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Participation in Sports and the Development of Resilience in Adolescents

Jason Johnson

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Educational Specialist

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## ABSTRACT

### Participation in Sports and the Development of Resilience in Adolescents

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Adolescents today are faced with an array of risk factors including sexual activity and drug and alcohol use, as well as environmental factors that are beyond their control, such as parental divorce and poverty. The attribute of resilience is an extremely desirable quality that, if developed, has the capacity to reduce the effect of many of these risk factors that many adolescents are exposed to. Sport participation is a potential intervention that a large portion of adolescents can have access to through school and community programs that could potentially foster resilience. The current causal-comparative, non-experimental study sought to add to the limited existing research by examining resilience levels of adolescents who participate in sports compared to resilience levels of their peers who do not participate in sports. The Social Emotional Assets and Resiliency Scale – Parent form was used to calculate resilience levels of the students in the study sample. Participants ( $n = 276$ ) reported that the overall mean resilience score of those youth who had participated on a sports team within the last year was significantly higher than the overall mean resilience score of those youth who had not. There was no significant difference in resilience ratings of those who played school-sponsored sports versus city/recreational sports. There was also a small, statistically significant, positive correlation between the number of sports played and resilience ratings. Implications and limitations of this study are included. Parents and educators are encouraged to offer a variety of opportunities for youth to participate in activities aligned with student interests. In budgeting and planning curricular and extracurricular activities to enrich students' social experiences, schools and communities must consider the importance of sports activities in strengthening youth resilience.

Keywords: resilience, children, sport, risk factors, athletic activity

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## Chapter 1: Introduction

Adolescents today are faced with an array of risk factors. These risk factors are the result of both voluntary risky behaviors, such as sexual activity and drug and alcohol use, and environmental factors that are beyond the control of adolescents, such as divorce and poverty (Bryan, Schmiede & Magnan, 2012; Centers for Disease Control [CDC], 2012c; Lohman & Billings, 2008; Masten, 2001). Some of these risks, such as divorce, impact up to 40–50% of the entire adolescent population (CDC, n.d.).

Adolescents also face the inherent challenge of transitioning from elementary to secondary schools. This transition has been associated with decreased grade point average (GPA), increased misbehavior, and decrease in feelings of belonging (Langberg et al., 2008; Newman, Lohman, Newman, Myers, & Smith, 2000; Witherspoon & Ennett, 2011).

Given the high number of adolescents who are exposed to risk factors on a regular basis, as well as the inherent challenges associated with transition to secondary school, it is extremely important to research potential interventions for this population. When trying to reduce the impact of risk factors, one can either attempt to reduce the number of risk factors that adolescents are exposed to or attempt to enhance their resistance to the challenges that they experience.

The attribute of resilience is an extremely desirable quality that, if developed, has the capacity to reduce the effect of many risk factors that adolescents are exposed to. Resilience is a complex attribute that has been defined differently. The definitions that have contributed to the view of resilience in this current study are the following: Masten, Best, and Garmezy (1990) defined resilience as “the capacity, processes, or outcomes of successful adaptation in the context of significant threats to function or development” (p. 426). Rutter (2012) defined resilience as

“reduced vulnerability to environmental risk experiences, the overcoming of a stress or adversity, or a relatively good outcome despite risk experiences” (p. 336).

Sport participation is a potential intervention that a large portion of adolescents can have access to through school and community programs. The purpose of the current study is to observe the impact that adolescent participation in sport has on adolescent resilience. If the results of this study show that sport participation contributes to higher levels of adolescent resilience, then communities and schools would have easy accessible interventions to provide to their adolescents. The following research questions were investigated.

1. Is adolescent participation in sports associated with a difference in resilience levels between participants and non-participants?
2. Does a difference exist between the resilience scores of adolescent participants on school-sponsored sports teams versus city/recreation sports teams?
3. Is there a correlation between number of sports played and resilience?

## Chapter 2: Literature Review

Adolescents attempting to navigate through school and society in today's world are faced with many challenges and risk factors that can result in adversity or risky behavior in their lives (Watson, Newton, & Kim, 2003). Many of these risk factors have been associated with developmental problems or other difficulties (Masten, 2001). An examination of the results of existing research can help illustrate some of the risk factors and resulting risky behaviors that adolescents today are faced with.

### Risk Factors

The World Health Organization (WHO) reported in 2012 that 20% of adolescents experienced a mental health problem each year according to data compiled from 2000 to 2010: The most common problems experienced were depression and anxiety (World Health Statistics, 2012). The U.S. Department of Health and Human Services Centers for Disease Control and Prevention found that during the 30 days prior to their survey period, 38.7% of high school students nationwide had drunk alcohol, 23.1% had used marijuana, and 18.1% had smoked cigarettes (CDC, 2012c). During the 12 months prior to their survey period 32.8% of high school students nationwide had been in a physical fight, 20.1% had been bullied on school property, and 7.8% had attempted suicide. It is evident that adolescents are surrounded by a tremendous number of risk factors and risky behaviors. In addition to the risk that depression, drug and alcohol use, and victimization can cause, research has also highlighted the following items as high risk factors in adolescent's lives: poverty, divorce, minority status, and sexual activity (Bryan et al., 2012; Lohman & Billings, 2008; Masten, 2001).

**Poverty.** The National Center for Children in Poverty (NCCP) reported in 2010 that 44% of children under the age of 18 live in low-income families (NCCP, n.d.). Jessor, Turbin, and

Costa (1998) determined through their research that socioeconomic disadvantage was negatively correlated with school engagement, graduation, and staying in school. They also found that it was positively correlated with problem behavior involvement. In their words, “Thus, disadvantage, as measured in this study, clearly compromises the possibilities for adolescent success” (p. 206). Studies consistently demonstrate an association of low socioeconomic position and poor mental health. Amone-P’Olak et al. (2009) stated, “Family socioeconomic position is known to contribute to the development and persistence of mental health problems in childhood and adolescence” (p. 1031). Their research examined whether environmental or personality factors played a greater role in the mental health issues correlated with low socioeconomic position. They found that it was commonly environmental factors that had a stronger impact on that correlation than personality factors.

**Divorce.** The March 2012 National Health Statistics Reports put out by the Centers for Disease Control and Prevention indicated that about half of all first marriages end in divorce (CDC, n.d.). Timmons, Selby, Lewinsohn, and Joiner (2011) found that divorce is likely a cause in parental relationship disruption that was found to be a correlated with both completed suicide and suicide attempts in adolescents.

Burt, Barnes, McGue, and Iacono (2008) studied the effects of divorce on adolescent delinquent behavior. They were interested in determining whether the delinquency that is attributed to divorce was due to genetic factors in the child or environmental factors that the child was subject to. They examined divorce effects among biological and adopted children. They found that divorce had a significant positive correlation with delinquency in both groups of children and were able to determine divorce as an environmental factor correlated with delinquency.

**Minority status.** According to the 2012 Adolescent Health Survey in the United States published by the United States Centers for Disease Control and Prevention about 40% of the US population of 10-19 year olds are non-white racial and ethnic groups. Cubbin, Vesely, Braveman, and Oman (2011) found that minority adolescents have a higher rate of initiation of sex and have the highest rate of marijuana and cocaine use. The authors noted that part of the association between race and risk behaviors is likely attributable to socioeconomic differences between racial groups, but the socioeconomic associated racial differences didn't account for all risk behaviors.

**Sexual activity.** According to a 2011 survey of High School Students conducted by the United States Centers for Disease Control and Prevention 47% of all high school students have had sexual intercourse. This number increases to a much higher percentage of adolescents that have engaged in sexual intercourse by the time they are 19. They also reported that nearly half of the 19 million new STD's each year are among young people aged 15–24 and that more than 400,000 teen girls between the ages of 15–19 gave birth in 2009 (CDC, 2012a). Lohman and Billings (2008) described the extremely high rate of sexual intercourse among adolescents and the series of negative consequences that can follow including pregnancy, contraction of sexually transmitted diseases (including HIV), and lower levels of academic achievement. These numbers represent a staggering effect of the resulting challenges that sexual activity is having on adolescents each year.

### **Challenge in Transition to Secondary Schools**

In addition to the risk factors that have been discussed, challenges have also been associated with the transition into secondary school that coincides with adolescence (Frey, Ruchkin, Martin, & Schwab-Stone, 2008). In researching rural populations making the transition

to high school, Witherspoon and Ennett (2011) observed statistically significant changes in the following areas occurring around the 9th grade: decreases in feelings of school belonging, decreases in participation in school activities, and increases in student misbehavior. They also noted that for many adolescents, these transitions coincided with a decrease in academic achievement. Other researchers have found similar results.

For example, Langberg, Epstein, Altaye, Arnold, and Vitiello (2008) studied the difficulty in transition to middle school for adolescents with ADHD. They observed that the same transition to middle school for students without ADHD results in significant decreases in grade point average and decreases in confidence in academic abilities. Newman, Lohman, Newman, Myers, and Smith (2000) studied urban youth's transition into secondary school. They provided a list of negative outcomes that occurred specifically with the transition from junior high to high school including poorer attendance, decrease in GPA, discipline problems associated with change in location and environment, etc., and a decrease in participation in extracurricular activities.

Additional research has described these transition periods into secondary schools as disruptive, full of challenges, and full of complex social issues to navigate (Newman et al. 2000). Witherspoon and Ennett (2011) described the transition to secondary schools as associated with multiple negative outcomes including achievement declines, lower levels of school belonging, a decrease in activity participation, lower college aspirations, and an increase in school problems. By observing the various research studies that has been conducted across different populations we can see that there are many common challenges being noted across the different studies.

## **Developmental and Environmental Changes**

Much of the research around these negative outcomes point to two main contributors: developmental changes that are occurring in the adolescents and significant environmental changes. Young, Caldarella, Richardson, and Young (2011) specifically described some of the developmental challenges that can cause frustration and anxiety in adolescents. Adolescents are experiencing a period of rapid physical, intellectual, and social change that comes at different rates and times mixed with changing social expectations, changing educational contexts, etc. These changes influence how adolescents begin to develop a sense of identity, grapple with new responsibilities, and gain a new moral awareness. Gottfredson and Hussong (2011) also took a developmental view of the transition to high school for adolescents and described it as stressful, a developmental milestone, and a time of increased responsibility mixed with the acquisition of independence.

Knowles, Niven, and Fawkner (2011) discussed the environmental changes that accompany transition to secondary schools. They point out that the change to these schools is typically characterized by a shift toward larger class sizes and unfamiliar peer groups. They observed that the change in environment can have significant effects on self-esteem, confidence, and perceptions of competence. To complicate matters, all of this change is taking place amidst an abundance of risk factors and opportunity for risky behavior.

In light of the various risk factors surrounding adolescents, as well as the inherent risk associated with the transition to secondary school, research regarding resilience becomes extremely important. Research in this area is important not only to gain greater insight into why some adolescents are able to demonstrate resilience amidst challenging circumstances but also to determine ways that educators might enhance resilience in adolescents. If resilience can be

enhanced, then choice-based risk factors, such as drug use and sexual activity, could potentially be avoided and *immunity* to the risk factors associated with circumstances beyond individual control, such as parent divorce and socioeconomic status, could be increased.

## **Resilience**

The overall concept of resilience is quite broad. Masten (2007) described it as the capacity of dynamic systems to withstand or recover from significant disturbances. She suggested that resilience could be examined all the way from the molecular level to the global level. For the intent of this research, resilience will be examined and referred to in the context of how it applies to adolescents and their ability to cope with the challenges they face.

Because of the complex nature of resilience, many researchers have offered working definitions to help provide a framework for research. Masten et al. (1990) defined resilience as “the capacity, processes, or outcomes of successful adaptation in the context of significant threats to function or development” (p. 426). Rutter (2012) defined resilience as “reduced vulnerability to environmental risk experiences, the overcoming of a stress or adversity, or a relatively good outcome despite risk experiences” (p. 336). Cohe (2006) noted that “resiliency is a positive phenomenon that enables the individual, group, or other entities to positively adapt and grow through adversity. It provides hope for those in despair” (p. 80). These definitions capture some of the complexity and help give clarification to the overall concept of resilience. For the purpose of this paper, resilience will be defined as an individuals’ ability to positively overcome or recover from adversity or stress.

Resilience is one of the most important traits that an adolescent can possess. Early resilience studies were a result of trying to determine why some children were able to successfully cope with adversity while others were not (Alvord & Grados, 2005). Masten (2007)

described the evolution of resilience research through her three decades of work on the subject. She described the shift from lengthy longitudinal studies of individuals to a greater focus on testing specific protective efforts and interventions. This shift occurred in part because of the number of children growing up in high-risk situations who couldn't wait for the results of longitudinal studies.

Masten (2007) outlined four waves of resilience research detailing the evolution of studies on the subject. The first wave was “descriptive but ambitious, seeking to measure resilience phenomenon in different forms and situations, and to identify characteristics of child, family, relationships, or environment that seemed to matter” (p. 922). It was in this wave that a commonly known “short list” of resilience correlates was identified. The short list is a list of protective factors that play an important role in resilience studies to this day, which will be described below. The second wave of resilience research identified by Masten, focused on including studies of attachment relationships and family interactions as “protective stress regulators.” It also focused on uncovering the processes and regulatory systems that account for the short list. This research is still underway. The third wave of resilience research focused on experiments to test resilience ideas directly through prevention and intervention studies. This shift came in part because of growing numbers of high-risk children and a higher level of urgency around this problem. This is also where some of the best evidence for the mediating and moderating effects of specific interventions began. Fourth wave research represents where the field is currently as well as where it's headed and continues to corroborate important previously researched resilience principles such as the short list of protective factors. Fourth wave research is characterized by multiple levels of analysis, ranging across cellular and behavioral levels of resilience (Masten, 2007; Masten & Obradovic, 2006). This scope of the present study would fall

within the third wave of resilience research as it was an experiment on a specific intervention and could further the foundation for fourth wave research to build upon.

Masten (2001) described two different strategies for interventions designed to avert risk factors. She said that an intervention could either focus on adding more assets to the individual or on altering the level of a particular asset or risk in the child's life. By adding more assets the child would eventually have a surplus of assets to counterbalance the effects of the risk in their life. By altering levels of risk or existing assets hypothetically additional assets would not need to be added. It is important to understand the difference between these two because the risks that exist in an adolescent's life may have different sources and have different abilities to be altered. Some risks may be the results of decision making by the adolescent. For example whom they chose to be friends with or what activities they chose to participate in. Other risks may be the result of family circumstance such as socioeconomic status or divorce as noted earlier.

Because resilience is such a complex phenomenon, a closer examination of the protective factors associated with it is helpful. Alvord and Grados (2005) observed the multivariate nature of resilience. They determined that resilience is the possession of multiple skills that increase an individual's ability to cope, not just a single attribute. Based on their research, they narrowed the protective factors associated with resilience to six specific areas. The categories are not mutually exclusive and may have some overlap with each other. Their list includes most if not all of the items commonly associated with the short list discussed previously. The list is as follows:

1. Proactive orientation: Taking initiative in one's own life and believing in one's own effectiveness.
2. Self-regulation: Gaining control over attention, emotions, and behavior.

3. Proactive parenting: Having at least one warm, loving parent or surrogate caregiver who provides firm limits and boundaries.
4. Connections and attachments: Belonging to and forming attachments with family and friends. Having social competence and positive connections with peers, family and pro-social adults.
5. School achievement and involvement, IQ, and special talents: The opportunity to excel academically and socially. Active engagement in academics and extracurricular activities. Opportunities to participate in pro-social groups and receive recognition for their efforts.
6. Community: The availability of supportive relationships outside of the family.

An awareness of the protective factors that contribute to resilience also helps provide a better context around examination of interventions that may be able to enhance resilience.

One aspect of resilience that deserves careful consideration is whether it is something that one simply has or doesn't have or if it is something that can be learned, developed, or enhanced. Early research on resilience suggested that when an adolescent demonstrated the ability to be resilient amidst difficult circumstances, it was due to the unique and remarkable nature of the adolescent being studied (Masten, 2001). These early assumptions resulted in some ideas that offered a slightly narrower scope regarding the possibilities for resilience than what more recent research has revealed.

Masten (2001) determined that resilience is actually a common or ordinary phenomenon arising from normal human adaptive processes. This is extremely important in how we view resilience because it suggests that instead of trying to identify unique individuals who possess greater resilience, we can assume that most individuals have the capacity for resilience if they

can be provided with the proper “assets” and environments to help enhance it. Accordingly, researchers are now able to design interventions to help enhance individual’s resilience rather than just try to identify who has it and who does not. Masten (2001) observed that goals can now focus on the enhancement of resilience assets in addition to the reduction of risks and stressors.

In a landmark longitudinal study on resilience, Werner and Smith (2001) made some important conclusions that contribute to these concepts of the potential for resilience in each individual. These researchers studied the lives of a cohort of 698 children born on the island of Kauai in 1955. They were able to maintain follow up data of 489 of those children through age 40. Because of the cultural and economic makeup of the island, these children were subject to a higher than average amount of high-risk circumstances. Werner and Smith determined that most of the individuals who grew up in those adverse circumstances made a successful adaptation to adulthood and that human nature has a high level of *self-righting tendencies*. This observation of the capacity for resilience within most individuals is very consistent with existing research. With this updated outlook of resilience, educators and researchers with an interest in helping promote the development of adolescents can now consider how their policies and programs might offer opportunities for individual students to enhance their resilience.

Regarding the conclusion that resilience emerges from ordinary processes, Masten (2001) noted that this view provides a more optimistic outlook for action and called upon future research to examine further how adaptive systems develop and how they can work for or against the youth involved in them. Alvord and Grados (2005) also called for further research into resilience-based interventions created to benefit youth to help measure progress in the field. Werner and Smith (2001) considered their research to be “first-generation,” examining naturally occurring phenomena that contribute to a person’s resilience. They called for further research on

the subject and for greater responsibility on policy makers to consider the current “second-generation” studies of deliberate attempts to alter the course of development of high-risk youth in a positive direction. They also called for further “second-generation” studies of resilience theory in an effort to provide sufficient data for policy makers to be able to create policies and programs that would benefit children and their families. In his study regarding resilience and sport participation Cohu (2006) stated, “It is highly recommended that educational leaders intensively examine the benefits of promoting resilience. Programs that promote resilience must be implemented as the nation faces more at-risk students” (p. 72).

Researchers in the area of resilience theory consistently call for further study within the field. The implications of this research are extremely important because we are examining policies, methods, and interventions that may directly impact the development and resilience of adolescent populations. Resilience theory covers a broad spectrum of research on risks, interventions, etc. The purpose of this study specifically is to examine if adolescents who participate in sports display higher levels of resilience.

### **Sport Participation**

Participation in sports and athletic activities has a clear positive impact on the physical health of participants. Regular participation can contribute to a maintaining of healthy physical levels of weight, blood pressure, cardiovascular health (Mayo Clinic, n.d.). Good habits may be developed that adolescents can carry into adulthood to contribute to their overall physical health

Research also suggests that participation in sports can contribute positively to psychological health and pro-social behavior as well as limiting risky behaviors within its participants (Calfas & Taylor, 1994; Peck, Roeser, Zarrett, & Eccles, 2008). Steiner, McQuivey, Pavelski, Pitts, and Kraemer (2000) found that adolescents who participated in sports reported

fewer mental, general health, eating, and dietary problems than those not participating in sports. In researching specific programs Watson, Newton, and Kim (2003) described the benefits of values-based physical activity programs. These programs successfully combined physical activities with values-based programming in an effort to help increase personal social responsibility and increase general physical health.

Hardman, Jones, and Jones (2010) made a strong argument regarding the benefits of participation in sport and/or athletics. They proposed two founding premises as the basis of their research. Their first premise is that the moral imperative of sport is derived not from specific rules or laws associated with it but from its intrinsic nature. They also proposed that engaging in sport practices forces participants to be pre-occupied with central ideas such as fairness, justice, fair-play, etc. They feel that the sport and the moral naturally coexist within the context of participation in sports. Because of this, they consider sport to be a “moral laboratory” that provides an environment for exploring moral issues. The second premise of their research is that because the coach has a central role in the process, he ought to positively influence what takes place in regards to the moral lessons that are being taught. They argued that the concept of moral virtue is central to the authentic sport experience.

While there has been much research examining the physical and psychological benefits of participation in sports, scant research has examined the specific effects of sport participation on resilience, despite the consistent call by resilience researchers to further studies within the field. There have only been a few studies conducted that have examined this relationship.

Hall (2011) conducted a study with 14 male adolescent sport participants in Australia. These adolescents were interviewed and asked questions to give them an opportunity to share important personal insights about their own resilience and how it may have been affected by

their participation in sports. Some of the adolescent's responses were quite fascinating and provided important insights into how sport participation impacted their lives, their own protective factors, and how they viewed themselves. All participants described the benefits of staying healthy and fit that come from participation in sports. Most of them also described some form of resilience or psychological health factors such as "feeling good" and confidence, as well. Sample statements made by those interviewed are recorded below.

"I think sport makes you more confident; it makes you more confident in life; it makes you get up and say what you want to say; you're not scared of what people think, not scared of what people see. . . . People that don't play sport I think they're a little bit less confident" (p. 72). Almost all of the participants also described taking some form of learned resilience into their regular lives as evidenced by the following statements.

"I can lift my head up higher and not be afraid of other things. . . . I've been used to going through pain or hard training and that helps with everyday life, to accomplish obstacles that are in your path. I've always felt that I can overcome battles and that, but the sport has helped me physically do it" (p. 73).

"They all sort of bring the same thing, like they bring the character out of you; they bring things out of you that you didn't know you had" (p. 73).

"You take the sports mentality out with you in life. You just keep going" (p. 73).

Such statements made by participants of Hall's study showed how participation in sports allowed them to experience the protective factors identified as important parts of resilience.

Another study examining participation in sport and resilience was conducted by Peacock-Villada, Decelles, and Banda (2007). They examined a soccer resilience program for youth ages 10–18 in Zambia and South Africa among populations exposed to the tragedies of living in the

most HIV-affected countries in the world. Their research showed that participation in the soccer program had a direct impact on building the resilience in the lives of the participants.

Cohu (2006) studied the effects of athletic participation on resilience among college students and stated “Athletic participation is physically, emotionally, and mentally challenging. To survive and/or thrive in sports is a testimony to stamina, and more specifically, resilience” (p. 4). Cohu found a significant positive correlation between college-aged sport participation and resilience levels. The current study was a quasi-replication of the Cohu study, using a high school rather than college population.

### **Purpose of Current Study**

The current study sought to add to the limited existing research by examining resilience levels of adolescents who participate in sports compared to resilience levels of their peers who do not participate in sports. In particular the large population of adolescents who are subject to risk factors that are beyond their control stand to derive a great deal of benefit from anything that can promote a greater level of resilience within them. As evidenced by the existing research on resilience and adolescent risk factors and limited research examining sport participation and resilience, this research has the potential to identify an important potential resilience intervention, sports, that is accessible to a broad population of adolescents through schools and communities that warrants further study. The purpose of this research was to examine adolescent sport participation in relation to resilience.

## Chapter 3: Methods

### Setting and Participants

This study involved gathering data about high school students as anonymously reported by their parents. The high school selected was an average sized high school in Utah with approximately 1,700 students, 35% of which were minorities and 46% of which were low-income (see Table 1). The study received 276 parent responses. Of the parents who participated, 13% described their children as minorities and 21% described their families as low-income.

Table 1

#### *Demographics of School and Participants*

Demographic Information	School	Participants
Gender		
Female	48%	52%
Male	52%	48%
Ethnicity		
Caucasian/White	66%	87%
Hispanic	28%	6%
Pacific Islander	2%	2%
Asian	2%	1%
African American/Black	1%	<1%
American Indian	1%	<1%
Other/Mixed	-	3%
Socioeconomic Status		
Low Income	46%	21%
Students by Grade		
9th Grade	27%	36%
10th Grade	26%	26%
11th Grade	25%	21%
12th Grade	22%	17%

## **Procedures**

Parents were contacted via email sent in conjunction with the school's email communication system. The email communication system was selected because it was identified by school administration as the broadest way to reach out parents of the students and the most effective way to contact families of the majority of the student body. The high school had an online database of email addresses for the parents of their students and an email communication system used to email information to the student's parents. An initial email was distributed (see Appendix A) explaining that parents were being requested to participate in a research study being conducted researchers at Brigham Young University in conjunction with their children's high school. It explicitly stated that participation in the survey was completely voluntary and information remained anonymous. A follow up email and consent form (see Appendix B) was then sent out approximately one week later. Due to the percentage of parents that spoke Spanish, the email communications and the online surveys were available in Spanish versions, as well. Upon consent parents were led to on an online Qualtrics survey where parents reported information regarding their child using the *Social Emotional Assets and Resilience Scales- parent long form* (SEARS-P). An incentive was offered to encourage participation in which participants had the option to be entered into a drawing for one of ten \$50 dollar visa gift cards.

## **Measures**

Two main types of information were gathered for this study. The first type was basic demographic information including sports participation of their child. This data was gathered using a brief five-item questionnaire (See Appendix C). The other type of data was a parent survey used to identify students' resilience level which included one open-ended questions asking parents to provide any additional information they believed would be helpful.

Resilience data were gathered using the SEARS, a resilience scale created by Merrell (2011). The SEARS-P parent report long form consists of 39 questions answered by the adolescent's parents to estimate the resilience level of the student. The SEARS-P is a strength-based assessment tool that measures student's strengths, assets, and other positive characteristics. It is appropriate for assessment of students ages 5–18. As a strength-based assessment tool, the SEARS resilience scale measures positive adaptive characteristics that are important for success. Strengths are measured in areas such as friendship skills, empathy, interpersonal skills, social support, problem solving, emotional competence, social maturity, self-concept, self-management, social independence, cognitive strategies, and resilience. These combine to form a score that identifies a level of resilience and areas of strengths and deficiencies within the resilience context (Merrell, 2011). The SEARS-P was sampled and normed amongst 1204 participants across multiple geographic regions. It has a test-retest reliability score of .93 based on a 2-week interval. Evidence of validity is contained in the SEARS test manual.

In addition to the quantitative data that were gathered, the Qualtrics survey was constructed to allow participants to leave a written response describing their children's experience: "Please use the following space to provide any additional information about this child or adolescent that you believe would be helpful." The intent of this question was to gather qualitative data that could be used to identify positive and negative impressions of the respondents and specific examples of their experiences with sports participation.

### **Design and Data Analysis**

This causal-comparative, non-experimental study was a quasi-replication based on the research model that Coahu (2006) used to examine resilience and sport participation amongst college age students. The two main sets of data gathered provided the variables analyzed in this

study. The information from the demographic section that included sports participation data was the independent variable. The data comprising the SEARS-P resilience ratings was the dependent variable. The variables were compared using *t*-tests to examine (a) differences between the SEARS-P scores for the sport-participation versus non-participation groups, (b) whether there were differences between the SEARS-P scores of those on school-sponsored sports teams versus city/recreation sports teams, and (c) whether there were differences between the SEARS-P scores based on the total number of sports played as reported by parents. Effects sizes were calculated and Cohen's *d* was used to gauge the practical significance of any difference between groups.

Parents' written responses were analyzed qualitatively (Miles & Huberman, 1994). The primary researcher (a Caucasian school psychology graduate student) worked with a Caucasian undergraduate student to code the responses. They independently reviewed the open-ended responses and categorized them based on whether they described a positive, neutral, or negative feature of the student's participation in sports. The responses were totaled and a ratio of positive to negative comments was calculated. Common themes under each category (positive, negative, neutral) were also identified and the percentage of themed comments under each category was calculated. The qualitative data provided more detailed information that potentially shed light on some of the specific benefits of sport participation as well as some of the specific deterrents of sport participation. After completing these individual analyses, the primary researcher examined the results and compared for similarities or differences across coders, resolving differences through discussion.

## Chapter 4: Results

This study examined three research questions regarding resilience and adolescent sport participation. The first research question examined participant's SEARS-P resilience scores according to whether or not they had participated on a sports team (high school, city league, rec league, private, etc.) within the last year. Participants reported that the overall mean resilience score of those youth who had participated on a sports team within the last year was significantly higher than the overall mean resilience score of those youth who had not ( $t = 3.133, p = .002, d = .45$ ). Table 2 displays the mean resilience scores of these groups.

Table 2

*SEARS-P Resilience Means and Standard Deviations across No Sports and Sports Groups*

Group	<i>n</i>	<i>M</i>	<i>SD</i>
No Sports	62	68.31	16.52
Sports	214	75.60	16.04

The second research question examined whether there was a difference in resilience scores between youth who participated in high school sports, non-high school sports (city league, rec league, etc.), or both within the last year. Results revealed non-significant differences between these groups ( $F = 1.88, p = 1.55$ ). See Table 3 for means and standard deviations.

The third research question examined the correlation between resilience scores and the number of sports participated in over the last year. There was a small positive correlation ( $r = .20, p = .001$ ) between the number of sports participated in and total resilience scores.

Table 3

*SEARS-P Resilience Means and Standard Deviations across High School Sports, Non-High School Sports, or Both Groups*

Group	<i>n</i>	<i>M</i>	<i>SD</i>
High School Sports Only	110	74.93	16.61
Non-High School Sports Only	56	73.66	15.45
Both High School and Non-High School Sports	48	79.42	15.03

There was a steady increase in resilience with each additional sport played, up to four sports (see Table 4). Participants who played five sports demonstrated resilience comparable to those who played two or three sports, and those who participated in six or seven sports had some of the highest resilience scores, although the total number of participants in those groups was quite small.

Table 4

*SEARS-P Resilience Means and Standard Deviations by Number of Sports Played*

Number of Sports	<i>n</i>	<i>M</i>	<i>SD</i>
0	62	68.31	16.52
1	108	74.32	17.43
2	64	75.06	13.78
3	23	78.57	16.15
4	11	80.91	13.57
5	5	77.80	18.93
6	2	91.50	7.78
7	1	79.00	.
Total	276	73.96	16.40

There were 96 comments provided by participants. Each response entered was coded as a positive, a negative, or a neutral statement and a ratio of the statements was created. Based on this analysis, 60 (62.50%) of the comments were coded as positive, 26 (27.08%) were coded as neutral, and 10 (10.42%) were coded as negative. Four common themes were identified among the positive comments. These four themes followed with the percentage of positive comments in parentheses and sample direct quotes are indicated in the following list: (a) Fosters Resilience (33.33%) – “My child believes that running is more mental than physical and that it is all about pushing harder when you feel like giving up;” (b) Builds Positive Values/Habits (25%) – “I believe being a part of a team helps the student with a lot of different issues and teaches them great values;” (c) Improves Mood/Emotions (18.33%) – “She loves running and seems happiest during cross-country season;” and (d) Fosters Peer Relationships (15%) – “It seems to have a lot to do with friendship, belonging, and having a reason to spend time with other girls her age.” An additional miscellaneous category was created for five (8.33%) positive comments that did not fit within any of these four categories.

Three common themes were identified among the neutral comments. These three themes are listed, followed with the percentage of positive comments in parentheses and sample direct quotes are (a) Prefers Non-Competitive Activities (61.54%) – “She participates in student government, culinary arts, music more than in sports;” (b) Neutral Statements (no indication of positive or negative impact) (30.77%) – “Tries hard to balance sports, school, church, family and friends;” and (c) Isn’t Eligible to Participate (7.70%) – “He played football at school until his senior year.” “Because of grades he can’t.” “He got a concussion last year. Instead of sports he is now in the school musical.”

Three common themes were identified among the negative comments. These three themes followed with the percentage of positive comments in parentheses and sample direct quotes are (a) Limitations As a Result of Disability (50%) – “He got a concussion last year, early in the football season. This year he hurt his shoulder and the doctor would not clear him to play. He was disappointed but deals with it;” (b) Increased Negative Affect (30%) – “During the softball season, my daughter's stress level intensifies significantly not only because of softball, but because it's also year-end. When her stress level increases her resilience and ability to solve problems decreases;” and (c) Exclusion from Playing (20%) – “He loves to play soccer, tried to be on the team, but wasn't picked.”

## **Chapter 5: Discussion**

This study sought to contribute to the limited research existing regarding adolescent sports participation and resilience. The specific research questions examined whether adolescent participation in sports was associated with a difference in resilience levels between participants and non-participants. This study also examined whether there was a difference between the resilience scores of adolescent participants on school-sponsored sports teams versus city/recreation sports teams. Finally, the study evaluated whether there was a correlation between the number of sports played and adolescent resilience levels. The results of each of these research questions are addressed below.

### **Research Question 1**

Adolescents who participated in youth sports had significantly higher levels of parent reported resilience than adolescents who did not participate in sports. These results agree with past studies supporting participation in extracurricular activities (Alvord & Grados, 2005) as something typically associated with resilience, as well higher levels of resilience among college age students who participated in sports (Cohu, 2006). The qualitative results provided some additional insight regarding specifically what may be some of the reasons for the increased resilience among adolescents who participated in sports. Over 60 percent of the parents who responded to the qualitative questions had positive comments regarding their child's sport participation. The themes that emerged from the comments, which included specific examples of mood improvement, fostering peer relations, and building positive values appeared to be consistent with the existing research (Alvord & Grados, 2005).

**Research Question 2**

Research results indicated non-significant differences in mean resilience scores between the group of students that played official high school sports and the group that played non-high school sports (rec league, club team, etc.). In other words students that played high school sports and students that played non-high schools sports both appeared to have comparable levels of resilience. The consistency of the emerging themes from the qualitative data were also encouraging in that benefits of sport participation did not seem to be limited to school team participation only. Positive statements were consistently made by parents of both high school and non-high school sport participants regarding the experiences that their students were having. Some of the non-high school sports associated with positive comments that emerged from the qualitative responses were karate, dance, and various club sports. These results seem to be consistent with the existing research referenced previously that suggests that sports have an intrinsic value that exists independently of any specific set of rules or laws applied to the sport. (Hardman, Jones, & Jones, 2010)

**Research Question 3**

Research results demonstrated a positive correlation between the numbers of sports played and increased resilience up to four sports, with no significant indication of increased resilience beyond four sports played. This is a novel finding not explored in other studies of sports and resilience. The qualitative responses didn't necessarily provide much insight into why this may be the case, although some of the responses did mention the benefits of adolescents staying busy and active. If a resilience benefit can be gained by playing sports, then it may be that year-round opportunities would maintain consistent benefit as opposed to seasonal only opportunities that may not carry on throughout the year.

In addition to the research questions that were answered, respondents were given the opportunity to share qualitative responses of any additional information regarding sport participation they felt was important to share. These qualitative statements provided an additional layer of insight into the experiences of the respondents, as well as an additional indication of the overall positive and negative impressions that respondents have had with sports participation. Just over a third (35%) of the respondents chose to leave comments. Over half of the comments that were left were positive in nature, which was consistent with the data correlating sport participation with higher resilience. Also encouraging was the fact that only 10% of the comments were negative in nature. The positive themes that were identified included enhancing resilience, building positive values, and enhancing mood. These positive themes were consistent with the multivariate skills that Alvord and Grados (2005) identified as being present in individuals that possess resilience. Although the research that was conducted for this study can't determine a causal relationship, the themes identified do warrant additional research to determine if sport participation can specifically foster or enhance these resilience skills.

These findings are important because not only are they consistent with much of the existing data on resilience and sport participation (Alvord & Grados, 2005; Steiner et al., 2000), but they also support a very accessible intervention that a majority of adolescents could have access to. If we take the list of protective factors associated with resilience as defined by Alvord and Grados (2005) and then consider the research provided by Masten (2001), which suggests that most individuals have the capacity for resilience if provided with the proper "assets" and environments, we can conclude that we have a list of protective factors that most individuals would have access to under proper circumstances. By observing the different environments that sports participation offers, as illustrated in the qualitative responses in the current study, one can

see how sports can contribute to or satisfy all six of the identified protective factors and that most participants would have the capacity for developing resilience from those factors. Of particular note is that year round sports participation provides access to these benefits even during the summer months when youth would not have the structure and benefit of participation in school. This is important because this study was only able to determine a correlational relationship and not a causal relationship. However, when combined with the existing data it does suggest that sport environment is a place that can enhance resilience.

The results of this study justify a very broad offering of sports participation opportunities for adolescents. Currently in many high schools, sport participation opportunities are limited to varsity participation with limited access by students. Given the possibilities for enhanced resilience suggested by this research as well as the benefits associated with sports participation suggested by previous research (Steiner et al., 2000), much broader community and school offerings through intramural programs and other similar offerings in addition to the existing varsity sports programs could and should be made available.

It is also suggested that the specific mechanisms within sports that contribute to resilience be identified and studied further. Identifying these mechanisms would allow researchers to look for other non-sports activities that may have some of the same mechanisms. These hypothesized mechanisms would likely be consistent with the list of protective factors that Alvord and Grados provided (2005) and including Proactive Orientation, Proactive Parenting, Connection and Attachments, as well as School Achievement and Involvement. If these specific mechanisms can be identified then coaches and parents could be trained to specifically focus on areas proven to contribute positively to resilience.

## **Limitations**

Despite the promising results of this study, there were some limitations. The sample size for the study was limited to a single high school, and some of the minority populations were under-represented. The response rate was lower than what would have been preferred, however online surveys (and particularly online surveys in the area of psychology) are accepted as having much lower response rates than other surveys. While the response rate for this survey wasn't ideal it was fairly consistent with other online surveys (Carley-Baxter et al., 2009). The study was also confined to parent responses and did not include student perspectives. The results were only able to determine a correlative relationship between sport participation and resilience, as opposed to a causal relationship. The consent form that parents were given indicated that the survey was on resilience and may have inadvertently biased some of the qualitative responses to be focused around the topic of resilience. It is suggested that future research in this field address this and consider studying broader, nationally representative samples. It is also suggested that further research into sport participation by minority groups, as well as sport participation according to socioeconomic status, be conducted as these two specific groups were not only under-represented in the survey but are also populations of concern within the community. In addition, further research on other extracurricular activities (e.g., participation in theater/school plays, school government, band/orchestra, and school choirs) and how they may contribute to resilience is suggested, as well acknowledging that not all adolescents enjoy participating in sports. The qualitative data suggested that, for certain individuals, sports participation actually had a negative impact. Research identifying what circumstances resulted in this would be beneficial to the population that appears to be negatively impacted by sports participation even though the data suggests that it is a small population.

## **Implications**

The quality of resilience is one of the most important attributes an individual can possess. Masten (2001) suggested that most individuals have the capacity for resilience if they can be provided with the proper “assets” and environments to help enhance it. The results of this study suggest that sports may be a positive environment in which adolescent resilience can be strengthened. This study, as well as future studies on other environments that can increase adolescents’ capacity for resilience, are critical for providing as broad opportunities as possible for all youth to enhance their resilience. As risk factors continually increase and become more complex for adolescents (Watson et al., 2003) their capacity for resilience becomes even more important. It is the researchers desire that continued awareness and research in the field of resilience will help contribute to a platform in society that is able to contribute to more resilient adolescents.

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## APPENDIX A: PRELIMINARY SURVEY REQUEST EMAIL

Dear Parent of XXXXX High Student,

The David O. McKay School of Education at Brigham Young University in conjunction with XXXXX High School is requesting your participation in an important survey to gather information regarding adolescent sport participation and adolescent resilience (ability to positively overcome or recover from adversity or stress). We will be emailing out further information one week from today including a link to the survey. Participation in the survey is completely voluntary and should take no longer than 10 minutes of your time. **Upon completion of the survey you will have the opportunity to enter your email address into a drawing to be randomly selected for 1 of 10 \$50.00 Visa pre-paid gift-cards.**

The information provided in this survey is completely anonymous and extremely important to a current research project. Your participation in this effort is greatly appreciated.

Thank You,  
Jason Johnson, B.S.  
School Psychology Masters Student  
David O. McKay School of Education

Paul Caldarella, Ph.D.  
Associate Director  
David O. McKay School of Education

## APPENDIX B: SURVEY REQUEST EMAIL

Dear Parent of XXXXX High Student,

About one week ago, you received an email informing you about a study on adolescent sport participation and resilience (ability to positively overcome or recover from adversity or stress).

We ask that you take about 10 minutes to answer some questions regarding your XXXX High School student's background, participation in sports, and your perceptions of their resilience. We would appreciate receiving your response by **Selected Date**, as this study cannot proceed until the data is received. Also, as mentioned in the previous email participation in this study will qualify you to be entered into a drawing for 1 of 10 \$50.00 prepaid Visa gift-card.

There are no known or anticipated risks associated with participation in this research. Benefits include a greater understanding of potential factors that may contribute to and enhance adolescent resilience. All responses to the survey will be kept completely confidential and will not be able to be tied back to the respondent.

If you have questions regarding this study, or would like to have access to the results upon completion of the study you may contact you may contact the primary researchers via email. Jason Johnson (jsonjohnson@gmail.com) or Dr. Paul Caldarella (paul\_caldarella@byu.edu).

Participation in this research is voluntary. You have the right to withdraw at any time or refuse to participate entirely without any consequence to you or your student.

If you have any questions about your rights as a research participant, you may contact Christopher Dromey, Ph.D., IRB chair, 801-422-6461, 133 TLRB, christopher\_dromey@byu.edu.

Mozilla 3 is the recommended internet browser for survey software. If possible, please use this browser. If you do not have it, you may download it for free by clicking on the following link. [www.getfirefox.com](http://www.getfirefox.com)

By completing the following questionnaire you are consenting to the use of your responses in this research project. Please follow the link below to begin the questionnaire.

**Web Link**

Upon completion of the survey located at the above web link you will have the opportunity to be entered into the drawing for 1 of 10 \$50.00 prepaid Visa gift-card if you chose to.

Thank you for taking the time to participate in this important study,

Jason Johnson, B.S.

School Psychology Masters Student

David O. McKay School of Education

Paul Caldarella, Ph.D.

Associate Director

David O. McKay School of Education

## APPENDIX C: DEMOGRAPHICS/SPORTS PARTICIPATION SURVEY SECTION

## Resilience Demographics Form:

Please answer the following questions about your student and your family.

Student's Sex: Male \_\_\_\_\_ Female \_\_\_\_\_

Student's Grade: (9) (10) (11) (12) \_\_\_\_\_

Student's Age: \_\_\_\_\_

Sports your student participates in:

Which (if any) high school teams does your student participate on? None \_\_\_\_\_ Football \_\_\_\_\_ Men's

Basketball \_\_\_\_\_ Tennis \_\_\_\_\_ Women's Basketball \_\_\_\_\_ Cross Country \_\_\_\_\_ Golf \_\_\_\_\_ Baseball \_\_\_\_\_

Volleyball \_\_\_\_\_ Swimming \_\_\_\_\_ Track \_\_\_\_\_ Softball \_\_\_\_\_ Men's Soccer \_\_\_\_\_ Women's Soccer \_\_\_\_\_

Other \_\_\_\_\_

Which if any organized city or rec league teams does your student participate on? None \_\_\_\_\_

Football \_\_\_\_\_ Men's Basketball \_\_\_\_\_ Tennis \_\_\_\_\_ Women's Basketball \_\_\_\_\_ Cross Country \_\_\_\_\_ Golf \_\_\_\_\_

Baseball \_\_\_\_\_ Volleyball \_\_\_\_\_ Swimming \_\_\_\_\_ Track \_\_\_\_\_ Softball \_\_\_\_\_ Men's Soccer \_\_\_\_\_ Women's

Soccer \_\_\_\_\_ Other \_\_\_\_\_

## APPENDIX D: PARENT QUALITATIVE RESPONSES

Qualitative responses to the question *“Please use the following space to provide any additional information about this child or adolescent that you believe would be helpful.”*

### Positive Responses

#### Improves Mood/Emotions

She loves running and seems happiest during cross country season.

My son found he liked tennis at the end of last year and plans to try out and play on the tennis team. He's never shown an interest in school sports before and he practiced, on his own, without encouragement, all summer. He was so happy that he felt like he could do something like that well enough to try out.

She enjoys playing tennis with others. She also enjoys competing and getting better as she plays.

She loves participating on a team and she is very competitive with herself and others.

I feel that sports is a good stress release and improves their learning ability. It also gives them a sense of belonging to a group

My daughter was last year in a school named XXXXX academy because she tried to commit suicide on the summer of 2012. We send her to that school and it was required for her to participate in volleyball, basketball and golf. The sports along with therapy change her whole life now she is a very healthy sixteen years old.

Her ballroom coach is amazing and always positive and instills confidence.

My daughter is the youngest of four brothers who are all athletic. I initially put her in dance until she was 9. I took her out because I saw her self-esteem go down. She then started to participate in sports like her brothers and she thrived in every way.

Perhaps my student is not typical and our response should not be considered in this study. She has multiple mental health diagnoses, including mild Asperger's and mood disorder, both of which greatly affect her resilience, and her ability to manage emotions. It is for this reason that we have enrolled her in swimming for so many years, as swimming helps her calm down and assists her in managing depression. We do believe that regular exercise helps her cope better overall, to some degree. However, she is requiring therapy to address her resilience in areas of problem solving, negative thinking patterns, etc. In other words, there are other factors affecting her resilience, so the answers given here may not give an accurate representation of the impact sports has on her resilience.

She then started to participate in sports like her brothers and she thrived in every way.

Her ballroom coach is amazing and always positive and instills confidence.

### **Builds Values/Habits**

My son has learned a lot about working with others, moving on from mistakes and supporting other team members in a positive way by playing baseball. They are skills that he has spent time learning and things that have not always been his strong point.

I believe being a part of a team helps the student with a lot of different issues and teaches them great values.

Zach practices ballroom constantly. When he doesn't perform as he'd hoped, he always comes back to be better. He learns from criticism and doesn't give up. He also has great sportsmanship.

He will do whatever is asked, and will practice putting forth his best effort each time. He looks for ways to improve.

Being on teams that don't do well has taught him that winning isn't the most important part. He is also used to having coaches that aren't always wise in their choices of who to play, that has taught him lots too.

My daughter loves playing softball. It gives her something to work towards. She knows if she wants to play on the high school team she has to keep her grades up. It is sometimes a financial burden but I feel like it helps keep her focused and out of potential trouble. I love that she feels a sense of belonging, the girls she plays with are all hard working, team players, encouraging, confident, and willing to learn. As a parent I love to share in her success and also her disappointments.

He works hard every day to improve his skills and to learn to get better every day, one of the reasons we as parents like to have our kids to participate in sports.

My son found he liked tennis at the end of last year and plans to try out and play on the tennis team. He's never shown an interest in school sports before and he practiced, on his own, without encouragement, all summer. He was so happy that he felt like he could do something like that well enough to try out.

Her focus during sports greatly exceeds her focus almost everywhere else. That's why we have her in karate.

As she is a perfectionist, she used to get very frustrated when starting a sport because she felt like she was messing up all the time, but she is learning that sports have many phases, and joy and practice, and coaching on technicalities bring improvement.

I am not sure if it is the chicken or the egg, but he pushes himself to do his best every day. Did sport teach him that or did use his amazing fortitude to do well is sports? I am not for sure on this, but just very glad it is happening.

Because hockey is an under-emphasized sport in Utah it requires a high level of player commitment. My child's participation means he has to manage his schedule, attend practices before school, and establish his own off-ice training (which he has very successfully done).

I have both a son @15 and daughter @16 and they both play center mid position for club. My daughter is the only one playing for jv in high school. When they are consistently training they are focused and can help others also reach goals.

He seems to try harder in school now that he is on a team and he takes pride in the effort he is making. 6:00 am practices and he wants to always be there.

I believe that participating in cross country has taught my child discipline, endurance (in areas outside of running as well as in running), commitment to others (team members, coaches, friends), and that she has learned that she can do hard things. Racing and practicing gives her an opportunity to push herself beyond what she previously thought possible. Running has made her more aware of her physical health and the needs of her growing body. Getting enough sleep, a healthy diet and relaxation time have all been more of a focus for her than at any precious time.

### **Fosters Peer Relationships**

My child enjoys playing sports, but he is a little uncoordinated. I think that other kids at school understand that my child has special needs and are encouraging. At least that is his perception of the situation. There are times he doesn't understand that people are sincere, but maybe that is for the best.

She has been playing on teams that have not won very many games, but her attitude is quite positive. I am seeing that there is more to being on a team sport than just winning in her mind. She is quite a champion and quite competitive and yet doesn't stay down after a loss and is eager to get back at it again with the team. It seems to have a lot to do with friendship, belonging, and having a reason to spend time with other girls her age.

She has surprised me with her desire to try new sports. Our family does not golf or run much. I think her choice to be involved in these sports is in part due to friends who participate in the sports. Also, she does not get involved much in the sometimes typical teenage girl "drama." She is resilient in that she can just blow off some of the petty things (gossip, who said or did what . . .) that girls her age sometimes get involved in.

Sports have really helped my child/children to develop social skills and get their bodies to a healthy weight and condition. I believe the physical exercise and being with, playing and working hard with their friends have really shaped their lives and helped them in all the aspects of their lives.

I feel that sports is a good stress release and improves their learning ability. It also gives them a sense of belonging to a group

Participation in sports has given my son more confidence and a connection to a group of peers. I appreciate that he has the input of another adult (coach) and is being held accountable by him. I am a single parent and my son has no contact with his father so this sports opportunity is a big support to him.

Playing volleyball and being on the teams has improved her ability to lead and find the best in others. This has helped her get along with girls she previously had conflicts with.

I believe that participating in cross country has taught my child discipline, endurance (in areas outside of running as well as in running), commitment to others (team members, coaches, friends), and that she has learned that she can do hard things. Racing and practicing gives her an opportunity to push herself beyond what she previously thought possible. Running has made her more aware of her physical health and the needs of her growing body. Getting enough sleep, a healthy diet and relaxation time have all been more of a focus for her than at any precious time.

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### **Builds Resilience**

She has been dancing since she was three, always very successfully. This last year she had an injury to her femur that has caused her pain and ultimately ended in surgery and rehab. She has always danced unless her surgeon specifically told her not to. Sometimes in some pain, she still puts on her knee brace, takes ibuprofen and does her performance. Gets down when the rehab seems to go on too long, and then takes a few minutes to herself and comes out with a smile and new resolve, and away we go!

She has been playing on teams that have not won very many games, but her attitude is quite positive. I am seeing that there is more to being on a team sport than just winning in her mind. She is quite a champion and quite competitive and yet doesn't stay down after a loss and is eager to get back at it again with the team. It seems to have a lot to do with friendship, belonging, and having a reason to spend time with other girls her age.

My child is very dedicated to running and has been running for many years now. My child believes that running is more mental than physical and that is all about pushing harder when you feel like giving up.

Very determined, never holds on to things

Zach practices ballroom constantly. When he doesn't perform as he'd hoped, he always comes back to be better. He learns from criticism and doesn't give up. He also has great sportsmanship.

My child had an accident on a trampoline and broke her leg badly--two surgeries; out of school for 3 weeks. After a year, her leg still hasn't healed properly, but she was captain of the swim

team and still does her best even though she lost a lot of her ability because of the accident. I guess that I would say that as a parent, I didn't know that she would be so resilient until she had this trial.

She has surprised me with her desire to try new sports. Our family does not golf or run much. I think her choice to be involved in these sports is in part due to friends who participate in the sports. Also, she does not get involved much in the sometimes typical teenage girl "drama." She is resilient in that she can just blow off some of the petty things (gossip, who said or did what...) that girls her age sometimes get involved in.

I am impressed with my daughter's resilience. Sports have become pretty involved and requires time almost year round. She is able to attend practice/games several times a week along with getting good grades and being part of the National Honors society.

I do think sports have helped my son to better handle stress and learn to work hard. Sports have really helped my child/children to develop social skills and get their bodies to a healthy weight and condition. I believe the physical exercise and being with, playing and working hard with their friends have really shaped their lives and helped them in all the aspects of their lives.

While my son is disappointed in himself and his team if they lose a game, he is only affected for as long as it takes to drive home. After that, he starts preparing himself for the next game. He doesn't get angry or aggressive.

Jenny is the first to admit that participating in cheerleading has made a big difference in her confidence and self-concept. She knows she can do hard things.

Also overcome fear of crowds and judgement.

My daughter was last year in a school name XXXXX academy because she tried to commit suicide on the summer of 2012. We send her to that school and it was required for her to participate in volleyball, basketball and golf. The sports along with therapy change her whole life now she is a very healthy sixteen years old.

Has anxiety especially right before her running events, but says it helps her focus and perform better. She thinks it could be debilitating but says she doesn't allow it to get that bad.

We recently encountered a VERY stressful family situation which involved a close family severely breaking the law. My child handled this situation with a great deal of maturity and perspective (in addition to the normal sadness and disappointment that should accompany something of this nature). I attribute some of her ability to handle this stress to her being active in track.

This child plans on beginning track this fall. I believe this will aid in fitness and an increased ability to handle stress.

Spent last year injured along with an injured brother who is now on a mission. He learned a lot about resilience because of this and he has also had to deal with anxiety issues at a younger age and that taught him a lot about resilience.

She bounces back from losses in her games sooner than her parents do!

I have four boys. Two played college sports. My son is the youngest and one of the smallest of the four. I believe sports has played a huge role in their social development and resiliency to life problems.

I believe that participating in cross country has taught my child discipline, endurance (in areas outside of running as well as in running), commitment to others (team members, coaches, friends), and that she has learned that she can do hard things. Racing and practicing gives her an opportunity to push herself beyond what she previously thought possible. Running has made her more aware of her physical health and the needs of her growing body. Getting enough sleep, a healthy diet and relaxation time have all been more of a focus for her than at any precious time.

### **Miscellaneous**

She is Varsity cheer captain and a choreographer for her school dance team. She is exceptionally resilient on the outside but occasionally struggles internally when stress levels are high (and these levels would be considered very high for anyone her age).

The physical exercise really helps her handle all situations.

This student as a boy is much less vocal about problems than his sister. He handles more of the problem solving on his own. He is much less aware of and bothered by things going on around him.

He is an excellent student and leader even when he is going early and staying late for football.

My daughter has general anxiety disorder, and she specifically notices how running helps her with some aspects of this. She notes that it helps her stress. Interestingly, soccer was not helpful in reducing stress – the competitive, team aspect, as well as pressure from other players, presented its own additional stressors. Running, while competitive, has more of a focus on self-improvement, leaving a greater sense of control with the participant. This difference in the level of control over the outcome has allowed my daughter to have the mental-health benefits of exercise (reduced stress, better ability to cope) w/out additional worries over winning/losing/disappointing others. Although she coped well, I believe, with the stressful aspects of team soccer, it was important in our case to find a sport that was a better fit for her so that she could reap more resilience benefits.

## Neutral Responses

### Neutral

Tries hard to balance sports, school, church, family and friends

She takes anti-depressants and anti-anxiety medication which affect this.

High pain tolerance.

I accidentally clicked the football team. He has actually begged me to play football on the high school team. He is naturally very athletic, but I think he's more interested in being associated with the popular kids on the football team than to play. He's only ever played football casually with friends and family.

Does not play football anymore.

No sports. He ran track and cross country one season. // He is a 7th grader but you don't have 7th grade as an option.

Does not often get into arguments with other but does think less of others when they act in a way that he considers bad behavior and expresses that to them.

She participated in sports activities because she is pushed by us (the Parents). She has a strong will, which is both good and bad. She knows logically, intellectually why making correct choices about how she feels about herself is in her best interests but sometimes emotions take over and she allows herself to "despair." She does work herself out of it pretty quickly, though and returns to her normal self. Sometimes it takes a hug but she recovers.

### Prefers Non-Competitive Activities

Does not care for sports – sometimes goes swimming or walking

He loves every sport and goes to the practices for like wrestling, track and soccer . . . but when it is time to actually join he loses interest.

Likes to play sports, actually very sporty, but does not have any interest in participating on a team. She is very blunt and not always very tolerant of others. She is ADHD-diagnosed third grade and treated w medication. Quite tough mentally and physically, completely opposite of her older sister who struggles w injuries, etc. almost too tough, very indifferent to other people- almost seems narcissistic but really a defense mechanism related to ADHD diagnosis. If she would participate, she would probably be very successful.

She has never had an interest in sports or playing competitively. // I started teacher her to think through and solve problems for herself at the beginning of middle school. She has practiced those interpersonal skills for years and now is very good at identifying the issues, looking at her

options, figuring out how others respond, what the potential consequences may be of her choice, and then she makes the choice. I wish I had learned that when I was a teen. // She has been raised in a single parent home with a father that has a personality disorder that has very little to do with her. I think learning to navigate that relationship has had a lot to do with her level of self-resilience.

He likes sports but doesn't want to go out for the school teams. There have been major trials in our family this year and he seems to be okay.

The only sports he participates in at the school is marching band, there is no way to deselect on this survey and every time you try to scroll down it selects things for you.

She participates in Student Government, culinary arts, music more than in sports  
Not involved very much in sports, but highly involved in band and choir. My son is quite resilient, not much keeps him down for long.

She doesn't participate on any sports teams, but she does get a good amount of physical activity riding her bike and dancing at rehearsals for the school's dramatic musical production. Our family does not tend to be athletic, but we are fit. We exercise together for 15 minutes after each school day.

He doesn't like sports.

My daughter is not in a sports program right now because she is focusing on her music and drama. However, she has been in dance for the past three years of school. She also suffers from social phobia tendencies and works hard to push herself beyond her comfort level. She is aware of her struggles and knows she needs to keep a constant effort up so as not to let it interfere with her goals in life.

Instead of sports, her interest lies in music. She is a sax player and flute player in the marching band and jazz band.

Does not enjoy them too much, he would rather do educational activities.

She loves sports, but is in leadership positions instead.

He is very active in sports, but is not on a team.

She doesn't like many sports. Participates in bike riding and rec. swimming.

### **Isn't Eligible to Participate**

He played football at school until his senior year. Because of grades he can't. He got a concussion last year. Instead of sports he is now in the school musical.

She lived overseas last year, during her 9th-grade year. Therefore, her participation in sports began interrupted, and is off to a rocky start. She hopes to participate in softball and golf this year.

## **Negative Responses**

### **Limitations as a Result of Disability**

My son hurt his back and is now unable to participate in most sports. I hope this doesn't have an impact on his resilience.

She is easily injured and has suffered a number of them in the past 3 years. She also suffered 2 concussions within a couple of weeks of each other early in her 9th grade year. She has chronic pain issues (reflex neurovascular dystrophy) in her right arm and left wrist. She has become quite adept at dancing despite being in pain everyday but when she is overwhelmed or upset and gets hurt, it is like the world has ended for about a day, then she kind of gets back on an even keel. She is also ADHD-diagnosed in 3rd grade and treated with medication.

My son has type 1 diabetes and sometimes struggles with endurance in activities, but is working on it.

He got a concussion last year, early in the football season. This year he hurt his shoulder and the doctor would not clear him to play. He was disappointed but deals with it.

He participated in boys P.E. 2013 and really enjoyed it. His coordination has always been clumsy. He has some orthopedic problems with his feet. He is also larger in stature than most of his peers and when engaged with games of tag, others they would complain that he was too rough. So he stopped participating and would sit out and watch or just not leave the house to play outside and stay indoors playing Legos or video games. // Secondly, we have been spending so much of the time after school involved in tutoring and completing homework that he has not been able to participate in community sports extracurricular activities. We just couldn't afford the time for practice and games on school nights. // After obtaining an outside child psychiatrist psychosocial evaluation we were able have him evaluated in the school and this led to an I.E.P. The accommodations were a reduced work load, extra time for assignments and test. Within the special education department he participates in a studies skills class. Last school year we were able to make great strides in lessening homework load because of participating in school tutoring and intervention programs. So this year we have enrolled him in Karate, which is something he has been interested in for years.

### **Exclusion from Playing**

He loves to play soccer, tried to be in the team, but wasn't picked.

He doesn't get to play very often. But he still enjoys being part of the team. I felt like there was a little bit of bullying going on during practice, certain boys wouldn't let others go out to practice certain plays, which determined game time. I wanted to go and report this problem, but he said

he would try harder and wanted to deal with it himself. There is a lot of stress for kids these days, but I think my son handles things well. I can't say I don't worry about him, but I do think he is stronger and more resilient than I give him credit for.

### **Increased Negative Affect**

My daughter is the youngest of four brothers who are all athletic. I initially put her in dance until she was 9. I took her out because I saw her self-esteem go down.

Her high school softball coach has done more to damage the psyche of the individual girls on his team than anyone in their lives. I am not going to let her continue this year. I had to put her in therapy because of his tactics.

During the softball season, my daughter's stress level intensifies significantly not only because of softball, but because it's also year-end. When her stress level increases her resilience and ability to solve problems decreases.