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How your past can influence your perceptions of sports aggression

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How your past can influence your perceptions of sports aggression

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Submitted in partial fulfillment of the requirements

for Honors in the Sociology Department

Union College

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How your past can influence your perceptions of sports aggression

ABSTRACT

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Sports violence has received increase attention in the media recently and more individuals are becoming aware of dangerous behaviors in sports. This study was designed to look at the effects of personal variables and past participation in sport in how they affect an individual's perception of aggressive sports acts. The perception aggression is important to understanding why sports aggression is more accepted in different groups of people. This utilized Union College students, who took a version of the Sport Behavior Inventory in an online survey. Through the use of different indices of data, an test of means and a multi-variable regression was performed. It was found that individuals involved in contact sports, and to a lesser extent team sports, were more likely to perceive aggression as acceptable. Personal characteristics like age and sex played no significant role. These findings can then be used to influence sports policy and raise awareness to the impacts of past sport experiences.

How your past can influence your perceptions of sports aggression

LITERATURE REVIEW

Introduction

There is a violent collision between heavily armored individuals. One gets up while the other stays down. The one standing individual is deafened by the roaring approval of the crowd. Although this could describe the gladiators of ancient day, this could just as easily describe some of our modern sports. Sports are near and dear to virtually all cultures, including the American society. Every year, our society spends billions on sports and millions of athletes play in varying levels of competition. From youth to professional leagues, sports are very near and dear to the heart of Americans. Although not always safe, sport participation seems only to be increasing in our society. Sport has often been described as ritualized warfare in our society. Sport allows us to engage in combat like our trial ancestors without serious repercussions. Sport is a mechanism to actively let out aggression in a productive and socially appropriate manner in our modern society.

Sport has been an integral part of societies since the dawn of civilization. Going back to ancient Egyptian or Aztecs, individual and team sports were abundant. Whether it is ball games, gymnastics, running, or other sports, civilizations have spent leisure time participating or observing athletic contests. With the dawn of the 20th century, sport became commercialized as leisure time increased significantly in the United States and its popularity soared. For centuries, sport had been a violent, aggressive, and dangerous hobby and was generally considered a lower

class, uncultured activity. With the commercialization in the 1900s, sports were brought to the entertainment of upper class, cultured society (Russell 2008). As a result, sport rapidly became more organized, less violent, and more “cultured”. Yet still we see the aggressiveness and violence that have always been associated with sport, despite our now civilized and cultured society.

Violence is often the one of the biggest draws to sports. Football is currently the #1 sport in America, while earlier in the century boxing sported the biggest following. Audiences love aggression and violence. A modern example of this interest was the ESPN segment “Jacked Up”, a highlight show focusing on the hardest and most devastating hits of the week in NFL football. During the segment, the male announcers would get excited and praise these aggressive acts, even as individuals in the segment were getting injured. This was a very popular addition to ESPN, but “Jacked Up” was soon canceled due to negative reviews from the public about the content of the show. Aggression in sports is inherent to the activity, but the question remains; why is violent aggression allowed in our modern society at all?

Why should we study sport aggression? Aggression and violence in sports can have diverse and serious repercussions. According to the CDC, around 2 million injuries and 30,000 hospitalizations a year result from high school athletes alone and around 21 percent of serious brain injuries in children are the result of sports (Preserving the Future of Sport: From Prevention to Treatment of Youth Overuse Sports Injuries 2009; Powell *et al* 1999). Clearly, sport violence can have a negative physical impact on individuals, but it may also have a negative social impact on individuals as well. There are countless examples of hazing on sports teams, as well as the negative impact sports has had by increasing assault and other dangerous crimes. Also, simply watching sport aggression can increase the spectator aggression. In fact, it has been shown that

enjoyment of a game has been positively correlated with the aggression and conflict levels in sports (Wann *et al* 2001). Mediating this aggression in sports could help to mediate many other aggressive acts.

The appeal of sports has given many people the desire to join as well as the entire society an acceptance of the activity. President Teddy Roosevelt has been known to have been “...encouraging the sports, which develop such qualities as courage, resolution, and endurance”. Sports have been pointed to as increasing such desirable traits as these and others, but sport provides many other benefits from participation (Messner 2002). Sport offers group cohesion and opportunities for socialization. Integrating team goals and introducing rule-following behavior can contribute to the social learning aspects of sport. There are many reasons why people join sports or become fans of sports which include the need for group affiliation, self-esteem improvement, economic benefits, eustress motivations, entertainment, among others (Wann *et al* 2001). Sport offers an opportunity to bring individuals together with a specific goal in mind. For fans too, it offers an opportunity to join in a group as an escape from their individual lives or as a way to bond with their peers. The personal investment in a team or sport can have a positive effect on an individual’s sense of self. Sport is full of social interactions, whether it is intra-team, inter-team, fan support, or other types of interactions. Each of these interactions will exert a social influence over an individual. Along with these social interactions, the social rewards from sport participation are also evident. These social rewards contribute heavily to social learning and can influence individuals extensively. With over 2/3 of Americans identifying themselves as sport fans and millions of people directly involved in sports, sports are making a big impact on our society both economically and socially (Russell 2008).

Much of the research of the appeal for sports has focused on the hegemonic masculinity that sport often provides. Especially in aggressive male sports, violent competition allows people to identify with the high masculinity of the winners and the low masculinity of the losers. Professional athletes are often pictured as models of masculinity, which provides for higher social status (Messner 2000). This gives a strong motivation to play sports and gain that higher social status. The time commitment and risk of injury are all superseded by the possibility of higher status (Felson 1996). This strong motivation can often lead to misguided and violent attempts to get to a higher status. This is where aggression in sports can go seriously wrong and lead to outright violence.

Aggression is a very important characteristic of sport. Aggression is defined as intentional physically or psychologically harmful behavior that is directed at another living organism (Tod *et al* 2010). The key part of aggression is the intentional nature to which the action is being done. Aggression is very often acceptable within the rules of sports as a competitive way to advance over an opponent. In sport research, two types of aggression have been identified. The first is instrumental aggression. This is aggressive behavior that could injure an opponent, but in the pursuit of a goal. This would happen for example if a player injures another player to keep them from making a play, to scoring a point, getting a goal, or other reasons. Contrast this with hostile aggression, in which the goal of the aggressive behavior is simply to injure, with no further sport related goal. The difference here is the intent of the aggression. Instrumental aggression can cause injuries as a by-product of pursuing the goals of the sport, while hostile aggression can cause injuries for the sake of violence (Tod *et al* 2010). As a result, instrumental aggression is commonly accepted in sport, while hostile aggression is

limited. The attitudes toward these two types of aggression have been the topic of much research and experiments.

One of the biggest topics in sport aggression is the topic of motivation. One of the most prominent theories on sport motivation is the Achievement Goal Theory. This theory is based on two personality characteristics, either ego-orientation or a task-orientation. Task-orientated individuals believe that the effort and practice they put into a task is correlated to success at that task and the individuals are more motivated to participate for enjoyment and self-improvement. Ego-oriented people believe that ability will be the telling characteristic of success at any given task and are motivated by the opportunity to compare oneself to others and to demonstrate their abilities (Tod *et al* 2010). There is much research about the differences between these orientations. It has been shown that ego-oriented individuals are significantly more likely to assess an aggressive act as acceptable in comparison to a task-oriented individual (Bredemeier *et al* 1986; Bredemeier *et al* 1987; Loughead *et al* 2001). Those ego-oriented individuals were bigger contributors to aggressive play in the arena of sports. Similar to the individual characteristics, team orientation can also play a role. A team can have a mastery orientation or a performance orientation. In mastery, effort is valued and personal growth is a goal. Performance orientation places the emphasis on winning and encourages rivalries and competition. Mastery has similar characteristics as task-orientation, while performance and ego-orientation are linked. As a result, researchers have found more aggression in teams that have performance orientation as compared to mastery orientation (Dunn 1999). This has been found to be true across sports on a macro level, although there can be individual differences in aggressive tendencies. This can show that the motivation for competitive sports can play a role

on the level of aggression and that both individual and team characteristics have an impact on the level of aggression.

Theory

Several theories have been created to explain the phenomena of aggression in sports. Despite many studies on each, the debate still continues as to which describes sport violence the best. The oldest theory, called Instinct Theory, says that humans have desires and drives that are innate in everyone. One of those drives is a need for aggression. This is seen in several evaluations of human nature, including the very influential Freudian analyses. Sport then serves as a socially acceptable release for this aggression (Lorenz 1966). The theory of catharsis says that sports are vital, so that when people release their aggression in sports, they will be less aggressive in other social arenas (Wann *et al* 2001) . This has been a popular theory, especially among non-sociologists. People feel that they have to let out aggression often on a daily basis. Many people also feel much better after releasing this aggression. Exercise in itself has been shown to increase well-being, release mood-elevating endorphins, and participation in organized sport can positively contribute to an individual's self-confidence (North *et al* 1990). However, very little evidence has been found to corroborate this theory of catharsis. Participation in aggressive sporting activities can have a variety of impacts, not just releasing aggression. In fact, the opposite has been found in many cases in that athletes are more likely to be aggressive outside of sport activities. Studies found that athletes are more likely to engage in violent actions, including rape, domestic abuse, assault, and other actions (Crossett 1999). In a well-cited paper, researchers found the athletes are much more likely to be arrested after complaints of illegal activity when compared to their peers (Benedict and Klein 1997). While it is unsure of whether this correlation caused by participation in sports or whether it is a selection effect of

aggressive personalities in sports, there is very clear evidence that athletes do not become less violent due to participation in sport. As a result, the field has shifted to other theories from the idea of catharsis in Instinct Theory.

Another theory about the cause of aggression in sport is the Social Learning theory. This is a very simple theory centered on socialization in sport. It says that aggression is not innate, but that it is socially learned through reward and imitation (Bandura 1986). Significant others, such as coaches, parents, and peers will reward aggressive behaviors through praise and recognition. Also, imitation of older, esteemed athletes who act aggressively can cause people to perform violent acts on others (Wann *et al* 2001). The cultures in certain sports often cater to these aggressive behaviors. In sports such as football or ice hockey, there are “unwritten rules” that aggressive acts are the preferred method of play. With 50,000 fans cheering aggressive plays, the social motivation for delivering aggression is strong. Anecdotal evidence abounds in this theory, with the recent New Orleans Saints football team scandal being the perfect example. On the team, a coach was awarding monetary rewards for players who intentionally injured an opposing player. That created such a hostile environment on the team, that it sparked an outrage in the sporting community. It is examples like this of pervasive team norms that lead to more aggressive behavior in sports. Evidence from research suggests that individuals will act more aggressively if they think that their team mates would act similarly (Conroy *et al* 2001). Humans are very social and the need for attention, recognition, and gratification can be powerful motivators. Charles Cooley’s concept of the “looking glass self” describes how people derive their personal self out of interactions and perceptions of others in their society. With pervasive aggressive norms on teams, it leads to aggressive images of the self. This further leads to aggression during sporting events, and the cycle continues. Plus, with the enormous social

rewards for aggressive plays in sports, the motivation for violence easily outweighs the moral standards present in most athletes.

A new theory that differs from most of the others is Reversal theory. In this theory, people are drawn to aggressive sports due to individual preferences. This theory is based on the principle that some people may get enjoyment from aggressive acts, and so they play aggressive sports to gain that enjoyment in a socially acceptable manner. The motivation to play sports will automatically bring in more aggressive individuals. This selection effect allows for the aggressive behavior found in sport to be attributed to the underlying personalities of the athletes, instead of attributing it to participation in sport itself. This theory also says that the type of aggression in sport will change depending on the athlete's frame of mind. This theory describes 4 pairs of metamotivational states; serious/playful, mastery/sympathy, self/other, and rebellious/conformist. Based on the current pairing of metamotivational states, aggression will take various forms (Apter 2001a). There are four different types of aggression in this theory. The first is anger aggression, caused by a combination of serious and rebellious states. In this, athletes are very aroused and rebel against societal expectations, resulting in rule-violating violent behavior. The second is thrill aggression, caused by playful and rebellious states. This causes aggression for the fun of violence, with rule-violating behavior simply for enjoyment. The third is power aggression, caused by serious and mastery states. This causes a need for domination over a competition and will be aimed at achieving a specific goal. The final form is play aggression, caused by playful and mastery states. This causes a desire to dominate others, but without a goal to harm the other individual (Wann *et al* 2001). Therefore according to this theory, an emotional state is all that is basically needed to identify how an individual will aggressively act. This theory can be used to describe violent/aggressive acts using specific terms

to help identify why an individual acted in this way. It is very helpful moving forward in studying sport aggression, as it can be used to help limit aggression. Efforts can be made to adjust athlete's state of minds, through coaching language, media examples, and other strategies. That way aggression can be limited due to the metamotivational states of the players.

One of the most researched and accepted theories regarding sport aggression is the Frustration-Aggression theory. The basis of this theory says that people get frustrated when they are trying to achieve a goal and they are impeded. As a result of that frustration, people act aggressively and violently. Although this theory was developed to explain all sources of aggression, it has direct explanation into sports. A sport example is a player getting angry at a referee due to penalty calls, and then acting in an aggressive manner to both the referee and other players. Although some evidence supports this theory, it has been challenged, since not all aggression can be tied to athlete frustration and not all frustration leads directly to aggression. This theory has recently been revised to state that frustration increases arousal and anger. From there, if aggression is socially appropriate, violence may result. It is based on the socially learned rules in an environment (Wann *et al* 2001). This is a broad theory that encompasses aggression in a complete manner. This revised theory has been accepted by many critics and provides a way to understand why violence occurs in sport environments. Sport is full of conflicts, as one of the primary objectives in sports is to specifically impede the opponent from accomplishing their goals. This will cause frustration in many athletes. This direct competition will lead directly aggression, which is socially acceptable in the arena of sports. Aggression is therefore inherently tied to competitive sports according to this accepted theory.

A final theory is Game Reasoning theory. This theory states that in a sport context, athletes will "suspend reality". Prof. Brenda Bredemeir talks about morality "brackets", in

which we use different sets of moral rules in different situations. We have different rules for what is OK in war, at work, at home, and in sports. That way, morality and aggression are treated differently in sports than in they are treated in normal life. People are more ego-oriented in sport and act more aggressively than they otherwise would in everyday life (Wann *et al* 2001). Team norms and social pressure from coaches and peers moderate how people will act aggressively. This is similar to the social learning theory, but adds in an element of environmental context. There has recently been many research studies done with to investigate this theory, which is where I hope to add to the literature. Game Theory has been a predominant theory of interest lately, which makes research much more interesting.

Experimental Research

Specific research has been done on morality and moral development with participation in sports. Morality and in-sport aggression are closely linked in sociology, with low morality associated with higher levels of aggression. This lack of moral development is one of the key components in the occurrence of aggression. In fact, it was shown that individuals with lower moral reasoning saw aggressive violent behaviors as more legitimately in sport. In this study, the participants were given a moral reasoning test as well as a test called the Continuum of Injurious Acts. The perceptions of these acts were then compared to the moral reasoning scores to find this distinctive result (Bredemeier 1985). This identifies moral development as key to understanding aggression. It was also shown that athletes have significantly lower moral reasoning than non-athletes (Bredemeier *et al* 1985). In this, moral protocols were analyzed and scored for each individual in the population. Females displayed higher moral reasoning along with non-athletes (Bredemeier *et al* 1985). Team sports have also been shown limit moral growth compared to individual sports. In a longitudinal study, it was shown that team sport

athletes had less moral growth than their individual sport or intramural sport participants (Krause and Priest 1993). Many things can affect the moral development in sport context. Individual personality factors, as well as the social environment of the sport and the values/rewards the sport has for its participants (Bredemeier *et al* 1996). Sport offers a unique environment for significant moral growth, or for stunted moral growth.

Other characteristics have also been shown to affect aggression besides the moral growth of individual athletes. Gender has also been clearly shown to significantly have an effect of aggression. Women are much more likely to view an aggressive sport act as illegitimate. Males more often see sport violence as an appropriate outgrowth of normal sport actions. Whether it is simply rule-violating behavior, aggressive socializing in sport, or simply the legitimacy of aggression, men have been more receptive to these deviant actions (Conroy *et al* 2001; Keeler 2007; Silva 1983; Tucker *et al* 2001). In these types of studies, participants are shown video clips or are given descriptions of aggressive acts and are then asked to grade the act on how acceptable it was. These studies all found stark gender differences in the perception of violent aggressive behavior. Gender differences are always important to account for in when studying any social topic. This has been easily explained through stereotypical gender roles portrayed through our society. Violence and aggression has typically been associated as a masculine trait. Therefore, women and men must be acting in a masculine manner when aggressing against an opponent. This labeling of masculine and feminine traits causes both men and women to adapt their actions to fit into socially accepted categories. Individuals have been socialized to accept this behavior as the norm. It has been brought up as a possible biological influence on aggression, but there has been limited evidence toward this explanation. Gender role differences play a major role in the observation and recording of violent behavior in sport.

Age has also played a role. It has been shown that younger individuals are more accepting of aggressive play in sports. Among ice hockey players ranging from youth hockey leagues to college level, the younger individuals were significantly more receptive to violent play (Dunn 1999). As researchers followed a cohort of players through the years, they found that their legitimacy perceptions shifted as they grew older. It was also shown that the younger athletes also preferred instrumental over hostile aggression, showing that the type of aggression doesn't necessarily have the biggest impact on the level of aggression (Loughead *et al* 2001). Age could be directly related to the moral growth of individuals as they mature morally as they grow older and become less receptive to sport aggression. Also, experience and the development of the brain could contribute to the perceptions of violence. As individuals age, the logical areas of the brain become more developed (Geidd *et al* 1999). Also, individuals become less susceptible to media influences and can more strongly adhere to their individual morals. Age is important demographically, as the sheer number of youth sports is enormous and the impacts of young children engaging in risky aggressive behavior can have very serious negative impacts on their health.

The sport type has also been shown to have a significant impact of the level of sport aggression. Much of the research has been directed at the level of contact and physicality of a sport. It has been shown that contact sport players find in sport aggression and rule-violating behavior more legitimate in sports than low-contact sport types or non-athletes (Conroy *et al* 2001; Keeler 2007; Silva 1983; Tucker *et al* 2001). Sports can be divided into contact and non-contact sports. Contact sports include: Football, Ice and Field Hockey, Soccer, Wrestling, Basketball, Diving, Lacrosse, Rodeo, Ski jumping, Water polo, Team Handball, Baseball, Softball, and Floor Hockey. Non Contact sports include: Running, Rowing, Sailing,

Cheerleading, Diving, Swimming, Tennis, Weight Lifting, Curling, Badminton, Golf, Gymnastics, Field Events, Skiing, and Volleyball (Family Practice Notebook 2012).

Researchers investigated this by showing athletes videos of rule-violating or aggressive behavior and asking the audience to score the acceptability of those actions on surveys. Different indices were also used to depict increasingly aggressive behaviors. From the reactions of the audience, the researchers were able to discern that differences in the audience significantly affected how they viewed these behaviors. It has been speculated that in-sport norms in these contact sports allow for individuals to gain more aggressive stances on violence. It has also been suggested thought that more aggressive individuals are simply drawn to these more aggressive sports naturally. There could be more than one aspect at play. Between different sport types, there are possibly different team values and norms being expressed in regard to aggression and violence. The athletes would then internalize these norms and act accordingly to the violent norms of the sport. Also, a desensitization to sport violence can occur if the athlete is exposed to aggressive acts over a long period of time. Definitions of contact levels vary significantly between studies as does the methodology of gathering data. A key article in this area is “Legitimacy Judgments of Perceived Aggression and Assertion by Contact and Non-Contact Sport Participants” (Gardner and Janelle 2002). This study used videos of different levels of aggressive play in sports and asked the participants to rate the legitimacy of the actions. This study found the standard gender discrepancies, as well as that contact sport participants were more accepting of aggression. It also showed that aggression was more accepted inside the realm of sports than in everyday life (Gardner and Janelle 2002). This article directly supported the tenets of Game Theory and is focused specifically at the research question of the perception of aggressive acts.

Although there has been much research done in this area, distinct gaps remain in the research topics. Separating the participants based on many different characteristics would provide insights into aggressive behaviors. Such things as economic status, race, geography, and other characteristics have been left out of the literature on this subject. These have been shown to have impacts on deviant behavior in the past, and should be included in the research to add another level of understanding to the literature.

Another possible critique of the research is that when classifying individuals based on their sport type, the researchers focus specifically on the athlete's main sport only. However, many athletes are involved in a myriad of sport types, each with their own norms and levels of aggression. This mixing of environments could give false results correlating aggression to sport type. Looking into the background of an athlete to find out the totality of their involvement in sport would be important for accuracy of data (Gardner and Janelle 2002). There are many problems inherent with the retrieval of data. Getting a large number of participants is expensive and logistically hard to complete. This is a limit to many of these types of studies and results in many shortcomings.

The characteristic that I would like to focus on is team involvement. Sports generally fall into two categories of team or individual sports, which have very distinct cultures associated with each. Team sports would generally have a more cohesive and influential moral culture in comparison to an individual sport (Vernacchia 2003). One study using a questionnaire showed that team sports create a significantly more cohesive group than the individual sports. The cohesive nature of team sports could also put an added pressure to conform to the team norms, outside of the individual attitudes regarding aggression (Brawley *et al* 1987). With more aggressive norms, an individual involved in team sports would be more likely then to engage in

aggressive behaviors than those involved in individual sports. Another study also showed more commitment to school and the school's values as a part of a team sport compared to an individual sport (Colley *et al* 1985). This self-identification with the team could skew the morals of individuals involved in team sports. In fact, it has been shown to skew an individual's self-image, which can drastically impact an individual's actions (Darden 1972). Previous research has shown that moral legitimacy judgments are different between team and individual sports (Krause and Priest 1993). The skewing of self-images and moral levels can severely impact the level of aggression displayed. Previous research has shown that team sports are generally treated more androgynously (Baker *et al* 2003). Being assigned more masculine traits can lead to more aggressive behavior due to the association between masculinity and violence. It is very possible that team sports will be more susceptible to aggressive attitudes. Some research has been done on team affiliation and aggressive behavior, but nothing that has yet been conclusive. Identifying the perceptions of aggressive behavior as a part of team participation would be an important addition to the available research.

This study will focus on the aggressive behaviors found in a variety of sports. The primary purpose of the study will be to look at the perception of legitimacy of aggressive acts performed by other athletes. Based on demographic and background information, the athletes will be split into several different categories. The demographic characteristics of primary importance are gender, contact vs. non-contact sports, and team affiliation. Using these characteristics, the sports could be investigated to see if the environment inside sports can have a significant effect on individuals. The information will also be split to see if responses change depending on the situation. This research could potentially confirm previous research performed and add on to the existing literature with knowledge of how team sports contribute to the

perception of aggression. Several hypotheses were created for this study, and although no specific hypothesis was created on race this variable will still be analyzed.

Hypotheses

1. Males will find aggressive behaviors as more acceptable in comparison to females
2. Contact level sport participants will be more accepting of aggressive behaviors in comparison to non-contact sport participants
3. Team sport participants will find aggressive behaviors more legitimate than individual sport participants

METHODS

Participants

Participants in the study were current Union College undergraduate students. They were recruited into the study through a school-wide email, requesting their participation in an online study. No financial incentives were provided for the students to participate. Of the 2,146 students the invitation was sent to, 307 took the survey, creating a 14.3% response rate. Of the 307 respondents, 183 were used in the study due to incomplete survey participation or access to complete data. Of the 183, 41.5% were male and 58.5% were female. Student ages ranged from 17-22, with 20 being the median age. In regard to race/ethnicity, the majority of student at 82.5% were Caucasian. The distributions for age and race/ethnicity of the participants can be found in Tables 1 and 2.

Table 1 Age of Respondents

Age		Frequency	Percent
Valid	17	1	.5
	18	37	20.2
	19	22	12.0
	20	41	22.4
	21	59	32.2
	22	23	12.6
	Total	183	100.0

Table 2: Race/Ethnicity of Respondent

Race/Ethnicity		Frequency	Percent
Valid	Hispanic	3	1.6
	African American	4	2.2
	Asian	16	8.7
	Caucasian	151	82.5
	Other	9	4.9
	Total	183	100.0

The study asked for past history of sport participation. The participants were asked what sports they had played in the past and the level of competition. This sport participation can affect the perceptions of aggressive acts. The participants are then categorized into variables for sport type and team affiliation based on what sports had influenced the participant the most in the past. The participants were categorized as either Contact Sport Type or Non-Contact Sport Type and as either Team Affiliated or Individually Affiliated. The method of categorization is creating a summation of all the sports influences. Based on the level of competition the sport participation including elementary school, middle school, recreational league, club team, high school, and college, ranked on a scale of 1-6 respectively. These scores are then summed in categories for each variable. Whichever category ranked a higher score, the individual was

assigned to that category. In the study, 50.3% of participants fell into the Non-Contact Sport Type, while 49.7% fell into the Contact Sport Type. 35.5% of participants fell into the Individual Affiliation category, while 64.5% fell into Team Affiliation.

Materials

The instrumentation used in the study was Sport Behavior Inventory. This is a well documented assessment tool to gauge acceptability of aggression in sports. It consists of different descriptions of sports situations and then scales of acceptability that the participant answers. David Conroy et al created this tool and used experts in sports aggression to make sure the sports situations were accurate and effective at analyzing sports aggression. In each situation, there is aggressive behavior in which one participant targets another participant. Vignette #1 has the prompt of “In a soccer game, a forward heads downfield on a breakaway, but she is stopped on a daring play by a defender. The next time the forward comes down the field, she intentionally kicks the ball directly into the defender’s stomach”. Vignette #2 is “A basketball center, who has been out-rebounded by his opponent all game, intentionally gives his opponent a hard elbow in the ribs as the ball comes off the rim”. Vignette #3 is “As an offensive player runs by a defender, the defender intentionally strikes the offensive player’s ankle with her field hockey stick”. Vignette #3 is “After the opposing football team’s running back is tackled and on the ground, a defensive lineman grabs the player’s foot and twists it”. Vignette #4 is “During the course of a baseball game, the pitcher unintentionally hits a batter on the arm with a pitch”. Vignette #5 is “A basketball guard is dribbling down the court on a fast-break after stealing the ball from her opponent. As the guard goes in for a lay-up, her opponent intentionally knocks her legs out from under her”. Vignette #6 is “Two ice hockey players struggle for the puck in the corner, the defensive player thrusts the end of his hockey stick into the side of the

opponent's body". These different vignettes cover a variety of sports and various levels of aggression in sport. The full survey can be found in Appendix A.

Once the participant has understood the behavior, they were asked 12 questions on their perceptions, ranking the behavior on a Likert scale from 1-7 ranging from Always OK to Never OK. They are broken up into 3 different blocks. The first is an overall question of simply "When playing this sport, how often is this action OK?". The next block asks the question "Is it ok for you to do this when playing this sport if you are..." with 6 sport level associated qualifiers. They include A) "elementary school player", B) "middle school player", C) "recreational league player", D) "high school player", E) "college player", and F) "professional player". The third block asks "Is it OK for a player to do this in the following situations?" with 5 qualifying sports situations. These include the statements A) "If they know they would not be caught by the official?", B) "If there are 2 minutes left in the game and it would help the team win", C) "If it would help the team win the championship", D) "If someone on the other team did it first", and E) "If this action results in someone getting seriously injured".

From these questions, 3 different indices were created to analyze the results. The first index combined the results for the first overall question across the 6 vignettes. This gives a good estimate of overall acceptability of sport aggression and takes out bias of any single sport. The higher the ranking in an index shows a higher level of acceptability to sports aggression. This index has rankings from 6-35. The second index included all of the sport level questions. Each of the 6 sport levels were summed and then added across all 6 vignettes. This gives an index that measures overall acceptability to see if it changes between different sport levels. This index ranges from 36-210. The last included all of the sport situation questions. It summed up all the

situations and summed across each of the vignettes. This will help to see how changes in sport situations affect the acceptability of aggression. This index ranges from 30-175. With all three indices, a more complete picture of the data can be visualized.

RESULTS

For each index, t-Tests were run. The t-tests were run for the test variables of Sex, Sport Type, and Team Affiliation. For each variable, a mean score on the index is found. The higher the means of for each variable shows a higher acceptability of aggressive actions. The significance shows whether or not this difference in the data can be explained by chance. The results for this can be found in Table 3.

Table 3: Index Scores by Sex, Sport Type, and Team Affiliation

<u>t-Test: Sex Variable</u>			
	Male	Female	Significance
Overall Index	17.7 (S.D. 6.19)	15.8 (S.D. 6.71)	0.056
Sport Level Index	93.6 (S.D. 29.69)	83.9 (S.D. 34.26)	0.101
Sport Situation Index	88.4 (S.D. 36.79)	74.5 (S.D. 34.26)	0.099
<u>t-Test: Sport Type Variable</u>			
	Contact	Non-Contact	Significance
Overall Index	18.8 (S.D. 7.2)	14.5 (S.D. 5.1)	0***
Sport Level Index	95.3 (S.D. 33.6)	82.8 (S.D. 32.1)	0.006*
Sport Situation Index	87.8 (S.D. 38.1)	72.9 (S.D. 32.1)	0.006*
<u>t-Test: Team Affiliation Variable</u>			
	Team	Individual	Significance
Overall Index	18.1 (S.D. 7.0)	14.6 (S.D. 4.7)	0***
Sport Level Index	94.2 (S.D. 31.1)	79.5 (S.D. 27.2)	0.002*
Sport Situation Index	85.1 (S.D. 37.1)	71.1 (S.D. 31.7)	0.013*

N=183

As shown in the table, the sex variable had higher means for males than for females. None of the indices were found to be significant though, so this difference cannot be attributed to the sex variable. Individuals categorized into contact sports were also shown to have higher ratings of acceptability than those involved in individual sports. This difference was found to be significant at the .01 level for each of the indices. This means that involvement in contact sports correlates positively to acceptability in sports. The team category was found to have higher means in acceptability of aggression compared to individual sports. This was found to be significant at the .05 level for the Sport Situation Index, but was significant at the .01 level for the other 2 variables. This shows that team affiliation is related to increased acceptability of aggression in sports.

A multi-variate regression was set up to find the relationship between the 3 different test variables and how they affect perceptions of aggression. This allows an analysis of each variable while holding other variables constant in order to see the effect of each individual variable. This helps to get a clearer explanation of the variance in the acceptability ratings. To do this, 7 regression models were created. Each of these models is then applied to each of the indices. In each regression, a constant is given to show the acceptability rating without the influence of any variable. Then each variable either adds on or subtracts from the constant with its effects. A positive influence indicates an increase in the acceptability of aggression. Each of these influences has a two-tailed significance attached. The regression also provides an r^2 analysis, which tells the proportion of variation in index scores that is explained by the variables present in the regression. This will allow for a more accurate prediction of the perception of aggression in sports. The regression analysis for the sports situation can be found in Table 4.

Table 4: Sport Situation Index Regression

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 4	Model 5
Constant	57.004*	58.023*	102.22*	79.178*	79.085*	51.694*	72.87*
Team Affiliation	14.063*				13.012*	7.527	8.261
Sport Type		14.875*		12.581*		10.77	8.006
Sex			-13.855*	-11.215*	-12.876*		-11.553
r ²	0.035	0.043	0.036	0.066	0.066	0.05	0.074

Model 1 replicates the results that were found in the t-Test above. It shows that team affiliation accounts for 3.5% of variation in perception of aggression in sports. The constant shows that individuals who played individual sports rank at 57 on the scale, while those individuals who played team sports rank 14 points higher on the scale. This difference was also found to be significant. Model 2 shows the effect of sport type, which accounts for 4.3% of the variation in the perceptions of aggression. It shows that non-contact individuals average at 58 on the scale, while contact sport participants rank 14.9 points higher. This difference between the two categories was significant. Model 3 shows the effect of sex, which accounts for 3.6% of the variance. It shows that males average at 102 points on the scale, with females averaging 13.9 points lower which was also found to be significant.

Model 4 includes sport type and sex, which accounts for 6.6% of the variance. The constant shows that male, non-contact individuals average 79.2 points. The effect of affiliating with a contact sport increases the mean 12.6 points and was found to be significant. This is 2.3 points lower than when just the sport type was included. The effect of being female lowers this scale by 11.2 points and was also found to be significant. This is 2.6 points lower than when the sex variable was used in the regression. Including both variables lowered the effect of each, and the constant also shifted greatly.

Model 5 includes team affiliation and sex, and accounts for 6.6% of the variation. The constant shows that male, individual sport participants averaged 79.1 points on the scale. The effect of being involved in a team raises this average 13 points and was found to be significant. This is 1 point lower than when only the team variable was included. The effect of being female was found to lower it 12.9 points while holding the team affiliation constant, and was also found to be significant. This also was lowered by about 1 point from when only that variable was included.

Model 6 shows the effect of sport type and team affiliation, which accounts for 5% of the variation. It shows that a non-contact affiliated individual averages 51.7 on the scale. Being involved in a team while holding the sport type constant raised that average 7.5 points, which was not significant. Being involved in contact sports raised the average 10.8 points with the team affiliation held constant, which was found not significant.

Model 7 in a more complete regression combining all 3 variables, which accounts for 7.4% of the variance. The constant for this model was 72.9 points. Being a member of a team raised the average 8.3 points, which was not significant. Contact sport had a positive impact of 8 points, but was also found to be non-significant. Being female had a negative effect of 11.6 points, which is significant. Each of the individual variables found the influence while holding the other variables constant. Table 4 shows the regression results for the sport level index.

Table 5: Sport Level Index Regression

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 42	Model 53
Constant	64.716*	70.283*	101.362*	80.427*	75.917*	61.269*	71.644*
Team Affiliation	14.759*				14.126*	10.766	10.911
Sport Type		12.519*		11.459*		6.675	5.509
Sex			-7.696	-5.382	-6.383		-5.569
r ²	0.053	0.042	0.015	0.049	0.064	0.061	0.069

Models 1-3 depict the same information as in the t-tests. Model 1 shows the effect of team affiliation, which accounts for 5.3% of the variance. Its effect by itself is significant, adding 14.8 points above the average for individual sport persons. Model 2 shows the effect of sport type, accounting for 4.2% of the variance. This was also significant, adding 12.5 scale points above the average 70.3 for being involved in contact sports. Model 3 shows that sex accounts for 1.5% of the variance and has a non-significant effect on affecting the average.

Model 4 shows that sport type and sex combine to account for 4.9% of the variance. Sport type has a significant effect of raising the scale 11.5 points for being involved in contact sports. This is 1 point lower than model 2, which shows the effect of adding the sex variable. Sex shows no significant effect in the model. Model 5 shows that team affiliation and sex explain 6.4% of the variation in the data. It shows that team affiliation increases the acceptability scores 14.1 points, while sex shows non-significant impact on the scores. The effect of the team affiliation variable was lower by .6 points by including the sex variable. Model 6 shows that sport type and team affiliation account for 6.1% of the variation in the data. While both variables increase the acceptability scores, neither has a significant effect on the results. Model 7 takes into account all 3 variables and holds each one constant. While this accounts for 6.9% of the variation in the data, it was found that none of the variables have a significant effect on the results while holding constant each other. The results for the overall index can be found in Table 6.

Table 6: Overall Index Regression

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7
Constant	18.053*	18.75*	16.854*	12.439*	12.819*	8.525*	18.329*
Team Affiliation	3.988*				3.842*	2.189	2.229
Sport Type		4.205*		3.988*		3.011*	2.763*
Sex			-1.913	-1.119	-1.579		-1.169
r ²	0.085	0.104	0.021	0.111	0.099	0.121	0.128

The overall index provides the broadest indication of perception to aggression in sports. Model 1 shows that team affiliation explains 8.5% of the variation in the data. It also shows that being a part of a team raises the acceptability of aggression significantly by 3.9 points. Model 2 shows that sport type accounts for 10.4% of the variation. It also shows that being involved in a contact sport raises the acceptability scale by 4.2 points, which was statistically significant. Model 3 shows that the sex variable explains 2.1% of the variation, but does not have a significant effect on the acceptability scale.

Model 4 shows that sport type and sex account for 11.1% of the variation in data. Sport type has a 3.9 point impact on the scale, while sex has a non-significant impact while holding each other constant. The effect of sport type was lowered by .2 points once the sex variable was included. Model 5 shows that team affiliation and sex account for 9.9% of the variation. Involvement in team sports has a significant effect of increasing acceptability 3.8 points while sex again has no significant impact. The effect of team affiliation was lowered by about .1 points when accounting for the sex variable. Model 6 contains team affiliation and sport type, which accounts for 12.1% of variation. Engaging in contact sports has a significant impact of 3 point increase in the scale, while team affiliation has no significant effect while holding the other variable constant. The effect of sport type was reduced by 1.2 points once team affiliation was

accounted for. Model 7 contains all 3 variables and accounts for 12.8% of the variation in the data. While both sex and team affiliation show no significant effect on the results, playing a contact sport has an increased effect on acceptability of aggressive sports actions. By accounting for the other two variables, the effect of sport type was reduced by 1.5 points.

Another analysis was conducted to determine differences between the different sports situations and also between the different sports levels. In this, each sports situation or sports level was given its own index going between the different vignettes. In each index, the scale ranges from 6-35, with higher means meaning more acceptable to aggression. From there, paired t-tests were run to compare each index. The results can be found in Tables 7 and 8.

Table 7: Sports Situation Paired t-tests

		Mean	Sig.	Std. Deviation	Std. Error Mean
Pair 1	SportSituationA	14.9500	.000	7.03644	.52447
	SportSituationB	17.2500		8.83042	.65818
Pair 2	SportSituationA	14.9944	.000	7.03083	.52551
	SportSituationC	18.5978		9.59314	.71702
Pair 3	SportSituationA	14.8827	.000	6.99781	.52304
	SportSituationD	18.6201		9.71625	.72623
Pair 4	SportSituationA	14.9775	.000	7.06943	.52988
	SportSituationE	10.7865		4.47080	.33510
Pair 5	SportSituationB	17.2597	.000	8.78660	.65310
	SportSituationC	18.5525		9.55300	.71007
Pair 6	SportSituationB	17.1326	.002	8.76762	.65169
	SportSituationD	18.5635		9.67830	.71938
Pair 7	SportSituationB	17.2444	.000	8.83405	.65845
	SportSituationE	10.7944		4.44670	.33144
Pair 8	SportSituationC	18.4667	.763	9.50942	.70879
	SportSituationD	18.6167		9.67879	.72141
Pair 9	SportSituationC	18.6034	.000	9.59191	.71693
	SportSituationE	10.8156		4.45004	.33261
Pair 10	SportSituationD	18.6201	.000	9.71740	.72631
	SportSituationE	10.7933		4.45915	.33329

N=183

Table 8: Sports Level Paired t-tests

		Mean	Std. Deviation	Sig. (2-tailed)	Std. Error Mean
Pair 1	SportLevelA	13.4494	6.0019	0.564	0.44986
	SportLevelB	13.5618	5.32122		0.39884
Pair 2	SportLevelA	13.4693	5.9909	0.251	0.44778
	SportLevelC	13.8492	4.88573		0.36518
Pair 3	SportLevelA	13.4693	5.9909	0	0.44778
	SportLevelD	15.6872	6.35048		0.47466
Pair 4	SportLevelA	13.4719	6.0077	0	0.4503
	SportLevelE	16.4831	7.07444		0.53025
Pair 5	SportLevelA	13.4382	5.99332	0	0.44922
	SportLevelF	16.3483	6.9471		0.52071
Pair 6	SportLevelB	13.5193	5.29422	0.217	0.39352
	SportLevelC	13.8011	4.88014		0.36274
Pair 7	SportLevelB	13.5193	5.29422	0	0.39352
	SportLevelD	15.674	6.36386		0.47302
Pair 8	SportLevelB	13.4778	5.2793	0	0.3935
	SportLevelF	16.3333	6.94914		0.51796
Pair 9	SportLevelC	13.8022	4.86666	0	0.36074
	SportLevelD	15.6923	6.35104		0.47077
Pair 10	SportLevelC	13.8066	4.8798	0	0.36271
	SportLevelE	16.4862	7.06683		0.52527
Pair 11	SportLevelC	13.7735	4.86468	0	0.36159
	SportLevelF	16.3757	6.9532		0.51683
Pair 12	SportLevelD	15.6961	6.36845	0	0.47336
	SportLevelE	16.4862	7.06683		0.52527
Pair 13	SportLevelD	15.6354	6.32189	0.005	0.4699
	SportLevelF	16.3757	6.9532		0.51683
Pair 14	SportLevelE	16.4222	7.0338	0.811	0.52427
	SportLevelF	16.3833	6.97183		0.51965

N=183

For the different sports situations, the mean scores were found to be significantly different from each other. In every pair but one, the mean index score was found to be increased as the situation became more “serious”. The situation in which the athlete was placed in had significant impact on the acceptability of sports aggression. The only pair that was found to be

non-significant was C) “If it would help the team win the championship”, D) “If someone on the other team did it first”.

For the sport levels, it was also clear that the majority of differences in sports levels were found to be significantly different. The pairs that were found to be non-significant with similar means were sport levels that were at a similar level. When the sport level changed drastically, the mean significantly changed. This shows that depending on the level of competition and age, the acceptability of aggression can change. In general, the highest levels and most competitive sports were found to be the most accepting of aggression.

DISCUSSION

Conclusions

Prior studies of sports aggression have shown that an individual’s past experiences can have a significant effect on their perceptions of aggression. Your previous involvements can change how you perceive actions far into the future. The significant results from these studies have analyzed variables such as sex, age, sport type, and others. Very little research has gone into the effect of team involvement on perceptions of aggression and this important variable should be explored. Alongside these other variables, it seems that team affiliation does have an impact on one’s perceptions.

As noted in the literature review, the sex of a participant can play an influential role in their perceptions. Men often show higher acceptance of sports aggression compared to women (Conroy *et al* 2001; Bredemeier 1985; Bredemeier 1986; Tucker *et al* 2001; Keeler 2007; Silva

et al 1983). This could be due to various impacts of differences in socialization towards violence between the sexes, biology differences in the levels of testosterone and other hormones, or other outside factors. However in the current study, sex was not shown to have a significant impact. While the average means in the t-tests in the indices were higher for males than females, none of the differences were found to be statistically significant. While this contradicts what the literature supports, it could be due to a number of reasons. The small sample size could have impacted the results, or there could be a low involvement in contact sports by females. The regression analysis showed some significant results of sex in some of the models, but these disappeared as the regression models became more complex. Overall in the study, the sex of the participant did not impact the perceptions of aggression. This does not support the hypothesis created for the study.

The sport type has consistently been found in the literature to affect an individual's perception of aggression. The higher the levels of contact, the more acceptable aggression was found to be. Participants in low-contact sports and non-contact sports were found to be less accepting of aggression. It appears that more exposure to violent sports and aggression socializes individuals into finding aggression in sports less disturbing. This finding was supported by our study results. The t-tests showed that those who were involved in contact sports had higher means across each of the three indices. These were all found to be significant results. This shows that contact sports are correlated strongly with high acceptance of aggression.

The regression analysis had varied results for the significance of sport type. In the two indices for Sport Level and Sport Situation, the sport type variable had similar results. It showed significance until the team affiliation was held constant. When the other variable was introduced

to the regression, the impact of sport type became non-significant, but the influence of sex did not have as strong an effect. In the Overall Index, the sport type variable was significant throughout. Regardless of the other variable's influence, the sport type exerted an influence over the perceptions of aggression. Participants who were involved in contact sports were more likely to perceive sports aggression as more acceptable than non-contact sport participants. This could be due to numerous reasons. Social norms vary widely between sports types, and contact sports could be rewarding more aggressive behavior. Also, contact sports allow for more aggressive plays within the rules. More exposure to aggressive plays in contact sports could shift the perception of what is "normal" in a sport. Contact sports would therefore train athletes to be more accepting of aggression. This regression analysis shows that sport type does solicit a change in perception, and is consistent with the previous literature. This supports the hypothesis laid out for the study.

The influence of team affiliation has not been adequately studied in regards to sports aggression, so there is no literature to compare the results to. It was hypothesized that team affiliation would increase the acceptance of aggression in sports. This hypothesis was weakly supported through the data. The t-tests revealed that across all the indices, affiliation with a team increased the acceptance to aggression. The means were all significantly higher for this contact sport categorization. This shows that team affiliation is strongly correlated with acceptance of aggression.

The regression analysis supports the influence of team affiliation less than the t-tests. In all the indices, being associated with a team sport was found to be significant up until sport type was included in the models. Sport type explained much of the influence of team affiliation. So in the last, more comprehensive models, team affiliation was found to be non-significant. This

could be due to the fact that many team sports are also contact sports, and the level of contact is a much more influential variable than team affiliation. Overall, team affiliation is correlated to increased acceptance of sports aggression, but being a part of a team does not change one's perception of aggressive sports actions.

Team affiliation can impact an individual's personality in various ways, and with the camaraderie that teams provide, it may allow for increased aggression. Being a part of a team can result in anonymity, which spreads out personal responsibility over the entire team. When this happens, increased aggression becomes possible. Also, affiliation with a team may increase motivation for success for an individual. With peers affected by one's actions, there is a stronger social force to do well. This could result in an individual resorting to aggressive tactics to achieve success. This would result in a higher perception of acceptance for aggression. This affiliation would provide an explanation of the results. The experiences found in contact sports and the associated variables exert an influence over the participants' perceptions of aggressive sports actions.

In support of Game Theory, the results show that the participants are using different reasoning techniques in sports than in normal life. This is shown by the difference in responses based on the different sports situations and sports levels. In Game Theory, people use varying morality brackets depending on the environment they are presented with. Sports offer a new environment for individuals to express themselves in. The results show that as the environment in the sport changed, the acceptability of aggression also changed. People were more acceptable of aggression in more "serious" sports situations.

This all goes to show that people use different moral precedents when in different situations. Our acceptability and morality shifts when engaging in sports. People will tend to suspend reality and normal moral rules to adopt a new moral stance once in a sport situation. This explains that Game Theory is a good perspective to gauge sports aggression and can help explain differences in how acceptable aggression can be.

The results also very clearly support the Social Learning Theory of sports aggression. This theory just goes to show that in these different sports, the social environments are different, and the individuals involved will be duly affected. The athletes will be socialized to the culture in the sports that they play, and each sport has a different culture. The cultures in contact sports must be significantly different compared to non-contact sports. Team sports must also have different social environments than individual sports, but that difference must be due to varying factors associated with the sport. Regardless, the difference in the cultures has a huge effect in the acceptance of aggression. It is important to realize the culture that athletes are signing up to be influenced by.

Limitations

This study has produced significant results regarding the hypotheses provided. However, the study also had its own limitations. The first limitation is simply the distinctiveness of the sample population. The study was strictly focused on Union College students. Union only has 2,146 students available. This small population limits the diversity in the sample and could allow bias to come into play. This small sample population may not be fully representative of the general population.

In the study, there were few differences in the demographics of the sample group. The vast majority of participants were Caucasian, with no other ethnic groups well represented. As a result of pulling from college students, the participants all had similar levels of education and class. The participants are all localized in one geographic area as well. The ages of the respondents were limited to 17-22 year olds. This is a small range of ages in a young population. All of this adds up to atypical demographics in the study. This makes the results found in this population difficult to expand to the general population of America. The low response rate of the participants also calls into question how representative the participants were of the sample population. The actual participants may have had extra reasons to participate, such as association with the study operator or association with the sociology department. This may have added extra motivation to respond to the survey and skewed the results.

Recommendations

The information contained in these types of studies should be used to change societal actions. Recognizing that these connections to our past can have large impacts on individuals, we must move forward to improve how we look at sports. Adapting our actions in sports and our decisions can help improve the quality of sports and keep athletes healthier, both physically and mentally.

At a high order level, the information contained in this study and others like it should be used to impact rule-making in sports. Rules in sport are made by committees, generally by experts in those sports, officials, and other administrative officials. Each of these individuals has had a different experience and exposure to sports in their lives. These people are responsible for creating rules that keep the integrity of the games, while still maintaining player safety. These

officials need to realize the influence these past experiences can have on their decision making. Many will be biased towards more aggression than others, which can be dangerous for the athletes who are playing.

In the rule making bodies, the officials should be monitored to see what their past experiences are. Too many individuals who have played contact team sports could see aggression as acceptable, and create rules that encourage aggressive play. This can be dangerous. Rule making bodies should have a mix of both in-sport experts and non-sport consultants. This will create a more balanced atmosphere, especially in more aggressive sports. These committees could then create safe and effective rules.

Knowledge of the influence of our past sport experiences should also be used in a public health campaign. It is clear that Social Learning has a significant impact on the development of our morality and what we deem as acceptable. Spreading this knowledge will help people make more informative decisions. There should be 3 main targets in this campaign. The first target should be the institution of coaches and athletic directors. These are main coordinators of sports in our society. There are millions of high school athletes in America every year, with the majority of high school students participating. Even more important is to reach out to the coaches of youth sports. Many children have years of involvement before they even get to high school. This is a very influential time as the children are learning social norms and what is expected in a sports setting. The prolific involvement in youth sports will affect millions of American children as they grow older in society. It is important to teach proper sport actions to the youth as well as while they are in high school, so that they are positively influenced by their sport experiences. Administrators need to realize the impact that these sports can have. It will influence what sports are allowed in the community and at the schools as well as the atmosphere

of athletics present. High praise for aggressive actions in sports can cause more participation in aggressive sports, and further influence others to accept aggression. It should also impact the hiring tendencies of Athletic Directors and coaches. These are the individuals who lay down the rules and socialize students in various sports. Their past experiences will affect their attitudes and influence the students. Recognizing the previous exposure of these officials could help curb this influence. A public health message to coaches and directors should help to positively influence youth athletics.

The public health initiative should also target parents. These are the people who are responsible for getting the youth involved in sports. Sports influences can be very powerful at the start of their sports careers, so taking action at very young athletes can make an enormous difference. Parents' decisions are what make the difference in their involvement. Realizing the influence of these sports on their overall perceptions of aggression should play a role in whether parents will involve their children in sports. Since parents are the main influencers of involvement at a young age, it is imperative to get the message from this study to them so that they can make more educated decisions for their children.

Finally, the public health message should target athletes themselves. These are individuals who are actively engaged in the sports and are being affected by their involvement. Making a decision to participate in a sport can be a big decision. Having access to more information will make this a more accurate decision. Athletes should know about the influence these sports can have on their perceptions. While sports often have many positive aspects, team and contact sports can clearly have a dangerous impact on the individual. This message should be clearer to young athletes.

Future Research

The topic of perception of aggression can be delved into much more deeply. There are many other variables to be considered to influence an individual's perceptions. Race is an important variable that has yet to be explored in this type of research. This demographic variable has been shown to affect social perceptions of aggression, so it should be an interesting topic to explore in more specific sports situations with other variables (Kohlstedt 2012; Pappas 2010). Minority groups could be influenced by team affiliation and contact sports differently than other demographics. In the same manner, social class should be explored for an impact on these perceptions. Though unexplored, these variables could play a major role in dictating the impact of sport exposure.

Another topic related to perceptions of aggression in moral development. Sports have been shown to impact the moral development of individuals (Bredemeier 1985; Bredemeier 1996). This influence could be resulting in shifting the perceptions of aggression and other moral dilemmas. Analyzing different variables in sport that affect moral development could prove to be significant. Running this same type of study and analyzing morality through different demographic metrics will be influential. Moral development can affect many aspects of an individual's behavior, so this is an important metric to analyze. With further research, the impact of sports exposure can be determined and policies can be taken to keep sports actions even safer.

This study shows the impact of one's past on future perceptions. This is a cliché that has been shown to be statistically true. Contact sports and team affiliation can play a role in

determining how you participate and watch sports. Everyone should be aware of these influences and see how it can affect them.

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APPENDIX*Appendix A: Survey Distributed Online*

Page 1

My name is Christopher Sullivan, and I am a student at Union College. I am inviting you to participate in a research study. Involvement in the study is voluntary, so you may choose to participate or not. A description of the study is written below.

I am interested in learning more about aggression in sports. You will be asked to complete an anonymous survey. This will ask you to either read descriptions of a sports situation or watch short clips of a sports play. The survey will then ask for the acceptability of this play in different situations. This will take approximately 20 minutes. The risk to you of participating in this study is exposure to aggressive acts from one individual to another. This risk will be minimized by keeping the descriptions broad and without specifics. If you no longer wish to continue, you have the right to withdraw from the study, without penalty, at any time.

All information will be kept anonymous and confidential. There will be no identifying characteristics allowed in the survey and your confidential information will be protected.

- I Choose to Participate
- I Choose to not Participate



Page 2

Welcome to this Sports Behavior Survey. In this survey you will be asked initial demographic information as well as responses to various sports situations. Please remember that this survey is anonymous and to respond as honestly as possible. At the end of each page, press the arrow button to move on to the next page.

What is your age?

- 17
- 18
- 19
- 20
- 21
- 21
- 21
- 22
- Other

What is your race/ethnicity

- Hispanic
- African American
- Asian
- Pacific Islander
- Caucasian
- Native American
- Other

What is your sex?

- Male
- Female

If you have participated in sports in the past, please list each sport and the highest level of participation.

Ex.) Football-High School
Soccer-Recreational League

If you have participated in sports in the past, please list the sport with which you most identify



After reading the situation described below, circle the number that best describes the way you feel about the situations. If you do not play the sport described, answer the way you would feel if you did play that sport.

In a soccer game, a forward heads downfield on a breakaway, but she is stopped on a daring play by a defender. The next time the forward comes down the field, she intentionally kicks the ball directly into the defender's stomach.

When playing this sport how often is this action OK?

Never OK Rarely OK Sometimes OK Always OK

Is it OK for you to do this when playing this sport if you are

	Never OK	Rarely OK	Sometimes OK	Always OK
An elementary school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A middle school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A recreational league player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a high school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a college player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a professional player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it OK for a player to do this in the following situations?

	Never OK	Rarely OK	Sometimes OK	Always OK
If they know they would not be caught by the official?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there are 2 minutes left in the game and it would help the team win?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If it would help the team win the championship game?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone on the other team had done it first?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If this action results in someone being seriously injured?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

After reading the situation described below, circle the number that best describes the way you feel about the situations. If you do not play the sport described, answer the way you would feel if you did play that sport.

A basketball center, who has been out-rebounded by his opponent all game, intentionally gives his opponent a hard elbow in the ribs as the ball comes off the rim.

When playing this sport how often is this action OK?

Never OK Rarely OK Sometimes Ok Always OK

Is it OK for you to do this when playing this sport if you are

	Never OK	Rarely OK	Sometimes	Always OK
An elementary school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A middle school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A recreational league player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a high school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a college player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a professional player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it OK for a player to do this in the following situations?

	Never OK	Rarely OK	Sometimes OK	Always Ok
If they know they would not be caught by the official?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there are 2 minutes left in the game and it would help the team win?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If it would help the team win the championship game?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone on the other team had done it first?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If this action results in someone being seriously injured?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

After reading the situation described below, circle the number that best describes the way you feel about the situations. If you do not play the sport described, answer the way you would feel if you did play that sport.

As an offensive player runs by a defender, the defender intentionally strikes the offensive player's ankle with her field hockey stick

When playing this sport how often is this action OK?

Never OK Rarely OK Sometimes OK Always OK

Is it OK for you to do this when playing this sport if you are

	Never OK	Rarely OK	Sometimes OK	Always OK
An elementary school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A middle school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A recreational league player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a high school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a college player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a professional player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it OK for a player to do this in the following situations?

	Never OK	Rarely OK	Sometimes OK	Always OK
If they know they would not be caught by the official?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there are 2 minutes left in the game and it would help the team win?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If it would help the team win the championship game?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone on the other team had done it first?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If this action results in someone being seriously injured?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

After reading the situation described below, circle the number that best describes the way you feel about the situations. If you do not play the sport described, answer the way you would feel if you did play that sport.

After the opposing football team's running back is tackled and on the ground, a defensive lineman grabs the player's foot and twists it.

When playing this sport how often is this action OK?

Never OK Rarely OK Sometimes OK Always OK

Is it OK for you to do this when playing this sport if you are

	Never OK	Rarely OK	Sometimes OK	Always OK
An elementary school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A middle school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A recreational league player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a high school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a college player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a professional player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it OK for a player to do this in the following situations?

	Never OK	Rarely OK	Sometimes OK	Always OK
If they know they would not be caught by the official?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there are 2 minutes left in the game and it would help the team win?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If it would help the team win the championship game?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone on the other team had done it first?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If this action results in someone being seriously injured?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

After reading the situation described below, circle the number that best describes the way you feel about the situations. If you do not play the sport described, answer the way you would feel if you did play that sport.

During the course of a baseball game, the pitcher unintentionally hits a batter on the arm with a pitch.

When playing this sport how often is this action OK?

Never OK Rarely OK Sometimes OK Always OK

Is it OK for you to do this when playing this sport if you are

	Never OK	Rarely OK	Sometimes OK	Always OK
An elementary school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A middle school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A recreational league player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a high school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a college player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a professional player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it OK for a player to do this in the following situations?

	Never OK	Rarely OK	Sometimes OK	Always OK
If they know they would not be caught by the official?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there are 2 minutes left in the game and it would help the team win?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If it would help the team win the championship game?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone on the other team had done it first?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If this action results in someone being seriously injured?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

After reading the situation described below, circle the number that best describes the way you feel about the situations. If you do not play the sport described, answer the way you would feel if you did play that sport.

A basketball guard is dribbling down the court on a fast-break after stealing the ball from her opponent. As the guard goes in for a lay-up, her opponent intentionally knocks her legs out from under her.

When playing this sport?

	Never OK	Rarely OK	Sometimes OK	Always OK
How often is this action OK?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it OK for you to do this when playing this sport if you are

	Never OK	Rarely OK	Sometimes OK	Always OK
An elementary school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A middle school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A recreational league player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a high school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a college player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a professional player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it OK for a player to do this in the following situations?

	Never OK	Rarely OK	Sometimes OK	Always OK
If they know they would not be caught by the official?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there are 2 minutes left in the game and it would help the team win?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If it would help the team win the championship game?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone on the other team had done it first?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If this action results in someone being seriously injured?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

After reading the situation described below, circle the number that best describes the way you feel about the situations. If you do not play the sport described, answer the way you would feel if you did play that sport.

Two ice hockey players struggle for the puck in the corner, the defensive player thrusts the end of his hockey stick into the side of the opponent's body.

When playing this sport, how often is this action OK

Never OK Rarely OK Somewhat OK Always OK

Is it OK for you to do this when playing this sport if you are

	Never OK	Rarely OK	Sometimes OK	Always OK
An elementary school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A middle school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
A recreational league player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a high school player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a college player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If you are a professional player?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Is it OK for a player to do this in the following situations?

	Never OK	Rarely OK	Sometimes OK	Always OK
If they know they would not be caught by the official?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If there are 2 minutes left in the game and it would help the team win?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If it would help the team win the championship game?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If someone on the other team had done it first?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
If this action results in someone being seriously injured?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for participating in this survey. This research is being performed to gauge individual factors that contribute to the perceptions of sport behaviors. Individuals see aggressive sports behaviors in different ways, depending on individual factors. This research was designed to see what factors such as age, gender, previous involvement in sport types have on the acceptability of sports aggression. The results can be used to further create safer sports environments and help prevent injuries suffered in sports.

