

Sport Fan Attitudes and Willingness to Commit Aggressive Acts

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Previous research in fan aggression has revealed that a large percentage of individuals admit a willingness to commit acts of aggression against opposing players or coaches (e.g., Wann et al., 2005). Fans high in team identification tend to endorse this willingness more strongly than those with low team identification. Further, research outside of the sport domain has found that individuals higher in trait aggression are more likely to engage in aggressive behaviors (e.g., Bettencourt et al., 2006). The current investigation was designed to examine how team identification relates to sport fans' willingness to commit acts of aggression against opponents of a self-selected favorite team. Additionally, trait aggression was analyzed as a potential predictor of aggression. The sample consisted of 200 college students at a mid-Atlantic university. Results indicated a weak relationship between team identification and willingness to commit aggressive acts against opponents, a relationship that was nearly eliminated when controlling for sport fandom. Trait aggression accounted for a significant amount of the variance for admitting a willingness to commit aggression against the opposition, with hostility being the most common predictor for the different aggressive acts. There were no differences in sport fandom, identification, or willingness to commit aggressive acts for professional or collegiate sport teams. The results suggest that spectators still possess hostile cognitions toward opponents of their favorite teams, and implications for reducing fan aggression and possibilities for future research are discussed.

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Aggression and violence in sport do not only occur within competition and among athletes, but can also be carried out by sport fans. Throughout history, many fans have aggressed against athletes. There are well over 150 incidents of this that have been documented (List of violent spectator incidents in sport, n.d.), and this is likely not an exhaustive list. One of the most famous of these incidents includes the stabbing of tennis star Monica Seles by an obsessed fan of her rival, Steffi Graff (Busbee, 2013). Seles stayed away from tennis for two years following this attack. Although this occurred over 20 years ago, these types of incidents still occur today (List of violent spectator incidents in sport, n.d.). Therefore, understanding factors that may contribute to these instances of fan aggression is an important area of investigation.

Aggression generally refers to any behavior that is directed toward another individual and is carried out with an immediate intent to harm the targeted individual. Aggressive acts can be driven by different motives, and therefore aggression has been categorized into two forms: instrumental and hostile (Buss, 1961). Hostile aggression is driven by the ultimate goal of causing harm to the victim, whereas instrumental aggression is often premeditated and carried out with the intent to achieve a goal other than harming the victim (Buss, 1961). These terms have also been applied to describe the behaviors of sports fans (Tenenbaum, Stewart, Singer, & Duda, 1997; Wann, 1997; Wann, Peterson, Cothran, & Dykes, 1999; Wann et al., 2005). Wann (1997) argues that because sports fans believe they can have an impact on the outcome of the game (Wann, Dolan, McGeorge, & Allison, 1994), the behaviors that they carry out with the intention to help their team by harming an opponent should be classified as acts of instrumental aggression. Acts of instrumental aggression carried out by a fan might include shouting at an opposing player in an effort to distract them or throwing an object at an opponent before a game in an attempt to injure them and ultimately impede their performance, thus benefiting their chosen team. On the other hand, according to Wann, Carlson, and Schrader (1999), shouting at or injuring an opponent out of anger would be deemed an act of hostile aggression because the action occurs with no intention to benefit the fan's team of choice. Therefore, if aggressive behavior is carried out by fans with the intention of increasing the chances for their teams to be more successful, it should be classified as instrumental rather than hostile aggression (Wann, 1997; Wann, Peterson, et al., 1999). The current study is a replication and extension of previous research conducted by Wann and colleagues (e.g., Wann, Peterson, et al., 1999; Wann et al., 2005) utilizing their conceptualization of instrumental aggression.

General Aggression Model

In an effort to understand the factors that influence fan aggression, Anderson and Bushman's (2002) general aggression model (GAM) is an effective framework as it considers both personal and situational factors that can lead to aggression. Through the consolidation of five domain-specific theories of aggression, the GAM presents the different facets of the process that can ultimately lead to an aggressive action. The process includes (1) the person and the situation (inputs), cognition, affect, and arousal routes that are impacted by the inputs, and (2) the actions that result from the appraisal and decision-making processes (outcomes; Anderson & Bushman, 2002). Both personal and situational inputs can lead to aggression through their influences on an individual's cognitions, affect, and arousal.

There are various situational features that are present in sporting arenas and at sporting events that can influence individuals' aggression. These features include aggressive cues that prime aggressive memories (Carlson, Marcus-Newhall, & Miller, 1990), aversive conditions such as hot temperatures and loud noises (Berkowitz, 1993), conditions that cause pain or discomfort (Berkowitz, Cochran, & Embree, 1981), the use of drugs or alcohol (Bushman, 1993), and scenarios that include interpersonal provocation, frustration, and incentives (Anderson & Bushman, 2002).

Personal factors that promote aggression amongst spectators include those that form an individual's personality and remain fairly stable over time. These factors include personality traits, gender, beliefs, attitudes, values, and long-term goals (Anderson & Bushman, 2002). In considering acts of instrumental aggression, an individual's long-term goals may influence their likelihood to carry out instrumental aggression if it helps them to achieve their goals (e.g., a victory for their favorite team). Their general tendency to be aggressive, or their trait aggression, is also a personal factor that typically remains stable over time. These components of personality influence an individual's behaviors and largely dictate the situations that they will typically seek out or avoid, thus representing their preparedness to exhibit aggressive behavior (Anderson & Bushman, 2002).

Team Identification

Team identification may be another individual factor that contributes to aggressive behavior. Team identification has been defined as "a fan's psychological connection to a team" (Wann, Peterson, et al., 1999, p. 597). One theory posited as to why aggressive tendencies might be stronger for highly identified fans is that they act aggressively in order to restore their social identity, which can be disrupted when their team loses (Wann, 1993). Thus, instrumental aggression, where an aggressive act might help the team win, would be especially likely to be greater in those higher in team identification.

The actual reason notwithstanding, research has consistently found that fans who identify strongly with a team are more likely to admit a willingness to commit acts of physical and verbal hostile and instrumental aggression toward opposing players and coaches as well as officials (Wann, Carlson, et al., 1999; Wann, Haynes, McLean, & Pullen, 2003; Wann, Peterson, et al., 1999; Wann et al., 2005). All of the aforementioned studies were conducted within a population of college students in regards to college teams, though similar results have been found among other populations such as youth baseball spectators (Hennessey & Schwartz, 2009; Wann, Weaver, Belva, Ladd, & Armstrong, 2015) and professional soccer fans in Iran (Kabiri, Rahmati, & Sharepour, 2016). However, a majority of these studies outside of college sport only measured verbal aggression with the exception of Wann et al. (2015). In their study, Wann et al. (2015) measured physical aggression with two items and did not find a relationship between this and team identification. Most of these studies assessed individuals' self-reported willingness to commit acts of aggression, but one study accounted for verbal acts of aggression that were actually committed at a basketball game and established that highly identified sports fans committed a greater number of these acts (Wann, Carlson, et al., 1999). Considered in conjunction with more general research on aggressive attitudes and behaviors (e.g., Bohner & Dickel, 2011; Kraus, 1995; Maio & Haddock, 2014; Nunes, Hermann, Maimone, & Woods, 2015), there appears to be evidence that self-reported willingness to aggress may be a relatively accurate measure of the likelihood of committing aggressive acts.

Trait Aggression

In studying fan aggression, it is necessary to assess whether there is a relationship between team identification and aggressive behaviors, or if fan aggression typically occurs due to a higher overall trait aggression. Trait aggression has been defined as "a propensity to engage in physical and verbal aggression, to hold hostile cognitions, and to express anger" (Bettencourt, Talley, Benjamin, & Valentine, 2006, p. 755). In essence, trait aggression is represented by a relatively stable pattern of aggressive thoughts and behaviors across settings and situations. Unfortunately, the results of several studies addressing the relationship between trait aggression and team identification have been equivocal. Although some studies have found no relationship between identification and trait aggression (e.g., Wann, Fahl, Erdmann, & Littleton, 1999; Wann, Peterson, et al., 1999; Wann, Melnick, Russell, & Pease, 2001), other studies have found positive relationships between them (e.g., Wann, Shelton, Smith, & Walker, 2002). However, this association was only present for men. Given the tenets of the GAM, more research on this subject is needed. Although trait aggression and team identification are considered personality factors, attendance at a sporting event is a situ-

ational factor. Individuals higher in trait aggression have been found to possess more hostile cognitions and engage in more aggressive behaviors, regardless of situational characteristics (e.g., Bettencourt et al., 2006; Giancola, 2002; Ruddle, Pina, & Vasquez, 2017; Tremblay & Belchevski, 2004). Therefore, it is important to understand if there is something unique about the combination of being a highly identified fan and being in the sport context that leads to aggressive tendencies, if more aggressive individuals tend to have higher identification with sport teams, or if more aggressive individuals are more likely to admit a willingness to commit aggressive acts regardless of team identification. This may have particular relevance in the setting of a sporting event, where individuals are likely to be surrounded by like-minded individuals and aggression is likely to be displayed.

Current Study

The results of previous studies (Wann, Peterson, et al., 1999; Wann et al., 2003; Wann et al., 2005) in which participants were asked about specific acts of physical aggression must be interpreted within the context of their limitations. First, previous studies contained relatively small sample sizes, and the studies with larger samples divided participants into groups with small cell sizes. Additionally, these studies pertaining to participants' willingness to commit aggressive acts have all been conducted at one university within the United States. Third, in almost all of the previous studies, participants were asked to rate their identification with a team specified by the researchers, which was usually not the team of the university the students attended. Thus, students were not allowed to select their favorite teams, which could have resulted in lower identification. Indeed, when participants were allowed to rate their identification with their favorite team in addition to their college's basketball team, the favorite team had a mean score 1.9 and 1.4 points higher on a five-point scale for men and women, respectively (Wann et al., 2002). Further, James and Ridinger (2002) found that fans, particularly female fans, had greater loyalty when asked about a specific favorite team compared with sports teams in general. Although they did not measure team identification, it seems likely that team loyalty is associated with team identification. Therefore, the results obtained from allowing participants to select their favorite team may provide more insight and generalizability to these results. Finally, the sports examined have all been at the collegiate level. It is unknown which level of sport the participants in Wann et al. (2002) selected for their favorite team, but this study did not examine willingness to commit acts of aggression.

Given the aforementioned limitations of previous research, the purpose of the current study was to replicate and extend the research conducted by Wann and colleagues (Wann, Peterson, et al., 1999; Wann et al., 2003; Wann et al., 2005) on participants' will-

ingness to commit anonymous acts of instrumental aggression (e.g., Wann, Peterson, et al., 1999). Additionally, we sought to examine the possibility that trait aggression might predict a person's willingness to commit anonymous acts of aggression against an opposing coach or player. Following suggestions from previous research (e.g., Wann et al., 2005) and in light of the limitations of the previously mentioned studies, this study examined willingness to commit anonymous acts of aggression in a group of college students for a self-selected favorite team, with an additional analysis of differences between those who listed their favorite teams at the collegiate and professional level of sport. The study included two hypotheses and two research questions:

Hypothesis 1: Team identification will be positively associated with willingness to commit anonymous acts of aggression, even after controlling for sport fandom (e.g., Wann, Carlson, et al., 1999; Wann, Peterson, et al., 1999; Wann et al., 2003; Wann et al., 2005; Wann et al., 2015).

Hypothesis 2: Based on studies of aggression outside of sport (e.g., Bettencourt et al., 2006; Giancola, 2002; Ruddle et al., 2017; Tremblay & Belchevski, 2004), overall trait aggression will predict a willingness to commit anonymous acts of aggression.

We also examined two research questions. Previous research on the relationship between trait aggression and team identification has been equivocal (Wann, Fahl, et al., 1999; Wann, Peterson, et al., 1999; Wann et al., 2001), so we examined these variables in this study. Additionally, this study represented an initial exploration of the differences in sport fandom and team identification based on different levels of sport. Going further, this difference has not been examined in the context of a willingness to commit acts of aggression based on the level of sport. Therefore, our two research questions were:

Research question 1: Is team identification associated with trait aggression?

Research question 2: Is there a difference in team identification and willingness to commit anonymous acts of instrumental aggression between fans of professional and college sports?

Method

Participants

A convenience sample of participants enrolled in introductory sport and exercise psychology undergraduate courses participated in the study. Introductory students were chosen because upon reaching the higher-level courses, students would have been exposed to this information regarding fan violence. Thus, the participation of only introductory students limits any potential biases that could arise within the results. These courses also serve

as university general education courses; therefore, the pool of participants includes students from varied academic backgrounds compared with recruiting participants from classes of students within the same degree program. In total, 211 questionnaires were returned. Of these 211, five could not be used due to lack of completion, and an additional six participants did not provide a favorite team. Thus, 200 ($n = 129$ male, $n = 70$ female, 1 did not respond) participants were used in the final analysis. The participants ranged in age from 18-31 ($M = 19.58$, $SD = 1.63$, 1 did not respond) and a majority identified as White ($n = 153$). The sample consisted primarily of younger students, with freshman ($n = 92$) and sophomores ($n = 60$) being the majority, followed by juniors ($n = 28$), seniors ($n = 18$), and fifth years and beyond ($n = 1$). One participant did not provide an age. Finally, 168 of the favorite teams listed were professional teams, and 32 were collegiate. Students did not receive any compensation for their participation in the study.

Instruments

Demographics. A demographic section was used to collect information related to age, gender, racial identity, year in school, favorite sports team, and level of competition of that team.

Sport fandom. Sport fandom was measured using the Sport Fandom Questionnaire (SFQ; Wann, 2002). The SFQ is a five-item Likert type scale questionnaire with anchors ranging from 1 (*strongly disagree*) to 8 (*strongly agree*). A sample item is, "My life would be less enjoyable if I were not able to follow sport." The items on the scale are summed for one total sport fandom score, ranging from 5 to 40. However, an electronic error with Qualtrics went unnoticed and resulted in a 7-point scale being used in the current study. Thus, the range in the present study was from 7 to 35. This was not deemed to be a concern as considerable research has found that altering the number of response options does not result in poorer psychometrics (e.g., Dawes, 2008; Hawthorne, Mouthaan, Forbes, & Novaco, 2006; Webster et al., 2014, 2015). Cronbach's alphas on this scale are typically high as they hover around .95 (Wann, Peterson, et al., 1999; Wann et al., 2002; Wann et al., 2003; Wann et al., 2005). Through the use of multiple samples and analyses, Wann (2002) found evidence for reliability and validity of the SFQ. The Cronbach's alpha in this study was $\alpha = .90$.

Team identification. Team identification was measured using the Sport Spectator Identification Scale (SSIS; Wann & Branscombe, 1993). The scale consists of seven items on a 7-point Likert type scale. Anchors vary depending on the question, but in general, lower scores indicate a lower degree of identification (see Wann & Branscombe, 1993). Sample items include, "How important is it to you that the team listed above wins?" and "How

strongly do your friends see you as a fan of the team listed above?" These two examples represent items with differing anchors. The instructions on the questionnaire reminded participants to answer based on the team that they selected at the beginning of the survey in the demographics section. The items of the SSIS are summed to provide a total team identification score ranging from 8 to 56. The Cronbach's alpha for the SSIS has also been found to be quite high, between .86 and .96 (e.g., Dimmock & Grove, 2005; Greenwood, Kanters, & Casper, 2006; Wann & Branscombe, 1993; Wann, Peterson, et al., 1999; Wann et al., 2002). The reliability was adequate in the current sample ($\alpha = .92$).

Willingness to commit acts of aggression. The willingness of participants to commit anonymous acts of aggression was measured using the Limits of Behavior Scale (LOBS; Russell & Baenninger, 1996), with additional questions added by Wann and colleagues (2005). The LOBS was created to measure the most daring, occasionally outrageous acts that people would engage in. A sample item includes, "If it was arranged that you could never be identified nor arrested and there was no possibility of retaliation, would you personally kill someone you knew and thoroughly hated?" This item served as the main stem for the additional items added by Wann et al. (2005), which are the foci of the current study. The six items added by Wann et al. measure willingness to commit anonymous acts of instrumental aggression against opposing players or coaches. The following stem preceded each of the six additional questions to illustrate instrumental aggression: "If I could remain completely anonymous and there was no possibility of arrest or retaliation, I would..." (Wann, Peterson, et al., 1999). Three levels of violent acts are then inquired about in reference to a player and coach, totaling six items. The inquiries assess individuals' willingness to do the following: "trip the star player/coach of the opposing team immediately prior to the game, thereby injuring them so that they could not participate," "break the leg of the star player/coach of the opposing team immediately prior to the game, thereby injuring them so that they could not participate," and "murder the star player/coach of the opposing team immediately prior to the game." Participants answered on a 7-point Likert type scale ranging from 1 (*definitely would not*) to 7 (*definitely would*). No psychometric data is available for these questions.

Trait aggression. Trait aggression was measured using the Brief Aggression Questionnaire (BAQ; Webster et al., 2014). The BAQ is a 12-item shortened version of the Buss-Perry Aggression Questionnaire (Buss & Perry, 1992). The BAQ consists of four subscales like the original questionnaire (i.e., physical aggression, verbal aggression, anger, and hostility), but with only three items each. The three items for each subscale were determined using the highest loadings from a factor analysis (Webster et al., 2014). In the validation of the scale, the researchers used varying response ranges, including a five, seven, and nine

point Likert type scale (Webster et al., 2014). In the current study, a commonly recommended seven-point scale was used (Dawes, 2008), ranging from 1 (*extremely uncharacteristic of me*) to 7 (*extremely characteristic of me*). There is one reverse-scored item, which is “I am an even-tempered person.” Evidence of convergent and discriminant validity with other self-report measures has been established using a total sample of over 4,000 individuals (Webster et al., 2014, 2015). Cronbach’s alphas for the subscales have been found to be less than the generally acceptable .70 cutoff (Webster et al., 2014, 2015), but studies have also found reliability estimates between .70 and .86 (Saleem, Anderson, & Barlett, 2015; Saleem, Barlett, Anderson, & Hawkins, 2017). Given that Cronbach’s alpha is reflective of test length, it is understandable that a three-item scale might have a lower reliability (Cortina, 1993; Schmitt, 1996). Therefore, given the sound methodological and theoretical underpinnings of the BAQ, the combined psychometric evidence for its reliability and validity make it an appropriate measure to use. In the current sample, the overall BAQ had a Cronbach’s alpha of $\alpha = .79$, whereas the subscales for Physical Aggression, Verbal Aggression, Anger, and Hostility had Cronbach’s alphas of $\alpha = .77$, $.72$, $.72$, and $.59$, respectively.

Procedure

After receiving university ethics approval, we attended introductory undergraduate sport and exercise psychology classes to recruit participants for the study. Prior to the beginning of each class, the instructor forwarded an email to the students enrolled in that particular class with a letter explaining the purpose of the study. The email contained a link to the online study, hosted through Qualtrics (Provo, UT). In addition, the researcher who was present verbally read the instructions for participants. The purpose of attending the class was to increase response rate; however, because it was an online link, the participants could have completed the survey outside of class as well. The participants first completed the demographic portion, followed by the SFQ, the SSIS, the LOBS, and the BAQ, similar to previous studies (Wann et al., 2002; Wann et al., 2003; Wann et al., 2005). The survey took 10-15 minutes to complete and upon completion of the survey, participants were debriefed.

Data Analysis

All data were analyzed using SPSS v.24 (Chicago, IL) with all p values set at $<.05$. We calculated means and standard deviations for the variables and created a frequency distribution table to show willingness to commit aggressive acts. We used zero-order and partial correlations to examine the first hypothesis that team identification would be positively associated with willingness to commit anonymous acts of aggression against opponents, even after controlling for sport fandom. In order to answer the second hypothesis

that trait aggression would predict a willingness to commit anonymous acts of aggression, we conducted four forced-entry multiple regression analyses using the four subscales of the BAQ as predictors of each of the four additional questions about willingness to commit acts of aggression. We did not carry out regression analyses for the questions relating to murder because of the very low numbers among those who admitted a willingness to do so. Finally, we examined the first research question using zero-order correlations and the second research question via the utilization of Mann Whitney U tests.

Results

Descriptive results can be seen in Tables 1 and 2. Means and standard deviations for the variables can be seen in Table 1, whereas a frequency distribution of the percentages of each response appears in Table 2. As shown in Table 2, a large portion of individuals admitted at least some willingness to commit an act of aggression. This number decreased as the severity of the act increased. In the current sample, 53% and 45% admitted some willingness to trip a player or coach, respectively, whereas only 35% and 39% admitted some willingness to break the leg of a player or coach. Surprisingly, 17% admitted a willingness to murder a player or coach.

Initial zero-order correlations examined the relationship of team identification with the six anonymous acts of aggression. These results can be found in Table 3. As shown in the table, there was a weak relationship for all participants between identification and a willingness to trip a player, trip a coach, break a player's leg, and break a coach's leg. When broken down by gender, the only significant relationship was with breaking a coach's leg for males, $r(127) = .15, p = .05$, which represents a small effect size (Cohen, 1988). Additionally, past research indicated a medium strength relationship between sport fandom and team identification (e.g., Wann, Peterson, et al., 1999; Wann et al., 2002; Wann et al., 2005). This relationship was also present in the current sample as the two were positively correlated, $r(196) = .55, p < .001$, which represents a large effect size (Cohen, 1988). Therefore, to maintain similarity in the replication analyses, partial order correlations were conducted while controlling for sport fandom. As can be seen in Table 3, upon controlling for sport fandom, the only significant relationship that remained was between team identification and willingness to trip a player, $r(195) = .13, p = .03$, which represents a small effect size (Cohen, 1988). There were no significant relationships when broken down by gender.

We also used zero-order correlations to examine the relationship between team identification and trait aggression. There was a positive relationship between these two variables, $r(197) = .20, p < .01$. Team identification was significantly correlated with the

subscales of physical aggression, $r(197) = .16, p = .03$, and verbal aggression, $r(197) = .19, p < .01$. All of these represent small effect sizes (Cohen, 1988).

We conducted four multiple regression analyses to examine whether any of the subscales of the BAQ would predict the conditions of tripping a player/coach and breaking the leg of a player/coach, respectively. These results can be seen in Table 4. An examination of tolerance, variance inflation factors, and correlations indicated that multicollinearity was not an issue in the sample. There were no gender differences in BAQ scores, so gender was not included as a control variable, $t(197) = 1.47, p = .14$. In regard to tripping a player, the overall model accounted for a significant amount of variance, $F(4, 195) = 4.39, p < .01$, adjusted $R^2 = .06$. None of the individual subscales predicted a significant amount of the variance. The overall model for tripping a coach accounted for a significant amount of variance as well, $F(4, 194) = 6.72, p < .001$, adjusted $R^2 = .10$. There were two significant predictors to this equation. Physical aggression significantly predicted a willingness to trip the coach ($\beta = .17$ [95% CI = .02, .37], $t = 2.16, p = .03$) as did hostility ($\beta = .22$ [95% CI = .10, .49], $t = 2.98, p < .01$). The overall model for breaking a player's leg accounted for a significant amount of variance, $F(4, 195) = 3.20, p = .01$, adjusted $R^2 = .04$. Once again, hostility emerged as a significant predictor ($\beta = .15$ [95% CI = .01, .39], $t = 2.03, p = .04$). In the final analysis, the overall model accounted for a significant amount of variance toward breaking the leg of a coach, $F(4, 195) = 4.68, p = .001$, adjusted $R^2 = .07$. Hostility emerged as a significant predictor in this model as well ($\beta = .20$ [95% CI = .07, .44], $t = 2.67, p < .01$).

Finally, we examined differences in sport fandom and team identification by the level of sport of the participants' favorite teams using a Mann-Whitney U test due to the nonnormal distribution of the data. Levels of sport fandom did not differ in those whose favorite team was a college team (Mdn = 30.00) compared with those whose favorite team was a professional team (Mdn = 31.00), $U = 2526.50, z = -.54, p = .59, r = .04$. Likewise, levels of team identification did not differ for those who named a college team as their favorite team (Mdn = 47.5) compared with those who named a professional team as their favorite team (Mdn = 47.00), $U = 2494.50, z = -.60, p = .55, r = -.04$. Both of these represent small effect sizes (Fritz, Morris, & Richler, 2012). This lack of differences suggested that there would also be no difference in participants' willingness to commit anonymous acts of aggression, so no further analyses were conducted.

Table 1

Means and standard deviations for the measures

Measure	All Participants		Males		Females	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
SFQ	29.96	5.32	31.14	4.99	27.69	5.28
SSIS	45.54	9.27	47.89	7.11	40.94	11.11
Trip Player	2.6	1.95	2.78	2.06	2.22	1.69
Trip Coach	2.19	1.76	2.37	1.90	1.78	1.38
Break Leg Player	2.01	1.70	2.16	1.83	1.68	1.39
Break Leg Coach	2.02	1.68	2.17	1.83	1.66	1.27
Murder Player	1.53	1.35	1.67	1.52	1.18	0.81
Murder Coach	1.46	1.26	1.59	1.43	1.13	0.57
BAQ Total	4.28	1.02	4.37	1.00	4.15	1.07
Physical Aggr	4.07	1.61	4.34	1.60	3.54	1.54
Verbal Aggr	4.51	1.43	4.57	1.39	4.41	1.53
Anger	4.2	1.18	4.17	1.14	4.26	1.27
Hostility	3.97	1.29	3.92	1.38	4.06	1.15

Notes. SFQ= Sport Fandom Questionnaire, SSIS= Sport Spectator Identification Scale, BAQ= Brief Aggression Questionnaire, Physical Aggr= Physical Aggression, Verbal Aggr= Verbal Aggression

Table 2

Frequency distributions (percentages) of responses to the six anonymous instrumental aggression items

Item	Response						
	1	2	3	4	5	6	7
<i>Willingness to trip opposing player</i>							
All participants	47	13	12	10	7	6	7
Males	44	12	12	9	7	9	8
Females	53	14	11	10	6	1	4
<i>Willingness to trip opposing coach</i>							
All participants	55	17	9	5	6	3	5
Males	53	13	12	5	7	3	7
Females	61	23	3	4	4	3	1
<i>Willingness to break leg of opposing player</i>							
All participants	65	13	3	8	6	3	4
Males	61	13	2	9	5	3	5
Females	71	13	3	4	6	1	1
<i>Willingness to break leg of opposing coach</i>							
All participants	61	17	5	6	5	2	5
Males	59	15	5	7	5	2	6
Females	66	20	4	3	4	1	1
<i>Willingness to murder opposing player</i>							
All participants	83	5	4	3	3	1	3
Males	78	6	5	3	4	1	4
Females	93	1	1	1	1	1	0
<i>Willingness to murder opposing coach</i>							
All participants	83	7	3	3	2	1	3
Males	79	8	3	4	2	1	4
Females	91	4	1	3	0	0	0

Note: Responses ranged from 1 (definitely would not) to 7 (definitely would). Sum of percentages for each item may not equal 100 due to rounding.

Table 3

Correlations between team identification and responses to the six anonymous instrumental aggression items, without and with controlling for sport fandom.

Measure	Trip Player	Trip Coach	Break Leg Player	Break Leg Coach	Murder Player	Murder Coach
All Participants	.17**	.13*	.13*	.16**	.11	.09
Males	.11	.10	.09	.15*	.09	.05
Females	.16	.07	.10	.11	-.02	-.01
All participants	.13*	.10	.09	.10	.06	.05
Males	.10	.09	.08	.12	.07	.04
Females	.16	.01	.03	-.02	-.06	-.08

Note. Correlations above the thick black line are zero-order correlations and correlations below the line are first-order partial correlations controlling for sport fandom. ** $p < .01$, * $p < .05$

Table 4

Results of multiple regression analyses

Dependent Variable	Predictors Entered	Adjusted R^2	B	SE B	β	t
Trip Player		.06				
	Physical Aggression		.16	.10	.13	1.58
	Verbal Aggression		.11	.12	.08	.93
	Anger		.11	.14	.07	.81
Trip Coach	Hostility		.17	.11	.11	1.53
		.10				
	Physical Aggression		.19	.09	.17	2.16*
	Verbal Aggression		.06	.10	.05	.54
Break Leg Player	Anger		.03	.12	.02	.27
	Hostility		.29	.10	.22	2.98**
		.04				
	Physical Aggression		.06	.09	.06	.70
Break Leg Coach	Verbal Aggression		.11	.10	.09	1.09
	Anger		.04	.12	.03	.34
	Hostility		.20	.10	.15	2.03*
		.07				
	Physical Aggression		.13	.09	.13	1.53
	Verbal Aggression		.09	.10	.07	.87
	Anger		-.01	.12	-.10	-.12
	Hostility		.25	.10	.20	2.67**

Note. * $p < .05$, ** $p < .01$

Discussion

The results of the current study supported the hypotheses that (1) team identification would have a positive relationship with a willingness to commit anonymous acts of aggression against opponents, and (2) trait aggression would predict a willingness to commit anonymous acts of aggression. Additionally, team identification and trait aggression were positively related, and an initial exploration of team identification and fans' willingness to commit anonymous acts of aggression within different levels of sport suggested that there were no differences between those who supported a college team compared to a professional team. This also suggests that there would be no difference between fans of college and professional sports teams in regard to their willingness to commit anonymous acts of instrumental aggression towards an opponent of their favorite team.

Descriptively, a sizeable portion of the participants in this study responded that they had some willingness to at least consider acting aggressively against an opponent or coach, in support of previous research (Wann, Peterson, et al., 1999; Wann et al., 2003; Wann et al., 2005). The biggest difference was in sports fans' willingness to murder a player or coach, as 17% of participants admitted at least some willingness to consider this act, whereas in previous studies that range has only fallen between 3% and 5% (Wann et al., 2003; Wann et al., 2005). The willingness to commit aggressive acts decreased as the act became more severe, which also aligns with previous research findings (Wann, Peterson, et al., 1999; Wann et al., 2003; Wann et al., 2005). Although nearly twenty years have passed since the first publication in this area (Wann, Peterson, et al., 1999), it appears that college students still report a willingness to harm opponents or coaches, and possibly to an even stronger degree.

Team identification was also found to have a positive relationship with an individual's willingness to commit acts of aggression towards opponents of their identified favorite team. This supports previous findings (Wann, Carlson, et al., 1999; Wann, Peterson, et al., 1999; Wann et al., 2003; Wann et al., 2005; Wann et al., 2015), which suggest that a stronger identification with a team warrants a greater willingness to harm an opponent if it will contribute to the success of that team. According to social identity theory, the groups to which people belong serve as sources of pride and self-esteem and members of the out-group (anyone who is not part of that particular group) can present a threat to these positive emotions (Tajfel & Turner, 1986). When sport fans highly identify with a specific team, the success of the team plays an important role in their identity (Wann, 1993), which prompts them to support that team in any way possible. This can include fans carrying out aggressive acts against the out-group, particularly the teams, players, coaches, and officials who provide a direct threat to their favorite team's success, as many fans have actually done (List of violent spectator incidents in sport, n.d.).

It appears that the element of sport fandom was at play here as well, possibly having a greater influence than team identification on individuals' willingness to aggress, as the relationship between team identification and willingness to aggress disappeared when controlling for sport fandom. This shows that sport fans may feel a stronger need to protect the aspect of their individual identity associated with being a sport fan in relation to other fans more than they need to protect their identity with a given team. Based on these findings, team identification and sport fandom are also personal factors that could contribute to aggressive behaviors among fans in sport-specific settings.

Additionally, team identification was weakly associated with trait aggression. This is in contrast to some previous studies (e.g., Wann, Fahl, et al., 1999; Wann, Peterson et al., 1999; Wann et al., 2001). However, Wann et al. (2002) did find a positive relationship was present only for men. Further, trait aggression was found to be a predictor of willingness to commit acts of aggression among sports fans. Within the context of the GAM, trait aggression is a personal factor that can influence aggressive behaviors, particularly in sport settings that lend themselves to hostility and violence. In this study, hostility played the greatest role in determining a person's willingness to commit acts of aggression compared with the other components of trait aggression (i.e., physical aggression, verbal aggression, and anger). Therefore, situational factors that could create a more hostile environment for sports fans (e.g., alcohol, weather, on-field violence, proximity to other fans) should be considered, as individuals who have more hostile cognitions will already be primed to react in an aggressive manner in these settings (e.g., Bettencourt et al., 2006).

An exploration of team identification and willingness to commit anonymous acts of aggression against the opposing team among fans who supported either a college or professional sports team showed no differences between these two groups, suggesting that the level of the team with which someone identifies does not determine their likelihood to commit acts of aggression. This aligns with previous research, which has found that the motivation to be a fan of a particular sport is not influenced by the level of the sport but the sport itself or type of sport (e.g., individual or team, stylistic or nonstylistic; Wann, Grieve, Zapalac, & Pease, 2008). Many components of college sports now mirror professional sports, such as television contracts between sporting networks and organizations, revenue-driven marketing, and the expectations of and time demands placed on the athletes. These similarities narrow the gap between collegiate and professional sports, which could explain the lack of differences in team identification between fans at each level. The extent to which an individual identifies with their favorite team, as well as their identification as a fan of that particular sport, appear to be more impactful factors of sport fan identity than the level of sport that they take interest in.

Situating team identification and trait aggression into the larger context of the GAM will provide a better understanding of fan behavior. Although a fair proportion of the variance in willingness to commit aggressive acts against opponents was accounted for with only one variable (i.e., trait aggression), over 90% of the variance was left unexplained. Though the current study focused on personal factors, combining team identification and trait aggression with other situational and environmental features of the GAM is likely to lead to a more complete understanding of what leads fans to act aggressively. For example, alcohol consumption, hot temperatures, and noise can all increase the likelihood of aggression (e.g., Allen, Anderson, & Bushman, 2018; Giancola, 2002; Parrot & Eckhardt, 2018). All of these features are common occurrences at sporting contexts, thus making it a prime arena for aggression.

However, there are also other situational determinants that can combine with team identification and trait aggression to lead to aggressive behavior. The first of these is game outcome. In one study, fans had the highest willingness to aggress against opponents or coaches when they identified highly with their team and their team was losing (Wann et al., 2005). As noted previously, Wann's (1993) self-esteem maintenance hypothesis suggests that individuals will act to restore their self-identity, which could become disrupted by a loss. When an individual's social identity is more salient, as in the case of a sport fan with high team identification, they are more likely to perceive threats from out-group members, which could ultimately lead to an increase in aggressive behavior (Densley & Peterson, 2018). In the context of sport, this threat from an out-group member could be a team's loss.

Provocation is another important situational determinant with relevance to the sport fan context. Being in a provoking situation has been identified as a contributor to increased aggression (Allen et al., 2018; Bettencourt et al., 2006), especially for those high in trait aggression (Bettencourt et al.). Given that trait aggression predicted a willingness to commit aggression in the current study, this is an important finding because attending a sporting event can be provoking in multiple ways. First, a sporting event can be provoking in the physical sense. Dense crowds leading to unwanted physical contact, alcohol, and verbal sparring with rival fans could contribute to increased provocation. Second, the potential threat to identity of a highly identified fan that can be experienced from a loss may be considered a provocative situation. Thus, the desire to maintain one's social identity combined with higher trait aggression could produce aggressive behavior. Team identification was associated with trait aggression in the current sample, so this combination is plausible.

The results of this study carry practical implications for reducing fan aggression. Goldstein (2012) noted two types of measures to reduce fan aggression: intrinsic and extrinsic. Intrinsic measures of violence attempt to change attitudes whereas extrinsic attempt to

alter the possibilities for and consequences of engaging in violence. Intrinsic measures are much more difficult to implement effectively because they involve attitudinal change. One possibility for creating this change is to alter the type of media messages present at athletic events. Exposure to prosocial media has been identified as a protective factor against committing acts of aggression (Allen et al., 2018; Goldstein, 2012), and media outlets often unwittingly encourage violence and aggression amongst spectators. Thus, stadiums should be aware of what is shown on replay, how different types of music are used, and the messages sent to fans. For example, stadiums sometimes play songs when the opposing team commits a violation that might encourage fans to cheer in an aggressive manner. Shoham, Dalakas, and Lahav (2015) suggest that stadiums be aware of how they portray the other team, as strong identification can lead to greater out-group bias (Wann & Grieve, 2005) and aggression. This could unintentionally serve as a form of provocation that brings out aggressive behaviors in those who are already higher in trait aggression. Although this appears to be an extrinsic measure, the underlying goal of displaying and rewarding less violence is to reduce its acceptance amongst the crowd, which is an attitudinal change.

There are often extrinsic measures that can be taken to reduce fan aggression, and these can have a quicker impact on the acts of aggression that occur. When it comes to reducing spectator aggression against players and coaches, the best measure is to increase security near the competition area and reduce the possibility for interaction between fans and players. For example, some hockey arenas draw the curtains when officials and opposing players and coaches enter and leave the ice so that fans cannot throw any objects at them. Similar creative precautions could be instituted in other sporting arenas, especially those in which contact sports are played and where aggression is more likely (e.g., Arms, Russell, & Sandilands, 1979). Highly identified fans have reported less perceived behavioral control at events (Dimmock & Grove, 2005), so it is important that external measures are used.

There were a few limitations of this study. The first is that the sample consisted of college students at a university with a history of celebratory fan violence and the acceptance of norms around fan aggression. This may have influenced the results and might explain why the willingness to murder a player or coach was three times higher than in previous studies (e.g., Wann et al., 2005). A second limitation of this study was the self-report nature of responding to outrageous questions. It is possible that students completing the surveys selected responses closer to the "definitely would" end of the scale because the questions were outrageous. However, there are two reasons this likely did not influence the results. The first is that the murder question has been asked to students previously (Wann et al., 2005) with much lower willingness. The second is that we examined the responses of those individuals who did select responses on the higher end of the scale, and they all had very

high scores of sport fandom, team identification, and trait aggression. Thus, their selection was in line with our hypotheses and likely accurate. Nonetheless the nature of the questions may have influenced responses. Third, we examined very few variables in relation to aggression, leaving much of the variance unexplained. Finally, the administration of the surveys in the same sequence could have produced order effects that influenced responses.

Despite these limitations, the study adds to the literature in several ways. It was the first study to find weak correlations between team identification and willingness to commit aggressive acts against opponents, suggesting that this trait may not be as important as previously thought. It was also the first study to find that controlling for sport fandom essentially eliminated the relationship between team identification and aggression. Second, the larger sample at a new university provides more generalizability to the results. Additionally, the high percentages of individuals who indicated a willingness to act aggressively against an opponent or coach suggests that more research is still needed in the area of fan aggression to reduce aggressive acts from occurring. Third, it was the first study to examine differences in team identification at the college and professional level, and the lack of differences suggest that similar measures to reduce fan aggression could be effective in both settings. Finally, hostility was found to be the most relevant predictor of a willingness to commit aggressive acts, whereas physical aggression was found to be relatively unimportant.

There are several areas for future research that stem from this study. One area for potential research would be a qualitative exploration of the fans who do admit a strong willingness to commit aggressive acts in order to gain a better understanding of why they would engage in such behaviors and what role their team identification plays in those behaviors. Due to the overall low amount of variance that was explained by the variables, future research should also examine more situational factors using the GAM as a framework. These studies should also attempt to recruit older adult participants outside of the college setting. Finally, further exploration of the role hostility plays in the aggressive behavior of sports fans is warranted.

Conclusion

The current study revealed that team identification has a weak, but positive relationship with willingness to commit anonymous acts of aggression against opponents. However, that relationship disappeared (except in the case of tripping a player) when controlling for sport fandom. Hostility emerged as the superior predictor of willingness to commit aggressive acts, although physical aggression was a significant predictor of willingness to trip a coach. Given that nearly 50% of the non-clinical population has reported having a homicidal fantasy (Wann et al., 2005), and that the number of violent incidents committed

by fans against athletes continues to grow (List of violent spectator incidents in sport, n.d.), understanding the antecedents of fan aggression continues to be important. As Huesmann (2018) indicates, aggression is always the product of personal dispositions and situational determinants, so future research should continue to explore how personality traits and the sport environment produce aggressive behavior.

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