

The Effect of Team Sports On Mental Health In Adolescents

A Synthesis of the Research Literature

A Synthesis Project

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Table of Contents

Title Page.....	1
Signature Page.....	2
Table of Contents.....	3
Abstract.....	4
Chapter 1.....	5-7
Chapter 2.....	8-10
Chapter 3.....	11-18
Chapter 4.....	19-21
Reference Page.....	22-23
Appendix.....	24-32

Abstract

There is research that shows the impact of physical activity and sport on the health. However, there is an area of research that is lacking with regards to the impact of participating in team sports on mental health, specifically amongst youth. Therefore, the purpose of this synthesis was to review the literature on the effects of team sports on mental health in youth and adolescents. Results indicated that there is a positive correlation between participation in a team sport and overall mental health in youth.

Chapter 1 – Introduction

In today's society there is an increase in the amount of individuals that have mental health issues such as depression, anxiety, suicidal thought and tendencies. According to the National Alliance on Mental Illness (NAMI) 20% of youth ages 13-18 live with a mental health condition. Eleven percent of youth have a mood disorder. Ten percent of youth have a behavior or conduct disorder and eight percent of people have an anxiety disorder. In regards to suicide, NAMI (2017) states that it is the third leading cause of death in youth and 90% of those who died by suicide had an underlying mental illness. Mental illness begins at a young age and has a tremendous impact on those that are living with it. NAMI provided statistics that demonstrated that 50% of lifetime cases of mental illness begin by age 14 and approximately 50% of students age 14 or older with a mental illness drop out of high school. With an increase rise of youth handling mental illness the question asked is what is being done, and the answer appears to be not enough. Mental Health America (MHA) shows that rates of youth with severe depression increased from 5.9% in 2012 to 8.2% in 2015 and 76% of youth are left with no or insufficient treatment.

NAMI states that there are a few things that can be done to help assist these youth that are experiencing mental illnesses. The recommendations are to talk with your pediatrician, get a referral to a mental health specialist, and connect with other families. When individuals with mental health issues talk to medical professionals, it is shown that medication has become a "go-to" for helping youth with mental issues. People with mental health issues run into a couple issues and that is the lack of access to medical help and the over prescribing of medication. MHA states that over 1.7 million youth with major depressive episodes did not receive treatment (2017) For example, in Alabama there is only one mental health professional per 1,260 people.

Medication can be a beneficial route to take if it is done responsibly and in moderation, but side-effects of medicines such as anti-depressants can range from increased depression and anxiety, thought of suicide, increased aggression and much more according to National Institute of Mental Health (NIMH, 2017). NIMH also says specifically that, “A doctor can give a young person an FDA-approved medication on an “off-label” basis. This means that the doctor prescribes the medication to help the patient even though the medicine is not approved for the specific mental disorder that is being treated or for use by patients under a certain age,” (p. 2). These are not safe or consistent options.

Research has shown that exercise and physical activity is constantly impacting the health and wellness of the individuals with mental health issues. In a study published by Thordis Gisladdottir (2013) it was found that there was a significant difference between different levels of sport participation in sports clubs and perceived body image, mental condition and physical condition in over 10,000 students from ages 14-16. That is not all however, according to Badura et al. (2015) states that organized activities has been linked to healthy youth development not only in physical health, but mental health as well. Being able to participate in team sports, allows for young participants to have an outlet outside of the school and home to release any sort of anger, frustration, depression or anxiety that they might have or don't know how to handle. With other teammates and a coaching staff teaching them the “right way” to play the game, they can take away valuable information that comes with being included in a team.

Other studies, such as the one published by Sabiston, showed that team sport participation may protect against depressive symptoms in early adulthood (2016). These sorts of findings show that individuals should be encouraged both at home and in school, to be a part of team sports in order to grow as individuals physically and mentally.

In today's society young individuals are constantly battling a variety of mental illnesses that sometimes their parents, teachers or caretakers are not familiar. Team sports can offer an opportunity for kids with mental illness to better handle their stress, anger and depression by transferring those emotions into practice and competition. Hansen et al. (2010) writes that "the ability to appropriately manage positive and negative emotions that emerge while engaged in activity or in pursuit of a goal can be taught and learned in a variety of activities, which include sports," (p. 6). In addition, the authors note that being part of a team can offer a social group that can give the individual friendships and another way to seek out help. Specifically it states, "we conceptualize teamwork and social skills as the ability to work collaboratively with peers to accomplish a common goal; it includes group processes and dynamics, giving and receiving feedback and leading others," (p. 418). Youth should always be encouraged to participate in team sports, but those with a variety of mental illnesses should be encouraged more so.

Statement of the Problem

The increase in mental health issues among youth has a variety of different solutions, however they tend to be inconsistent, unhealthy and potentially risky. There is research to suggest that participation in team sports can assist youth with mental health issues better cope with their illness. Specifically, team sport can be used as a method to aid the youth that may not have access to medical help or can't afford it, but it also offers a solution that all youth can potentially participate in.

Research Question

What effect does participation in team sports have on the mental health of youth?

Purpose Statement

The purpose of this synthesis project was to review the literature on the effect of team sports on mental health in youth.

Operational Definitions

The following operational definitions are used for this synthesis:

1. Youth: children ages 12-18
2. Mental Health: According to the World Health Organization, mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to his or her community.

Delimitations

The following delimitations are used for this synthesis:

1. Studies that examined the effect of team sports on the mental health of youth age
2. Studies that were peer reviewed.
3. Studies published between 200-2018.

Chapter 2- Methods

The purpose of this chapter was to review the methods used to find literature on the effect of team participation on mental health within youth. A significant amount of the sources used in this synthesis were located using the EBSCO host database at the Drake Memorial Library at The College at Brockport. In addition, using the Drake library, the use of Google Scholar with access to full text was possible. Within the EBSCO host database, there were two primary sub-databases that were used. The first was SPORTDiscus with full text, which is described as a comprehensive source of full text for sports and sports medicine journals. The second database used was Academic Search Complete and that is described as a full text database containing nearly 5,100 journals, this collection offers information in nearly every area of academic study. For each article, a certain criteria had to be met in order to be considered and included.

In the SPORTDiscus data base the first step that was taken to shrink down the results was to first search for articles on team sports and the numbers showed 118,492. The publication date was shifted to the time between 2000 and 2018, which lowered the total number of articles to 97,700. Next, to continue to specify the articles that were searched the following key word used was “mental health” and it brought the total number of articles to 238. The final key word that was inserted was “youth” and it brought the article number to 22 and lastly, searching for full text brought the final total to 13. The second data base as mentioned before was Academic Search Complete. The search began similarly to the other search engine, by using the first key-phrase, “team sports”. The amount of articles that came up were 186,822. The date range was shrunk to 2000-2018, and it cut the results to 150,422. The next key-phrase was inputted, which was “mental health” and it dropped the total significantly (536). The final key word was inserted,

youth, and it brought the article count to 34, before dropping to 17 once the search was limited to articles with the full-text.

Google Scholar was another search engine used, that although was limited in terms of the search criteria offered good information that proved useful in looking at the synthesis overall. The first time using the database was in search of general mental health information. The search looking for mental health in youth statistics, which brought up over 1.73 million articles. Once the date range was inputted, 2000-2018, the article were cut almost in half to 517,000. After all articles were read through and selected, another step that was taken to further explore the realm of this field of study is too look at the citation of those articles that I have already read through from the databases. A lot of the key information in the articles had in text citations or footnotes that I was able to follow to see the name, author and date of publication and if they seemed like they could be effective pieces of information.

As the purpose of this synthesis states, the critical mass of subject in all of the studies are limited to individuals between the ages of 11-18, with one article being the exception where they examined 791 college students. In addition, each article had a wide variety in number of participants that each study examined. The highest number of participants in a study was 13,857 between 9-12 grade, including 7,206 males and 6,651 females. The lowest number in an articles was 78 high schoolers with equal numbers in both male (39) and female (39). Each studies, specified a goal of keeping as close to 50% male and 50% female as they and most hovered around 48% in one direction or another. Only one articles recorded the number of participants that did not specify their gender.

Each database provided articles that were published in a number of different journals. SPORTDiscus provided two articles, both of which were from the Journal of Sport of Exercise

and each from the 2015-2016 time period. In the Academic Search Complete database, there were two articles that derived from the BioMed Central publisher, but one was from Child and Adolescent Psychiatry and Mental Health section, while the other was Public Health. Both were published in the 2014-2015 time period. The third article from Academic Search Complete was from the Journal of Research on Adolescence and was published in 2001.

In looking at the citations from other articles, those came from different publications as well. One article that was published in 2010, came out in the Journal of Applied Developmental Psychology. Next, was an article published in 2009 in the Social Sport Journal, and finally, the last article found through other citations was published in the Journal of Sports Sciences in 2013.

Chapter 3: Review of Literature

The purpose of this synthesis project is to review the literature on team sports and the effect that it has on mental health in adolescents. There are three specific areas of mental health associated with the literature review and they are self-esteem, lifestyle health and reduction in depressive symptoms. In addition, suicidal tendencies and thoughts will be examined in regards to depression, while a variety of anxiety and eating disorders will be looked at in relation to lifestyle health and self-esteem.

Self-Esteem

D'anna et al., (2015) based her research on the concept "Self-esteem=Success", which demonstrates that the self-esteem of a person is the comparison between concrete achieved success and the corresponding expectations. She notes that a key indicator of positive mental health is the degree to which an individual values themselves. The purpose of the study was to assess the self-esteem level comparing athletes who practice individual sport with athletes who play team sports. The study consisted of 78 high school athletes who participated in either basketball or gymnastics. There were 39 males and 39 females that were selected from the same urban area with similar socioeconomic status. Self-esteem was evaluated using the Multidimensional Self Concept Scale, which measures global self-concept and six specific domains of self-concept: interpersonal relationship, competence, emotionality, school, family and body image. The results showed that playing individual or team sport did not change how participation impacted self-esteem. It is stated that both females and males who participated in sport had considerable higher levels of self-esteem. It is not just about the act of playing the sport however, there constant influences from other players and coaching staff the effect the experience of being on a team.

The effect of coaches who coach team sports was also studied to determine the impact of their behavior on their athlete's mental health. Steiner et al., (2000) noted that not all outcomes of sports participation may be beneficial. In addition to examining the general health and nutrition of athletes under study, researchers also addressed the potential negative impact that may come from coaches. For example, coaches who emphasize body image and personality characteristics as important qualities for their players to possess, have been shown to increase the likelihood that an athlete may develop an eating disorder. Although the goal of this study was to assess the general health and nutrition of their athletes, they also wanted to address different areas of functioning that have rarely been studied, such as mental health and a wide range of risk-taking behaviors. The original sample used for this study was 1,769, but due to a variety of reasons, the total that was used for analysis varied from a maximum of 1,549 and low of 1,388, all of which were students in high-school. The students were of different age groups, ethnicities and was primarily an economic status of upper middle class. Spearman rank correlation as measures of association was used for statistical analyses. The results showed that student-athletes reported more injuries but better functioning than non-athletes in all other domains. In addition, adolescents who participated in sports were different from their peers in that they reported fewer mental and general health problems and eating and dietary problems. This could be due to the fact that coaches in this study did not emphasize body image and personality characteristics. Based on the results of this study, participation in sports encouraged the growth of positive thinking about one's own life.

Gisladdottir et al., (2013) investigated the relationship between adolescent's sports clubs participation and self-reported mental and physical conditions and future expectations. The participants were 10,987 pupils in the final three years of their compulsory education in Iceland

(aged 14-16). The participants completed questionnaires administered to students in the classroom relating to health and behavior. The measures used in the study were included in the survey conducted by the Icelandic center for social research. The survey consisted of 59 questions with varying numbers of items on 22 pages. The study revealed that those who often practiced sport with sports clubs evaluated their physical conditions better than those who sometimes or never did and had a more positive body image. In addition, the participants who claimed they often practiced sports with sports clubs were more positive towards the future than those of the other two groups. They believed that their income would be a little better than that of their parents and that they would get a good job, along with living a good and happy life in the future. This indicates that these young people have more confidence and that they will succeed later in life than the groups that practice less. This aligns with Valgeirsson (1990) who noted that participation in sport affects adolescents' view of their own health, depression, anxiety and self-esteem in a positive way. In addition, it was noted that sports participation can improve self-confidence and confidence in peers, and can focus on the importance of hard work in order to be successful.

Lifestyle Health

Badura et al., (2015), noted that participation in organized leisure-time activities has been linked to healthy youth development. In addition, participation has been explored as one of the relevant health youth development factors in adolescents. The purpose of this study was aimed to assess whether participation in organized leisure-time activities is associated with both physical and mental health in adolescents, and whether this association differs by pattern of activity participation, age and gender. The participants of the study came from a nationally representative sample of Czech boys and girls aged 11, 13 and 15 years from the 2013/2014 Health Behavior in

School-Aged Children study. In total, there was a final sample of 10,503 respondents. The questionnaires were distributed by trained administrators while the teacher was not in the classroom in order to reduce the response bias. The study used a chi-square test to assess the statistical significance of gender and age differences in particular activities, number of concurrent activities and cluster of organized leisure-time activities. In addition, one-way ANOVA was used with a Turkey's HSD post hoc test to assess the statistical significance of differences in average number of activities with increasing age. The results showed a vast majority of the adolescents were involved in at least one of the six types of organized activities. Participation in organized leisure-time activities was associated with enhanced physical and mental health among all adolescents independently of the type of activities.

According to Mangerud et al., (2014), about one third of adolescents worldwide meet the criteria for lifetime psychiatric disorder. Girls have high rates of mood and anxiety disorders, while boys have higher rates of behavioral disorders. Physical inactivity has a major negative impact on public health, and physical activity in childhood and adolescence might serve as a predictor for the level of physical activity later in life. The researchers also noted that in several cross-sectional studies adolescents who engaged regularly in physical activity reported lower anxiety-depression scores than those who were less active. The study investigated the frequency and type of physical activity in adolescent psychiatric patients, compared with adolescents in the general population. Five hundred and sixty six adolescent psychiatric patients aged 13-18 compared to 8173 adolescents from ages 13-19 without a psychiatric disorder were studied. Each completed a questionnaire about physical activity. Outcome variables were physical activity in three ordered categories (low activity, moderate activity, high activity), individual sports (yes/no) and team sports (yes/no). Differences in proportions were analyzed by Pearson's chi-squared

test, the Wilcoxon Mann-Whitney U test and the Kruskal-Wallis Test. Results showed that in the clinical sample, low levels of physical activity were most frequent among adolescents with mood disorder. In contrast, high levels of physical activity were found in 21% of the total sample. The study also showed that adolescents with mood disorders participated less in individual sports than those with anxiety disorders and hyperkinetic disorders, while those with eating disorders participated more than all the other diagnostic groups. Adolescents with a psychiatric disorder had a three-fold increased risk of lower levels of physical activity and also approximately a three-fold increased risk of not participating in team and individual sports, compared with adolescents in the general population.

Hansen et al., (2010) stresses the importance on growth in youth. Hansen states that as a growing number of stakeholders look to non-educational settings, especially organized youth activities, to support youth's development for full participation in adult life, it is imperative to hone our understanding of the developmental potentials and limits of different types of structures out-of-school time activities. Different types of organized youth activities offer distinct learning opportunities that result from the particular conditions of the youth activity setting, such as goals, tasks, roles and culture. In this study, several sub-groups were reviewed. First, identity experiences, which states that organized activities provide opportunities to explore and reflect on personal abilities, interests and ideals was reviewed. Next, was initiative experiences, which was defined as the ability to be self-motivated, to sustain effort and attention to work overtime towards goals. Third, was emotional regulation experiences, which is the ability to appropriately manage positive and negative emotions. Next group was teamwork and social skills experiences, followed by positive relationship experiences and adult networks and social capital experiences. The purpose of this study was to evaluate if there were significant differences in learning

experiences between subgroups of activities within each of five categories of organized youth activities. The sample consisted of 1782 eleventh grade students (55.9% female) from 19 high schools in Illinois. The 19 schools were selected to represent the economic strata, geographic regions and the ethnicities of the eleventh grade population. Differences between subgroups of activities in the six YES domains within each of the five categories of organized activities were analyzed using Multivariate Analysis of Variance (MANOVA). The most consistent and the largest differences among the five activity categories were observed between sports subgroups. Students participating in team sports were significantly higher than individual sports on all six YES scales (identity work, initiative, emotional regulation, teamwork and social skills, interpersonal relationships and adult networks). This study demonstrates the importance of the social aspect of sports as well as the care that will go into mental well-being and the battle against depression.

Reduction in Depression/Suicide

According to Sabiston et al., (2016) approximately 30-40% of adolescent boys and girls age 12-19 years report moderate to high levels of depressive symptoms and 2-9% are diagnosed with major depressive disorder. In addition, more than 50% of adolescents diagnosed with major depressive disorder will continue to experience major depression into adulthood. Research indicates that involvement in organized sport during adolescence but not moderate to vigorous physical activity outside of a sport context, was associated with lower depressive symptom scores in early adulthood. One explanation offered for this findings was that physical activity in the context of organized sport may foster positive mental health by providing opportunities for social interaction and connectedness. The purpose of this study was to examine the longitudinal and unique association between number of years of team sport and individual sport participation

during adolescence and depressive symptoms during early adulthood. Participants included 1294 students (52% female), who completed questionnaires which were administered at their school every three months, and additional data collected three years after graduation from high school. Descriptive statistics were computed in preliminary analyses. Hierarchical linear regression was used to model the associations of number of years of participation in team sport and individual sport during adolescence. It was revealed that 12.6% reported no team or individual sport participation while 52% of the sample reported participating in both team and individual sport. Scores ranged from 11.08, 11.14, 8.73, 9.64. The findings showed that adolescents who participated in more years of team sports during secondary school reported lower depressive symptoms in early adulthood.

Taliaferro et al., (2008) indicated that physical activity affords the same psychological benefits to adolescents as to adults. Physical activity promotes positive emotional well-being including improvements in depressed mood, anxiety and stress, and self-esteem. Therefore, through its effect on psychological wellbeing, physical activity may protect against suicidality. Physical activity in the context of team sports may afford additional protection by facilitating social support and integration. This study examined the relative risk of hopelessness and suicidality associated with physical activity and sport participation. The participants included 13,857 students in grades 9 to 12 who completed the 2005 Youth Risk Behavior Survey. Students ranged in age from 12 to 18 years old with 5.9% females and 48.1% males. Descriptive statistics were calculated to compare rates of hopelessness and suicidal behavior for male athletes with male non-athletes and for female athletes with female non-athletes. Of 13,857 adolescents, 16.9% had seriously considered attempting suicide, 13.3 had made a suicide plan, 9.0% had attempted suicide and 4.2% had attempted suicide multiple times. The findings

revealed that male athletes experience lower rates of hopelessness and suicidality and that after controlling for sport, it was found that only frequent exercise significantly reduced suicide risk. The results support multiple findings that determine the relative risk of suicidality associated with six physical activity/team sports combinations found consistently lower rates of suicidal behavior among males who engaged in various levels of physical activity.

Summary

The purpose of this chapter was to review the literature on team sports and the effect that it has on mental health in adolescents. The first part reviewed was the effect of team sports on self-esteem and how it can be used to build confidence in adolescents. Next, the effect of sport participation was analyzed for how it contributes to lifestyle health outside of the respective sport that the adolescent is participating in. Lastly, literature was presented to view the effect of team sports on the reduction of depression symptoms and suicidal tendencies. After completing the research on those three aspects of mental health in adolescents and how team sports effects those aspects, it is concluded that team sports does have a positive effect on the mental health of adolescents.

Chapter 4: Discussion, Recommendations

The effects of team sports on mental health in youth were reviewed in this synthesis projects. Specifically the effects of team sports on self-esteem, lifestyle health and reduction in depression and suicide. Based on the review, the following conclusions were discovered. Overall sport participation had a tremendous impact on a wide spectrum of mental health within youth. Adolescents are more aware of their self-importance and thinking more positively while understanding the important of physical activity on their lifestyle health. In addition, physical activity and sport can help manage depression.

Discussion

The articles reviewed in this synthesis displayed a variety of research that came to the conclusion that physical activity, specifically team sports, have a positive impact on the mental health within youth. Results showed that adolescents that are physically involved in the practice of sports have considerably high levels of self-esteem (D'Anna 2015). In addition, participation in organized activities was associated with better self-rated health and higher life satisfaction regardless of gender or age. Research showed that sport involvement should not be viewed as a mere extension of other protective factors, but rather represents a fairly independent domain of adolescent functioning for both male and female. In terms of recognizing one's lifestyle health, studies showed that those who often practiced sport with sports clubs evaluated their physical conditions better than those who sometimes or never did and had a more positive body image (Gisladottir 2013).

Some studies did not have 100% positive results, or results that support the original hypothesis. In regards to the effect of self-esteem, research showed that it was possible that self-esteem could be impacted negatively in the realm of team sports. The importance of coaching

was touched on in a variety of studies. The coaching staff was looked at as an extension of the family and they are important in the mental development of youth and if the coaches are focused on the wrong things such as body image and eating habits it could negatively impact the participants. The negative impacts could be things like increased depression, lowered self-esteem and increased awareness of body-image.

The studies had some limitations and weaknesses that could be worked on to create a more impactful and accurate study. One of the first that is recognized is the wide range of participants that are covered throughout the studies. They ranged from 78 individuals to nearly 14,000. It is possible that if there was a more consistent number of participants could help reach more accurate results. However, despite the wide range of participants, the studies were consistent with their desire to reach a wide range of economic status as well as a consistent age range from 12-18.

Recommendations

Recommendations for future research related to the effects of team sports on mental health in youth are advised. Even though mental health and team sports are both significant topics there are still areas that lack sufficient information. The two can strongly impact each other and the positive effects can be analyzed further with efficient research. While the importance of team sports and physical activity is prominent, the analyses of frequency and duration can be further studied to see if there is a specific type and amount of sports and activity that is needed to properly assist adolescents with mental health issues. In addition, the impact of those activities on the self-esteem and the way the participants look at themselves can show what aspects of sports and physical activity effects those thoughts and beliefs. The additional research

can also bring to the forefront the key to having adolescents look at themselves and their future in a positive light.

The first recommendation is to look at other factors of activities such as frequency, duration, intensity and quality. In many if not all of the studies and research, the quantity of physical activity was not particularly looked at in a specific sense. There was just general talk of length and it is self-reported. That leads into the second recommendation, which is to find a more direct way of finding information outside of self-reporting data. That method can lead some bias on the part of the participants, especially because they are adolescents that may not understand the impact of their bias and their answers. The final recommendation is targeted at the locations that the studies have taken place. A lot of the research was done over seas and it can be beneficial to replicate those studies in the United States to see if those studies remain the same from location to location.

References

- Badura, P., Geckova, A.M., Sigmundova, S., van Dijk, J.P., & Reijneveld, S.A. (2015). When children play, they feel better: organized activity participation and health in adolescents. *BMC Public Health, 15*, 1090-1098.
- D'Anna, C., Rio, L., & Paloma, F.G. (2015). Competitive sport and self-concept in adolescent. *Journal of Human Sport and exercise, 10:1*, 425-429.
- Gisladdottir, T., Mattiasdottir, A., & Kristajandottir, H. (2013). The effect of adolescents sports clubs participation on self-reported mental and physical conditions and future expectations. *Journal of Sports Sciences, 31:10*, 1139-1145.
- Gore, S., Farrell, F., & Gordon, J. (2001). Sports Involvement as Protection against depressed mood. *Journal of Research on Adolescence, 11:1*, 119-130.
- Hansen, D., Skorupski, W., & Arrington, T. (2010). Differences in developmental experiences for commonly used categories of organized youth activities. *Journal of Applied developmental psychology, 31*, 413-421.
- Mangerud, W., Bjerkeset, O., Lydersen, S., & Indredavik, M. (2014). *Child and Adolescent Psychiatry and mental health, 8:2*, 1-22.
- Miller, K., & Hoffman, J. (2009). Mental Well-Being and Sport-Related identities in College Students. *Social Sport Journal, 26:2*, 335-356.
- Sabiston, C., Jewett, R., Ashdown-Franks, G., Belanger, M., Brunet, J., O'Loughlin, E., & O'Loughlin, J. (2016). *Journal of sport and exercise psychology, 38*, 105-110.

Steiner, H., McQuivey, R., Pavelski, R., & Pitts, T. (2000). Adolescents and Sports: Risk or benefit. *Clinical pediatrics*, 39, 161-166.

Taliaferro, L., Rienzo, B., Miller, D., Pigg, M., & Dodd, V. (2008). High School youth and suicide risk: exploring protection afforded through physical activity and sport participation. *Journal of School Health*, 78:10, 545-533.

APPENDIX A

ARTICLE GRID

Author	Title	Source	Purpose	Methods & Procedures	Analysis	Findings	Discussion/ Recommendations Research Notes
Catherin Sabiston, Rachel Jewett, Garcia Ashdown-Franks, Mathieu Belanger, Jennifer Brunet, Erin O'Loughlin, Jennifer O'Loughlin	Number of years of team and individual sport participation during adolescence and depressive symptoms in early adulthood	Journal of sport and exercise psychology, 2016, 38, 105-110	The purpose of this study was to examine the longitudinal and unique association between number of years of team sport and individual sport participation during adolescence and depressive symptoms during early adulthood.	1294 students (52% female), self-report questionnaires administered at schools every three months, and additional data collected three years after graduation from high school.	Descriptive statistics were computed in preliminary analyses. Hierarchical linear regression as used to model the associations of number of years of participation in team sport and individual sport during adolescence.	12.6% reported no team or individual sport participation, 52% of the sample reported participating in both team and individual sport. Scores ranged from 11.08, 11.14, 8.73, 9.64.	It is important to keep in mind the sociodemographic variables. The effects were small and should be replicated, prevention efforts should still be taken in order to reduce depressive symptoms and that can be by promoting consistent team sport involvement.
Cristiana D'Anna, Laura Rio, Filippo Gomez Paloma	Competitive sport and self-concept in adolescent	Journal of Human Sport and exercise. 10:1 (2015)	The aim of this study is to assess the self-esteem level comparing athletes who practice individual sport with athletes who play team sports.	Consisted of 78 individuals from the basketball team and gymnastics team. They were selected from the same urban area and in the middle class socioeconomic status.	TMA measures global self concept and six specific domains	The results showed that both females and males who were physically involved in the practice of sports at the competitive level have considerable highest level of self-esteem.	I believe that the study should continue to look into the effect of self-esteem in the long haul, into young adulthood and so forth. Self-esteem can be further described and elaborated on so that the reader can continuously refer back to it.

Wenche Mangerud, Ottar Bjerkeset, Stain Lydersen, Marit Indredavik	Physical activity in adolescents with psychiatric disorders and in general population	Child and Adolescent Psychiatry and mental health 2014, 8:2	We investigate the frequent and type of physical activity in adolescent psychiatric patients, compared with adolescents in the general population.	566 adolescent psychiatric patients aged 13-18 compared to 8173 adolescents from ages 13-19. Each completed a questionnaire about physical activity	Differences in proportions were analyzed by Pearson's chi-squared test, the Wilcoxon mann-whitney u test and the Kruskal-wallis tests.	A larger proportion of adolescents in the CAP survey reported low levels of physical activity.	It is imperative to identify adolescents at risk, or who already have a psychiatric disorder, and initiate interventions to increase physical activity as part of their treatment
Petr Badura, Andrea Geckova, Dagmar Sigmundova, Jitse Van Dijk, Sijmen Reijneveld	When children play, they feel better: organized activity participation and health in adolescents	BMC Public Health (2015) 15:1090	Purpose of the study is aimed to assess whether participation in organized leisure-time activities is associated with both physical and mental health in adolescents, and whether this association differs by pattern of activity participation, age and gender.	The present study was based on data from the 2013-14 health behavior in school-aged children study. This data concerned 10,503 adolescents aged 11, 13 and 15.	A cluster analysis was carried out to obtain patterns of activity participation and yielded five groups (all-arounders, artists, individual sports, team sports and inactive).	Participation in organized leisure-time activities was associated with better self-rated health and higher life satisfaction regardless of gender or age.	Need to look at other factors of activities such as frequency, duration, intensity and quality. Is there a better way than self-reporting data.
Susan Gore, Florence Farrell	Sports Involvement as Protection	Journal of Research on	The objective was to understand	Analyses focused on 1036 high school	Regression analysis results indicated	The associations between sports	The studies need to continue to see the impact of both team and

and Jennifer Gordon	against depressed mood	Adolescence 11(1), 119-130	whether sports involvement positively contributes to mental health independent of the effects of other known protective factors, and whether its moderated the depressive effects of family, peer and school-based risk factors.	aged youth, each of which was interviewed at two time points.	a significant association between team sports involvement and depressed mood among both males and females, which was reduced to insignificance after controlling for the other protective factors.	involvement and each risk and protective factor indicate weak relations between sports involvement and the family, school and peer experiences. This shows that sports involvement should not be viewed as a mere extension of other protective factors, but rather represents a fairly independent domain of adolescent functioning for both male and female.	individual sports on male and females in order to view the impact on mental health. With that, the impact of socioeconomic environment and the support system that the kids have around them.
David Hansen, William Skorupski, Tiffany Arrington	Differences in developmental experiences for commonly used categories of	Journal of Applied developmental psychology 31 (2010) 413-421	The purpose of this study was to evaluate if there were significant differences in learning experiences between	The study evaluates the congruence of learning experiences within each of five commonly used	Differences between subgroups of activities in the six yes domains within each of	The most consistent and the largest differences among the five activity categories were observed	Self-expression is something that should be looked at more and seeing if being a part of a team and part of a coaching scheme affects one's ability to see that.

	organized youth activities		subgroups of activities within each of five categories of organized youth activities.	categories of organized youth activities. Data for the present study come from a representative sample of eleventh grade adolescents' reports on learning experiences .	the five categories or organized activities were analyzed using multivariate analysis of variance. For each one the yes scores were treated as the dependent variables and subgroups of activity were the independent variables.	between sports subgroups.	
Kathleen Miller and Joseph Hoffman	Mental Well-Being and Sport-Related identities in College Students	Social Sport J. 2009 Jun 1; 26(2): 335-356	In this study we examined relationships among several dimensions of athletic involvement , gender and depression and suicidal behavior.	Of approximately 1500 students invited in the study, 791 submitted viable questionnaires for a response rate of 53%	Conducted Wilcoxon signed rank tests of selected JACI characteristics related to prosocial norms, risky masculine norms, susceptibility to substance abuse and gender.	Of the 791 valid respondents, 48% female and the average age was 20. Prosocial characteristics were collectively perceived as more descriptive of athletes than jocks	Can some individuals for too much to the jock mentality and have it affect them mentally and emotionally. Does that mentality already exist within the individual or is it something effected and enhanced by the coaching or teammates.

					Hierarchical multiple regression analyses were used to predict CES-D depression scores.		
Thordis Gisladdottir, Asrun Mattiasdottir and Hafrun Kristjandottir	The effect of adolescents sports clubs participation on self-reported mental and physical conditions and future expectations.	Journal of Sports Sciences, 2013 31:10, 1139-1145	This study investigates the relationship between adolescent's sports clubs participation and self-reported mental and physical conditions and future expectations.	The participants were 10,987 pupils in the final three years of their compulsory education in Iceland (aged 14-16). The participants completed questionnaires administered to students in the classroom relating to health and behavior.	The measures used in the study were included in the survey conducted by the Icelandic center for social research. The survey consisted of 59 questions with varying numbers of items on 22 pages.	The study revealed that those who often practiced sport with sports clubs evaluated their physical conditions better than those who sometimes or never did and had a more positive body image.	Looking at the way youth and adolescent see their own body image and the image of a healthy/perfect body can negatively or positively impact their self-esteem and all around mental health.
Sarah Donaldson and Kevin Ronan	The Effects of sports participation on young adolescents' emotional well-being	Adolescence, Vole. 41, No. 162, Summer 2006	The main aim of the present study was to determine if there is a positive relationship between sports participation and young	203 young adolescents were used to collect data using a multitrait-multimethod assessment methodology	Information was obtained using a sports questionnaire concerning participation in and perception	The study found that increased levels of sports participation had a positive relationship with aspects of emotional and	With increased discovery of the impact of mental health and behavioral issues it is important to continue to study the impact that sport participation

			adolescents emotional well-being.		s of sporting activities. Emotional well-being was assessed by the Youth Self-Report and the Self-Perception profile for children.	behavioral well-being, particularly self-concepts.	can have on those individuals.
Lindsay Taliaferro, Barbara Rienzo, David Miller, Morgan Pigg, Virginia Dodd	High School youth and suicide risk: exploring protection afforded through physical activity and sport participation	Journal of School Health. October 2008, Vol. 78, No. 10	This study examined the relative risk of hopelessness and suicidality associated with physical activity and sport participation .	Looked at relationships between physical activity, sport participation and suicidal behaviors based on data from the youth risk behavior survey. Participants included 13,857 students in grades 9-to-12, ranged from ages 12-18.	Descriptive statistics were calculated to compare rates of hopelessness and suicidal behavior for male athletes with male non athletes and for female athletes with female non-athletes.	Of the 13,857 adolescents, 16.9% had seriously considered attempting suicide, 13.3% had made a suicide plan, 9% had attempted suicide and 4.2% had attempted suicide multiple times.	Exploration of the intricate connection between reduced suicidality and adolescent participation in sport holds promise for improving our understanding of unique protective factors. Understanding the mechanisms that confer protection against adolescent suicidality will benefit suicidal youth, parents, school personnel, community youth organization and mental health clinicians

							working with youth.
Hans Steiner, Ross McQuivey, Renee Pavelski, Taci Pitts	Adolescents and Sports: Risk or benefit	Clinical pediatrics (2000) 39: 161-166	The goal was to improve one existing research in several ways. They wanted to study a large and relatively complete sample from a high school population with an excellent record in both athletics and academics.	The juvenile wellness and health inventory was administered to 1,769 high school students.	The study used spearman rank correlation coefficient as measures of association. To test multivariate hypothesis was performed a 2x2 analysis of covariance.	The results indicate that sports participation is associated with self-reported lower total risk scores, mental and physical health benefits and an increased risk of injury.	Whether the positive associations between sports and health in this age group will be sustained as the athlete matures and rises to new levels of achievement remains to be seen.