on the Health of Adolescent Athletes During the COVID-19 Pandemic. *Journal of Athletic Training*, 58(1), 44-50. <https://doi.org/10.4085/1062-6050-0679.21>
- McLeod, S. (2023, February 16). *Albert Bandura's Social Learning Theory*. SimplyPsychology. <https://simplypsychology.org/bandura.html>
- Merkel, D. L. (2013). Youth Sport: Positive and Negative Impact on Young Athletes. *Open Access Journal of Sports Medicine*, 4, 151-160. <https://doi.org/10.2147/OAJSM.S33556>
- Office of Disease Prevention and Health Promotion. (2020). *Healthy People 2030 Objectives*. <https://health.gov/healthypeople/objectives-and-data/browse-objectives>

- Padaki A.S., Ahmad C.S., Hodgins J.L., Kovacevic D., Lynch T.S., Popkin C.A. (2017). Quantifying Parental Influence on Youth Athlete Specialization: A Survey of Athletes' Parents. *Orthopaedic Journal of Sports Medicine*, 5(9), <https://doi.org/10.1177/2325967117729147>
- Raabe, J., Leyhr, D., McHenry, L. K., Readdy, T., & Höner, O. (2022). Patterns of Basic Psychological Need Satisfaction and Associated Outcomes Among NCAA Student-Athletes: A Longitudinal, Person-Oriented Investigation. *Journal of Sport Behavior*, 45(1), 95-114. <http://libproxy.clemson.edu/login?url=https://www.proquest.com/scholarly-journals/patterns-basic-psychological-need-satisfaction/docview/2756706976/se-2>
- Raabe, J., & Zakrajsek, R. A. (2017). Coaches and Teammates as Social Agents for Collegiate Athletes' Basic Psychological Need Satisfaction. *Journal of Intercollegiate Sport*, 10(1), 67–82. <https://doi.org/10.1123/jis.2016-0033>
- Root, H. J., Abdenour, T. E., Eason, C. M., DiSanti, J. S., & Post, E. G. (2022). Collegiate Athletic Trainers' Experiences Implementing Return-to-Sport Policies and Procedures During COVID-19: A Qualitative Research Study. *Journal of Athletic Training*, 57(11-12), 1100-1110. <https://doi.org/10.4085/1062-6050-0004.22>
- Ryan, R. M., & Deci, E. L. (2017). *Self-Determination Theory: Basic Psychological Needs in Motivation, Development, and Wellness*. Guilford Press. <https://doi.org/10.1521/978.14625/28806>
- Stillman, M. A., Brown, T., Ritvo, E. C., & Glick, I. D. (2016). Sport Psychiatry and Psychotherapeutic Intervention, Circa 2016. *International Review of Psychiatry*, 28(6), 614–622. <https://doi.org/10.1080/09540261.2016.1202812>
- The National Counselling Society. (n.d.). *How Your Environment Affects Your Mental Health*. Retrieved March 2, 2023, from <https://nationalcounsellingsociety.org/blog/posts/how-your-environment-affects-your-mental-health>
- Zarrett, N., Veliz, P.T., & Sabo, D. (2020). Keeping Girls in the Game: Factors that Influence Sport Participation. *New York, NY: Women's Sports Foundation*, 20-26. <https://www.womenssportsfoundation.org/wp-content/uploads/2020/02/Keeping-Girls-in-the-Game-FINAL-web.pdf>