CHEATING IN A SPORTS MEDIA CONTEXT: CHILDHOOD SPORTS EXPERIENCE, MORAL FOUNDATIONS, AND SOCIAL EXCHANGE

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ABSTRACT

CHEATING IN A SPORTS MEDIA CONTEXT: CHILDHOOD SPORTS EXPERIENCE, MORAL FOUNDATIONS, AND SOCIAL EXCHANGE

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This research tests hypotheses regarding media message contexts, interpersonal messages, and moral foundations and the impact on a person's acceptance of cheating in sports. This research utilizes a social exchange approach to sports media message contexts, where written contexts serve as an induction that elicit a cheating detection algorithm that produces a higher score on a logic task. Further, this research suggests that messages regarding sports cheating in youth and adolescence may explain a person's acceptance of cheating in sports. This research reports an original online survey (N = 184) with an experimental component. The experiment varied the written social exchange message context and compared scores in a conditional logic task. The survey asked participants' interpersonal and mediated sports message experiences, as well as the importance of a participants' moral foundation. The results indicate that teammate messages regarding cheating in sports in youth and adolescence and one's importance on the fairness moral foundation predicted acceptability of cheating in sports. Additionally, the social exchange context in a sports media scenario produced a cheating detection response predicted by social exchange theory, but with a novel pattern of the effect compared to traditional social exchange findings. These findings are discussed in light of other theoretical perspectives on morality and sports, and future research directions are discussed.

This dissertation is dedicated to my wife, Erica Boyan, who made it all happen.

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CHAPTER ONE: REVIEW OF THE LITERATURE

At the end of regulation time in the 2010 World Cup Quarterfinal match between Ghana and Uruguay the score was tied 1-1. The match went to a 30 minute overtime period where, in the very last seconds, Uruguay's Luis Suarez stopped a certain goal by illegally using his hands. The referee reacted decisively, giving Suarez a red card and ejecting him from the game. Ghana missed the penalty shot and subsequently lost the match. The team who broke the rules won—it seemed that justice had not been done. Instantly, debate raged in the soccer world. Was Suarez a cheat on the world stage, or was he a smart player who saved his team's place in the World Cup by strategically breaking the rules? Media research on sports commentary would suggest that interpretations of this event are likely to be influenced by the commentary context surrounding the event. This example presents an interesting research question: in sports media, does the context impact morality judgments?

There is a body of research investigating the extent to which sports broadcasters influence attitudes and perceptions of sports media content (e.g., Comisky, Bryant & Zillmann, 1977; Sullivan, 1991; Billings, Halone, & Denham 2002; Parker & Fink, 2008). However, there is little investigation into individual differences with regard to sports commentary effects (Raney & Bryant, 2006).

The present study will explore mechanisms by which sports media and other important contextual factors may affect audience members' morality judgments of sports situations. There are two general perspectives on how this would work, a socially constructed view of morality or an intuitive view of morality. In both cases media plays a different role. In the social construction case, media along with other sports experiences help to create a set of socially constructed morals for sports contexts. In the intuitive case, sports media commentary can evoke specific reactions regardless of sports and sports media background. Sports experience literature and moral foundations theory are presented to frame a socially constructed perspective of morality. Social exchange theory and sports commentary are presented to argue for an alternative, innate morality. Each section of the review will inform a set of predictions derived from relevant literature. A method to test the predictions will then be proposed.

Socially Constructed Morality

The basic premise of socially constructed morality is that peoples' experiences in their social environment, including experiences with media, determine which morals will be most important to that individual and which stimuli are classified as moral violations. The consequence of this perspective on morality is that morality, then, is somewhat subjective depending on one's media use, cultural upbringing, and social development.

Sports experience and bracketed morality. A person's sports experience is one social factor that influences how a person makes morality

judgments with regard to sports situations. The sociocultural context of playing sports in youth and adolescence contains coaches instructing players how to behave, teammates providing a group influence on behavior, and exposure to sports media. Messages about how players should behave, and what behaviors are desirable or reprehensible are shared via normative influence as well as explicit instruction (Bredemeier & Shields, 1984).

The normative influence of sports institutions create what is known as *bracketed morality* where behaviors inside a sports context are more acceptable than behaviors outside of a sports context. For instance, it is acceptable to punch someone in a boxing ring, but not on the street. A number of scholars have found that immoral acts are considered more appropriate in sports contexts than nonsports contexts and that athletes, those with more sports experience, tend to be more accepting of immoral acts in both life and sports situations than nonathletes (Bredemeier & Shields, 1984; 1986; Bredemeier, Weiss, Shields, & Cooper, 1986; 1987; Silva, 1983).

The social construction reasoning behind these findings is that individuals with sports experience will have more socialization with coachers, peers, competition, sports media, and other sports-related socialization agents. Messages received from these constructs leads to a gap in moral reasoning. Further evidence of the influence of a social environment comes from Shields, Bredemeier, Gardner, and Bostrom (1995) who found the more years an athlete (N = 298) spent playing the sport, the more likely they were to indicate that many

of their peers would cheat to win (r = .29), intentionally injure an opponent to win (r = .22), and that their coach would encourage them to cheat to win (r = .31).

In sum, the sports experience literature suggests the following prediction regarding moral judgments of cheating sports behaviors.

H1: Individuals with more experience playing sports more will be more accepting of cheating in sports.

There are scattered findings regarding specific messages' impact on cheating attitudes. Kavussanu, Roberts, and Ntoumanis (2002) measured the extent to which participants perceived their teammates and coaches to be supportive of questionably moral behaviors in sport. They asked how many of the participants' peers would behave in specific ways, arguing that this indicates the presence of an influence of a sports subculture onto the participants' own judgments. With these factors in mind the following research questions are posed:

RQ1: How do teammate messages influence individuals' acceptability of cheating in sports?

RQ2: How do coach messages influence individuals' acceptability of cheating in sports?

An additional mechanism by which sociocultural forces may impact acceptability of cheating is through the type of sports experience individuals had. Seifriz, Duda, and Chi (1992) measured perceived motivational climate of a sports team. This scale measures the degree to which winning and competition

was valued or effort was valued. It is used to assess whether a team defines success as quality play (mastery) or in terms of winning (performance).

RQ4: How does team climate influence individuals' acceptability of cheating in sports?

Media exposure or general sports interest are additional socialization factors that contribute to lower moral reasoning stage use or acceptance of potentially injurious acts in sports. Boys reporting higher interest in watching contact sports tended to use lower levels of moral reasoning (r = -.26) (Bredemeier et al., 1986), and a follow-up study found that children with more interest in sports were more accepting of potentially injurious acts (r = .39) (Bredemeier et al., 1987). These findings generate the rationale for the following hypothesis.

H2: Individuals with more interest in sports-related media will be more accepting of cheating in sports.

Smith (1979) argues that sports media commentary has a socializing impact on societal values. Smith contends that commentators provide context in the form of vocabulary and accepted terminology that provides the backdrop for how viewers understand professional hockey. The major messages about professional hockey in media in the 1970's were that hockey and violence went hand in hand. Smith interviewed 551 hockey players ages 12-21. Over 70% of the hockey players indicated that they watched hockey on television regularly, and over 50% of those who watched said that they had learned how to hit another player in an illegal way from watching television hockey. Lastly, of those who

said they learned an illegal hit, 60% said that they had used that illegal move at least once during the season. This potential for direct learning from sports commentary prompts the following research question:

RQ4: How do television sports commentary messages influence individuals' acceptability of cheating in sports?

The sports experience and morality literature provides a useful starting ground for examination of sports and morality, however the methodological techniques of the research is based on Haan's (1978) structural-developmental model of morality. Haan argues that individuals come to moral decisions through dialogue and discussion. This can create confusion regarding Haan's stages as they are not necessarily ordinal, but categorical in nature. Haan's measure of moral stage requires in-depth interviews and coding for primary and secondary stages used in discussion of a moral situation. The present study aims to use more structured methods to test similar hypothetical relationships, and extend the theory by including other related constructs.

Sports experience and sociocultural variables provides one perspective on morality when it comes to sports-related morality judgments, but another theory that proposes a social construction explanation for morality judgments is moral foundations theory.

Moral foundations theory. Moral foundations theory (MFT) posits that people make moral judgments, whether something is right or wrong, based on their moral foundations. Moral foundations are cognitive mechanisms that provide guidance for which stimuli we should respond to as moral violations and

how strongly we should react to those violations. Haidt and Joseph (2004) describe foundations with an emphasis on their intuitive nature: "Little bits of input-output programming, ways of enabling fast and automatic responses to environmental triggers," (Haidt & Joseph, 2004, p. 60). These environmental triggers include media content (Tamborini, 2011).

Foundations are more or less important to any given individual depending on how that individual is socialized. Individuals with different experiences come to perceive different events as moral violations depending on their cultural upbringing (Haidt, 2001; Haidt & Joseph, 2007; Haidt & Kesebir, 2010). For example Graham et al. (2010) compared participants from Eastern (n = 2,258) and Western (n = 104,893) cultures. The results show a small difference in overall moral foundation by culture ($t(107{,}149) = 12.42$, $p < .0001$, Cohen's $d = 0.08$).

There are five basic morality foundations (Graham et al., 2011). The five morality foundations are "Harm/Care, dealing with the suffering of others and empathy; Fairness/Reciprocity, concerned with reciprocity; Ingroup/Loyalty, dealing with punitiveness towards outsiders and the common good; Authority/Respect, which deals with dominance hierarchies; and Purity/Sanctity, concerned with contamination," (Eden, n.d.). The five foundations will hereby be labeled as harm, fairness, loyalty, authority, and purity.

For example, the purity violation is a moral violation that is concerned with contamination and disgust. Topics such as rotting food, dealing with feces or dead bodies, or sexual abnormality or lewdness fit into the purity foundation. Reactions to these stimuli were selected for as humans who interacted with feces,

rotten meats, and nontraditional sexual activities evolved. But culture also plays a part in an individual's assessment of purity violations. A culture's primary religion may socialize its members to view a woman revealing a bare ankle as a sexual abnormality in the category of a purity moral violation. Embedded in the culture is the reinforcement that a bare ankle in public is a sexual impropriety or lewd act to be perceived as disgusting moral violation. Another moral foundation is *authority*, which is concerned with respecting those in power or in charge. The topics relevant to the authority foundation include respect toward law enforcement officials, religious figures, or other figures with high social status. The bare ankle could also be seen as a moral violation in the authority foundation against the religious leaders' dominance in the culture. Other cultures have not been socialized to identify a bare ankle as a moral violation in either regard, and therefore may not identify the act as a moral violation in either purity or authority.

Media studies use moral foundations to predict the appeal of media content based on which moral foundations are violated or upheld (e.g. Tamborini, 2011; Tamborini, Grizzard, Eden, & Lewis, 2011; Tamborini, Eden, Grizzard, & Lewis, 2011) . The importance of the harm foundation to individuals (N = 135) predicted the appeal of violent content (R^2 = .09) (Tamborini, Eden, Bowman, Grizzard, & Lachlan, 2012). Similar results were found for a study that predicted character approval based on moral foundation (N = 163, R^2 = .08; Tamborini, Eden, Bowman, Grizzard, & Weber, 2009). Eden's (n.d.) results show that moral foundations predict character judgments that an audience member will make in a moral scenario (N = 192, B = -0.58, $p < .05$, ΔR^2 = .25).

Cheating in sports is a type of fairness violation (Haidt, 2001). Fairness is fundamentally about equality and reciprocity. When one party deliberately takes advantage of a situation to gain advantage it is a matter of an equality violation. In a sports situation when one party takes an advantage due to an agreed upon prohibited act, and does not reciprocate with an equivalent punishment, it is a fairness violation. The rules of the sport present an equal playing field to let athletic and strategic ability decide a winner. When one team deliberately violates a rule to gain an advantage, that is a fairness violation (Luschen, 1977).

According to MFT, people with a high importance on fairness should disapprove of a cheating in sports situation more than those with a lower importance on fairness (Graham, Haidt, & Nosek, 2009). Additionally, the sociocultural context in which the person was raised should influence how much importance an individual places on the fairness foundation. In the case of sports cheating, experience playing sports should act as a socializing agent that includes coaches, peers, competition, rules, and other aspects of sports participation, thus influencing the importance of fairness. Additionally, more experience with sports media should act as a part of the cultural influence that helps develop moral foundations.

H3: Individuals with more experience playing sports will place less importance on the fairness moral foundation.

H4: Individuals with more interest in sports-related media will place less importance on the fairness moral foundation.

H5: Individuals with lower importance on the fairness foundation will be more accepting of cheating in sports.

Moral foundations is an area of research with substantial activity in recent years (Tamborini, 2011), however there remain a number of questions about moral foundation formation. No research has been published that presents empirical data that demonstrates culture or socio-economic forces in one's past impact one's current moral foundation importance. The present research aims to detect relationships between socio-cultural past behaviors and the relevant moral foundation importance.

The previous sections explained two mechanisms by which an individual may use a socially constructed moral system to predict how they will judge moral scenarios in sports media. However, another theoretical perspective suggests that morality is innate and not subject to socially constructed constraints.

Innate Morality

The basic premise of innate morality in relation to sports media is that media context activates an innate cheating detection mechanism which prompts people to notice reciprocity violations and make moral judgments based on principles of social exchange.

Fairness as social exchange. Evolutionary psychologists argue that innate instincts regarding fairness come from our evolutionary history of social exchange situations (Cosmides, 1989). Social exchanges occur when one party trades something with another and the exchanged goods or services are equivalent in value according to a social contract. A social contract states a reciprocity

agreement implicitly or explicitly: "If you accept benefit B from me, then you must satisfy my requirement R," (Cosmides, Barrett, & Tooby, 2010; p. 9008). Cheaters are people who receive the benefit, but fail to deliver the promised requirement, thus breaking the reciprocation expected in the contract.

Evolutionary psychology findings demonstrate a cheating detection mechanism. The theory predicts that, regardless of context, when a person's cheating detection mechanism is activated they will detect cheaters better than otherwise. Across nine experiments with a total of $N = 276$ participants, accuracy at detecting cheating increased by an average of 56% when a hypothetical situation contained a social contract and participants were asked to locate cheaters (Cosmides, 1989).

Gigerenzer and Hug (1992) further Cosmides' (1989) work by demonstrating that it is precisely the cue in a situation that someone could potentially cheat that prompts the jump in detection accuracy. The researchers tested $N = 93$ participants in trials that varied contextual cues. Among other contextual changes, contexts were changed to emphasize or deemphasize the possibility of cheating. The results show an average accuracy increase of 39% when the potential for cheating is a factor emphasized in the context.

Social exchange is a powerful theoretical perspective that shows robust effects, however, if social exchange only works in the context of a very tiny window of contextual cues, it may not be as useful as a behavioral and attitudinal predictive construct. The present study aims to extend social exchange into the

sports context arena. Additionally, this study will attempt to apply the social exchange methodology to an online survey method.

One of the most prominent contextual cues in sports media is the commentary. Sports commentary research shows a pattern of results that suggests commentary provides explicit context that guides certain types of interpretations of events in sports media.

Sports commentary. Sports commentary is the announcers' audio explanation of what is happening in the sports contest. The content tries to be "objective, judgmental, and historical…to place contests within whatever context of meaning will strike viewers as lending the event importance" (Morris & Nydahl, 1983 as cited in Sullivan, 2006, p. 139). Sports commentary is made up of play-by-play commentary and color commentary. Play-by-play commentary tends to focus on the objective, moment-by-moment action on the field. Color commentary tends to focus on the historical and contextual elements of the contest to provide a wider context for interpreting the events (Comisky et al., 1977; Parker & Fink, 2008; Sullivan, 2006).

Numerous commentary studies show how commentary can influence reactions to sports media content. Comisky et al. (1977) found that nonrough commentary during rough play led to a perception of less violence, while nonrough play accompanied by commentary that emphasized roughness led to perceptions of increased violence ($F(135) = 18.5$, $p < .001$). Sullivan (1991) reported participants ($N = 180$) in a dramatic commentary condition rated one team as more hostile ($F\ (2,177) = 13.24$, $p < .01$), while participants in the no

commentary condition rated the other team as more hostile (F (2,177) = 7.49, p < .01). Bryant, Brown, Comisky, and Zillmann (1982) asked N = 60 undergraduates to watch one of three versions of a tennis match. The three versions' commentary was varied so that the two competitors were described as best friends, worst enemies, or neutral commentary. Participants reported the match to be more enjoyable (M = 34 > M = 17;18, p < .05), exciting (M = 19 > M = 11;10, p < .05), involving (M = 25 > M = 13;14, p < .05), and interesting (M = 30 > M = 13;18, p < .05) in the enemies condition than the other two conditions. Participants also indicated that the players were more hostile (M = 40 > M = 8.1, p < .05), tense (M = 20 > M = 9.6, p < .05), and competitive (M = 39 > M = 17.14, p < .05) in the enemies condition.

Commentary has also been shown to influence morality judgments. Beentjes, Van Oort, and Van Der Voort (2002) who found that N = 96 10-12 year olds reported greater disapproval of a soccer foul when accompanied by disapproving commentary as compared to approving commentary (η^2 = .23). There were no significant differences in approval between approval commentary and neutral commentary conditions, which suggests that the commentary prompted a social exchange type reaction, where the disapproval elicited a cheating detection response while the approval and neutral commentary did not.

When the context to sports situations indicates a social exchange violation, viewers should judge the act in the context of a social exchange. Commentators define the terms of the exchange—they specify and clarify the rules; they specify what the requirements and benefits are (Cosmides, 1989). When the

accompanying context indicates the possibility of social exchange violations, individuals should judge the content according to the social exchange situation and be more critical of cheating compared to individuals who are exposed to descriptive commentary with no social exchange.

H6: Participants exposed to a sports context that highlights rules as a social contract will be less accepting of cheating in sports.

The cheating detection mechanism specified by Cosmides' (1989) body of research is a cognitive mechanism that informs the question in the present study—does the context surrounding sports, such as commentary, lead to thinking about events in sports differently? According to social exchange logic, the presence of a social exchange context should prompt participants to be able to solve conditional logic problems more accurately than in a descriptive context. In the social exchange literature this manifests as more accurate responses to a conditional logic problem.

H7: Participants exposed to a sports context that highlights rules as a social contract will be more accurate in solving a relevant conditional logic puzzle.

The sports commentary literature provides snapshots of powerful media effects, and other media effects studies are rarely so robust. The effect of a sports commentator on attitudes and perceptions may be an artifact of an immediate experimental situation. The present study will attempt to use a broader conceptualization of sports media contexts to determine potential effects on attitudes and perceptions as they relate to past experiences.

The evolutionary psychology literature specifies that fairness is an innate moral outlook, while moral foundations theory suggests that a person's socially constructed foundation will predict a reaction to a moral violation. It is likely that neither argument will be solely responsible for the effect, but work in some combination. The social exchange logic suggests that people rely on whatever cognitive tools they have until a social exchange solution is available, at which point the social exchange logic becomes dominant (Gigerenzer & Hug, 1992). This suggests that social exchange moderates effects of other cognitive mechanisms such as the fairness moral module. The relationship should be structured such that the effect of fairness moral foundation will be negligible in a social exchange context condition, but will have an effect in a descriptive context condition:

H8: The presence of a social contract will moderate the effect of a person's importance on fairness on acceptability of cheating.

Hypotheses

H1: Individuals with more experience playing sports will be more accepting of cheating in sports.

RQ1: How do teammate messages influence individuals' acceptability of cheating in sports?

RQ2: How do coach messages influence individuals' acceptability of cheating in sports?

RQ3: How does team climate influence individuals' acceptability of cheating in sports?

H2: Individuals with more interest in watching sports-related media will be more accepting of cheating in sports.

RQ4: How do television sports commentary messages influence individuals' acceptability of cheating in sports?

H3: Individuals with more experience playing sports place less importance on the fairness moral foundation.

H4: Individuals with more interest in watching sports-related media place less importance on the fairness moral foundation.

H5: Individuals with lower importance on the fairness foundation will be more accepting of cheating in sports.

H6: Participants exposed to a sports context that highlights rules as a social contract will be less accepting of cheating in sports.

H7: Participants exposed to a sports context that highlights rules as a social contract will be more accurate in solving a relevant conditional logic puzzle.

H8: The presence of a social contract will moderate the effect of a person's importance on fairness on acceptability of cheating.

CHAPTER 2: METHOD

Summary

This study utilizes a two condition randomized posttest only experimental design. $N = 184$ participants were randomly assigned either a descriptive sports context story or a standard social contract sports context story along with measures determining the importance of the fairness moral foundation, experience in sports including sociocultural climate, media exposure to sports in childhood and adolescence, acceptability of cheating in sports, the accuracy on a conditional logic problem, and basic demographic information to serve as a control.

Participants

A total of 209 participants were recruited from online participant pool StudyResponse (StudyResponse.net). According to the StudyResponse website, potential subjects are emailed with a link to online surveys. There are approximately 50,538 potential participants in the StudyResponse database with an average age of 34.2 years, they are 65.5% female, and on average have some college education but have not yet completed college. The participants' user IDs are collected by the researcher, who then submits user ID numbers to StudyResponse. StudyResponse collects cash incentives from the researchers, and then administrates the incentive distribution. Participants were offered $5 for their participation in the present study. StudyResponse requires IRB approval and the preservation of anonymity for their subjects. This sample consists of participants that could impact the data in a number of ways. Participants are completing this for a cash incentive, so they may be motivated to click through to

complete the survey without taking care to read or respond to the questions. These may be professional survey-takers who respond with less care than traditional undergraduate samples. Participants who respond with less care may have been less motivated to complete the more challenging and confusing portions of the questionnaire or complete the longer pages in detail. Reverse-coded items and measure of time to complete the survey were taken to determine if any participants were obviously skipping over items and/or not reading the prompts.

Twenty-five participants were dropped due to unusable data. Participants were dropped when results showed inconsistent survey completion on reverse-coded items (n = 6), and when their survey completion time was below two minutes (n = 19). This left a final sample size of $N = 184$ with 68 males, 111 females, and 5 not reporting. A sample size of $N = 174$ is needed to detect an effect size of $r = .38$, with $\alpha = .05$ and $\beta = .80$. The estimated effect size for the power analysis was obtained from Bredemeier et al. (1986) who reported several correlations between interest and participation in sports and acceptability of cheating in sports. The effect size estimate was calculated as an average of the correlations reported therein.

Demographic information. Demographic information that could serve as control variables were included. The primary areas of questioning included socioeconomic status through education level and parents' education level, age, sex, general availability of sports in youth (Smith, 2004; Prus, 2007). Participants were on average 22.23 ($SD = 3.73$) years old and ranged from 18 to 50 years old.

Subjects (n = 180) reported the cities or towns in which they grew up were predominantly suburban (65.6%), urban (22.2%), rural (11.4%), or other (0.6%). Subjects who reported their approximate family income while growing up (n = 39) reported an average of M = $77,283 ($SD$ = 123,540). Subjects report high school diplomas or further education with the majority indicating some college education, and parents with the plurality having higher than high school education (see Table 1).

Subjects were asked about their sports experience in terms of high versus low contact sports. The most common response (n = 180) was both high and low contact sports (38%), followed by low-contact sports (35.9%), high-contact sports (12/5%), and no sports (11.4%).

Subjects were asked about the number of sports that were available for them to play. Responses for (n = 178) participants were 20 responded 1-2 sports (11.2%), 45 responded 3-4 sports (25.3%), 44 responded 5-6 sports (24.7%), 34 responded 7-8 sports (19.1%), 15 responded 9-10 sports (8.4%), and 20 responded 11+ sports (11.2%).

Subjects were asked about their current and former status as collegiate and professional athletes. Responses (n = 180) for "Are you a current collegiate athlete?" were 17 said *Yes* and 163 said *No*. Responses (n = 180) for "Are you a current professional athlete?" were four *Yes* and 176 *No*. Responses (n = 133) for "If you have graduated from college, did you play organized sports in college?" were 20 *Yes* and 113 *No*.

Procedure

After participants were provided with human subjects protection information, they were randomly assigned to one of the two social exchange conditions and administered a series of measures including a social exchange reasoning instrument, the fairness portion of the moral foundations questionnaire, a sports experience questionnaire, a sports media questionnaire, an acceptability of cheating in sports questionnaire, a cheating climate and sports motivational climate questionnaire, and a demographic information questionnaire. After the social exchange reasoning instrument, the order of measures were randomly determined to account for potential ordering effects. After completing the measures participants were debriefed and thanked for their time.

Measures

Sports experience questionnaire. A sports experience questionnaire index was developed specifically for this study (see Appendix 17). Sports experience is operationalized as an estimate of the amount of years spent playing organized sports during elementary school, middle school, high school, and college. Sports experience was measured using a life-event questionnaire based on results from research on children, sports, and deviance (e.g. Bredemeier). A life-event questionnaire provides guided open-ended responses that facilitates recall of frequency behaviors that may be difficult to remember (Schwarz & Oyserman, 2001). Participants indicated what sports they played in elementary school, middle school, high school, and college years. The total number of years of playing sports served as the measure of sports experience. The number of sports played was $M = 6.35$, $SD = 5.53$, with skewness = 2.78, and kurtosis =

17.17. The total number of years played was *M* = 16.20, *SD* = 12.59, with skewness = 0.98, and kurtosis = 1.25.

Sports media exposure questionnaire. A sports media questionnaire index was developed specifically for this study (see Appendix 18). Sports media exposure is the general amount of attention that individuals gave to sports media in childhood and adolescence. Sports media use was measured using a questionnaire created from research on children, sports, and deviance (e.g. Bredemeier). It is unlikely that participants will be able to accurately recall details of their lives up to 15 years prior (Schwarz, 1999). To compensate for this, a measure asking participants to compare themselves to their peers in specific memorable time blocks served as a general estimate as to how much sports media exposure participants recall from their youth.

The questionnaire consists of 11 questions asking participants to rate how frequently they attended to sports in college, high school, middle school, and elementary school with anchors *1 - Less than kids my age, 4 - The same as kids my age, and 7 - More than kids my age.* Questions were grouped into five categories: Television, Live, Print, Radio, and Online. The text of the question for the Television category was: "How often did you watch sports on TV?". The text of the questions for the Live category were: "How much did you go to watch live local sports that you were not playing?", "How much did you go to watch live professional sports?". The text of the questions for the Print category were: "About how much did you read about sports in magazines?", "How often did you read about sports in newspapers?". The text of the questions for the Radio

category were: “About how often did you listen to sports broadcasts on the radio?”, “How often did you listen to sports talk shows on the radio?”. The text of the questions for the Online category were: “How much did you read about sports online?”, “How often did you read about sports stories on Facebook?”, “How often did you read about sports on Twitter?”, “How often did you watch sports or clips on YouTube?”, and “How often did you use other social media sites to watch or read about sports?” Questions in each category were summed and averaged. For means, standard deviations, and distribution reports see Table 2.

Each participant’s sports media exposure interest was calculated by summing all of their media use reports over all educational categories for a total sports media interest index (n = 159, M = 3.00, SD = 1.52, skewness = 0.44, kurtosis = -0.99).

Moral foundations questionnaire (MFQ 30). Importance of the fairness moral foundation was measured using the fairness portion of the MFQ 30 questionnaire (see Appendix 19; Haidt, Graham & Hersh, 2006; Graham et al., 2009). The MFQ 30 is a 32-item measure designed to measure how important each of the five moral modules are to individuals. Only the six items directly pertaining to the fairness foundation were analyzed for the present study. The measure consists of three “relevance items” which explicitly ask how relevant fairness concerns are to a respondent when judging an action as right or wrong, and three “statement” items that require participants to agree or disagree with specific examples of fairness-relevant situations to tap how people respond to

actual moral judgments (Graham et al., 2011). The three relevance items ask "When you judge an action as right or wrong, how relevant are the following considerations in your decision?" and are anchored at 1 (*Not at all relevant—This consideration has nothing to do with my judgments of right and wrong*) to 6 (*Very relevant—This is one of the most important factors when I judge right and wrong*). The three fairness considerations are "Whether or not some people were treated differently than others," "Whether or not someone acted unfairly," "Whether or not someone was denied his or her rights." The three statement items ask participants to rate the extent to which they agree with statements regarding the foundation on a 6-point Likert-type scale. Statement items for fairness are: "When the government makes laws, the number one principle should be ensuring that everyone is treated fairly", "Justice is the most important requirement for society", and "It is morally wrong that rich children inherit more than poor children."

Confirmatory factor analysis conducted on the six fairness items showed low factor loadings and high error terms for the "rich children" item, so the item was removed. The scale yielded a five item single factor solution with a response distribution ranging from 2.80 to 6.00, that was relatively normally distributed, with a mean of 4.61, $SD = 0.72$, $\alpha = .65$. Confirmatory factor analysis for the five item model confirmed the hypothesis that the factor was unidimensional and flat (chi-square = 49.31, $df = 9$, $p < .00$). Cronbach's alpha for the five item scale was $\alpha = .65$, which is consistent with other reports of the Fairness portion of the MFQ

30 (e.g. Eden, n.d; Graham et al., 2009; Graham et al., 2011; Tamborini et al., 2009a; Tamborini et al., 2009b).

Acceptability of cheating in sports. Acceptance of cheating was measured with a modified questionnaire from Kavussanu, Roberts, and Ntoumanis (2002). Participants were given eight statements about cheating in sports (Appendix 20). Responses were indicated on a five point scale anchored by *strongly disagree* (1) and *strongly agree* (5). The items for this questionnaire were: "It is acceptable to bend rules in order to win.", "It is acceptable to break rules in order to win.", It is acceptable to teach other teammates to break rules in order to win.", "It is acceptable to never break the rules if possible.", "It is acceptable to break the rules in order to gain an advantage over the other team.", "It is acceptable to encourage cheating.", "It is acceptable to focus on playing fairly more than on winning.", and "It is acceptable to focus on winning more than on playing fairly." The scale yielded an eight item single factor solution with a response distribution ranging from 1.00 to 3.88, that was positively skewed, with a mean of 1.83, $SD = 0.71$, $\alpha = .88$. Confirmatory factor analysis for the eight item model confirmed the hypothesis that the factor was unidimensional and flat (chi-square = 760.04, $df = 27$, $p < .00$). Cronbach's alpha for the eight item scale was $\alpha = .88$.

Social exchange reasoning. The social exchange reasoning instrument was developed from the Wason selection task, a standard tool for investigating conditional reasoning (Wason & Johnson-Laird, 1972). In this problem, participants are given an *if P then Q* conditional rule and are then asked to

identify possible violations of the rule. The conditional formatting of the *if P then Q* rule specifies that the rule is violated only when *P* is true, but *Q* is not, or the co-occurrence of *P & not-Q*. Subjects are asked to solve the problem on their own. This format allows one to see how performance in conditional reasoning varies as a function of the rule's context (Cosmides et al., 2010).

Each instance (*P, not-P, Q* and *not-Q*) is represented on an index card (see *Figure 1*). One side of the card tells whether the antecedent is true or false, and the other side tells whether the consequent is true or false. The subject, who is permitted to only see one side of each card, is asked to say which cards must be flipped over to determine if the rule (*if P then Q*) has been broken (Cosmides, 1989).

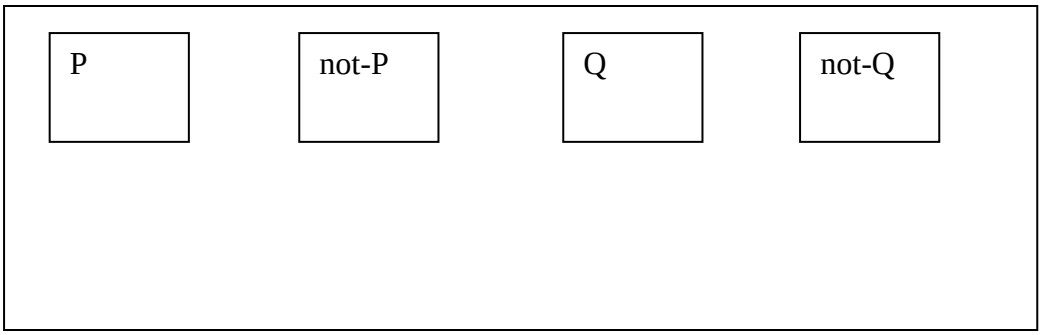


Figure 1: The structure of the social exchange reasoning instrument.

In a standard social contract situation the situations on the cards mirror a social rule where the *P* is a benefit and the *Q* is a cost paid for the benefit. In *Figure 2* the index cards show the form of the cost and benefit (Cosmides, 1989). In *Figure 2* the only cards one needs to turn over to determine of the rule is broken are the *Benefit Accepted* card and the *Cost NOT Paid* card.

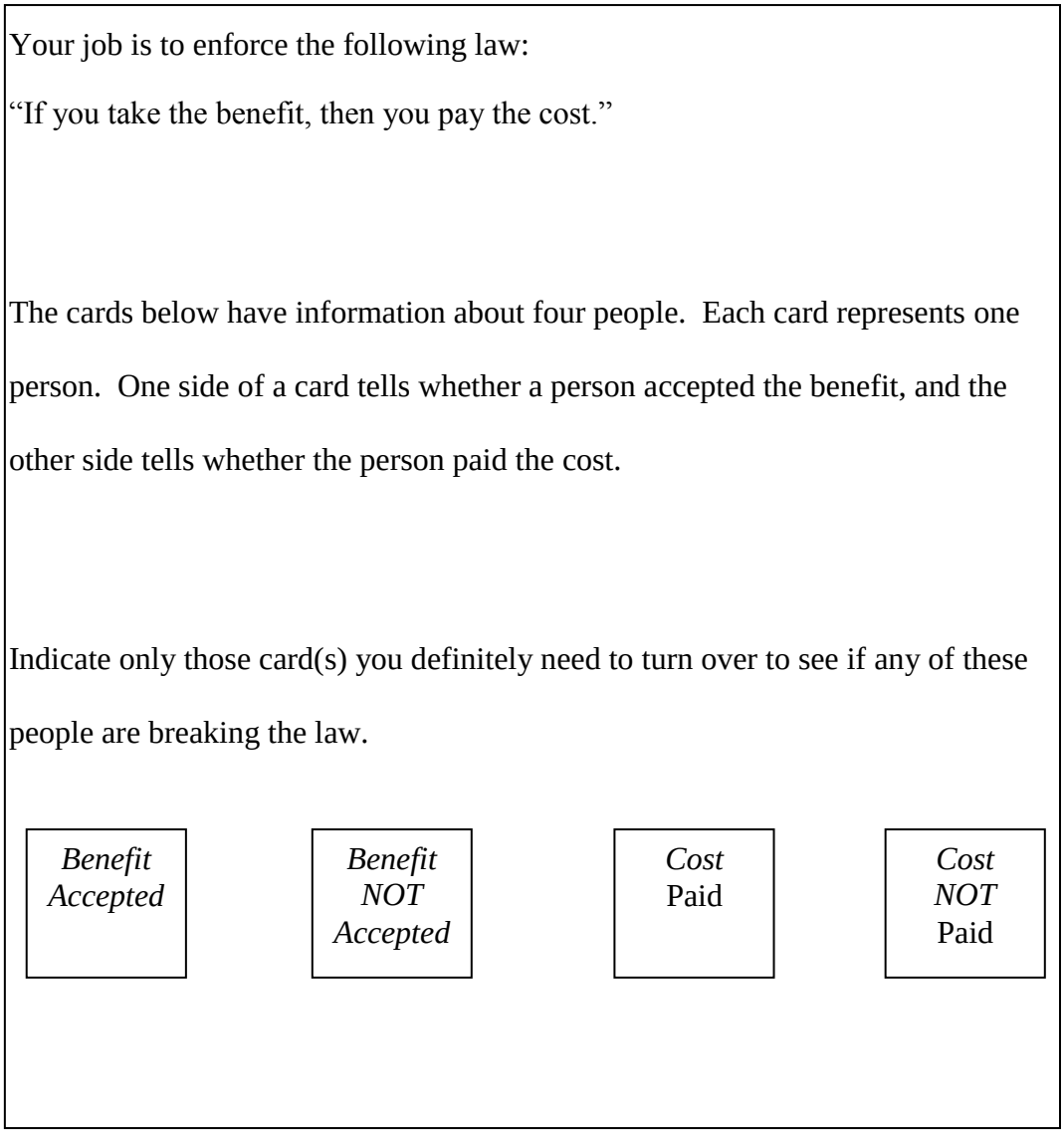


Figure 2: The cost-benefit structure of the Wason selection task.

Cosmides (1989) and others have elicited social contract effects by presenting differing situations surrounding one *if P then Q* rule. Descriptive situations put the participant in the role of an observer, simply recording the number of instances where a rule has been broken. Social contract situations put the participants in the role of an official searching for a cheater. The context of the situations elicits the "look for cheaters procedure" (Cosmides, 1989).

For example, as a descriptive situation Cosmides (1989) tells participants they are an anthropologist checking in on another anthropologist's former work in a tribal community. The participants are given an *if P then Q* rule where *P* is eating a specific type of food (cassava root) and *Q* is having a tattoo on one's face. Participants must then determine how they would know whether or not the rule has been broken by flipping over cards. In contrast, as a social contract situation Cosmides gives participants the same rule but the participants are told there is a desirable benefit to eating the cassava root and that sometimes those without tattoos on their faces try to eat the root. It is the participant's job to find and root out cheaters.

A conditional logic measure was constructed for this study based on the Wason selection scenarios used by Cosmides (1989), but modified to apply to a sports context. Two scenarios were designed to match the social exchange and descriptive contexts that Cosmides used in her initial study. The scenarios were also designed to act as supporting context similar to commentary in a sports media situation.

For the sports context, professional American football was used because a specific rule from football, the holding rule, is commonly violated, often without a penalty. In football, players are not allowed to grab onto another player and impede his progress if he does not have the ball. If a player commits the infraction, a referee is supposed to throw a yellow flag, stop the play, and assign an in game penalty to the infracting player's team. This is one rule violation that

is notorious for being missed or ignored by officials unless it is a blatant violation (e.g. Clifford & Feezell, 2010; Fraleigh, 1984, 2007; Leaman, 1995).

In the written scenarios, participants were told that they are professional football researchers seeking information about holding infractions in footage of football games. In the social contract condition (see Appendix 21) participants are to catch rule violators to help assign a postgame penalty. The situation is presented with emphasis on the reciprocity of taking a benefit (winning) versus paying the requirement (receiving the penalty). In the social exchange logic, if a benefit is taken without taking paying the requirement, the social contract is broken. This should sensitize participants to rules violations and increase accuracy in the conditional logic task.

In the descriptive condition (see Appendix 22), participants are told they are a researcher studying penalties in sports. Their job is to double check a colleague's claim. This differentiation between descriptive and social contract conditions follows the format used by Cosmides (1989) and other social exchange research. The main difference between the conditions is the benefit-requirement emphasis in the social exchange context. This should prime the participant to think in terms of a social contract and consider the possibility of cheating, which Gigerenzer and Hug (1992) have shown to be a core element in prompting a social exchange response. The required similarity between the two conditions is the conditional rule: "If a player holds, he should be penalized." That rule is stated in both conditions.

Each condition contained n = 92 participants, n = 8 participants scored zero cards correct, n = 63 scored one card correct, n = 52 scored two cards correctly, n = 37 scored three cards correctly, and n = 24 scored all four cards correctly. The scores were relatively normally distributed with a mean of 2.03, SD = 1.12.

Cheating climate. This was measured using an index adapted from Kavussanu, Roberts, and Ntoumanis (2002) who measured the extent to which participants perceived their teammates and coaches to be supportive of questionably moral behaviors in sport. This index was employed because it taps into some of the messages that participants would have received about cheating in sports. Participants were instructed to think of their most prominent sports experience and asked how many of their teammates engaged in specific behaviors. Items for the teammate cheating climate index were "How many of your teammates bent the rules in order to win?", "How many of your teammates broke rules in order to win?", "How many of your teammates talked about breaking rules in order to win?", How many of your teammates tried to never break the rules if possible?" (reverse coded), "How many of your teammates broke rules in order to gain an advantage over the other team?", "How many of your teammates encouraged cheating?", "How many of your teammates focused on playing fairly more than winning?" (reverse coded). Responses were measured on a 5-point Likert-type scale with responses *none of the players* (1), *a few players* (2), *about half of the players* (3), *most of the players* (4), and *everyone on the team* (5). The teammate questions were posed as an index and do not

necessitate confirmatory factor analysis attitude measurement requirements. The teammate items were summed and averaged for n = 165 subjects. The distribution showed a positive skew with M = 1.86, SD = 0.62.

Statements about coach cheating climate behaviors were measured using a seven item attitude scale. The stem for each item was "On this team…". The items were: "Your coach encouraged cheating", "Your coach told you to never break the rules if possible" (reverse coded), "Your coach encouraged you to break the rules in order to win", Your coach told you to break rules in order to win", Your coach showed you how to break rules in order to gain an advantage over the other team", "Your coach focused on playing fairly more than winning" (reverse coded), "Your coach encouraged you to bend the rules in order to win". Responses were indicated on a 5-point Likert-type scale anchored by *strongly disagree* (1) and *strongly agree* (5). Responses showed a response distribution ranging from 1.00 to 3.86, that was positively skewed, with a mean of 1.56, SD = 0.72, α = .90. The coach items were measured using an attitude-type scale and were subjected to confirmatory factor analysis and reliability analysis. Confirmatory factor analysis for the seven item model confirmed the hypothesis that the factor was unidimensional and flat (chi-square = 1153.68, df = 20, p < .000). Cronbach's alpha for the seven item scale was α = .90.

Seven additional questions were developed specifically for this study to assess whether participants learned about moral behavior in sports from watching sports media content. The items were: "I watched sports on TV that showed me that bending the rules was part of the game.", "I watched sports on TV that

showed me how to break rules so my team could win.", "Announcers on sports TV explained how to break rules in order to win.", "I watched sports on TV that showed me to never break rules if possible" (reverse coded), "I watched sports on TV that showed me how to break rules to gain an advantage over the other team.", "I watched sports on TV that encouraged cheating.", "I watched sports on TV that showed me that playing fairly is more important than winning" (reverse coded). Responses were measured on a 5-point Likert-type scale with responses anchored by *strongly disagree* (1) and *strongly agree* (5). Responses showed a response distribution ranging from 1.00 to 3.71, that was positively skewed, with a mean of 1.96, $SD = 0.73$, $\alpha = .86$. Confirmatory factor analysis for the seven item model confirmed the hypothesis that the factor was unidimensional and flat (chi-square = 483.88, $df = 20$, $p < .000$). Cronbach's alpha for the seven item scale was $\alpha = .86$.

Motivational sports climate. This scale measures the degree to which winning and competition was valued on a team (performance) versus effort and personal improvement (mastery). It was adapted from Seifriz, Duda, and Chi (1992). Participants were instructed to consider their most significant sports experience. The stem for each item is "On this team…".

The 11 items for the performance portion of the scale are: "Players feel good when they do better than teammates.", "Players are punished for mistakes.", "Out-playing teammates is important.", "Coach pays most attention to the "stars".", "Doing better than others is important.", "The coach favors some players.", "Players are encouraged to outplay teammates.", "Everyone wants to be the high scorer.", "Only the top players "get noticed".", "Players are afraid to

make mistakes.", "Only a few players can be the "stars"." Responses showed a response distribution ranging from 1.00 to 5.00, that was relatively normally distributed, with a mean of 3.43, *SD* = 0.71, α = .87. Confirmatory factor analysis for the 11 item model confirmed the hypothesis that the factor was unidimensional and flat (chi-square = 335.45, *df* = 54, $p < .00$). Cronbach's alpha for the 11 item scale was α = .87.

The nine items for the mastery portion of the scale are: "Trying hard is rewarded.", "The coach focuses on skill improvement.", "Each player's improvement is important.", "Players try to learn new skills.", "Players are encouraged to work on weaknesses.", "The coach wants us to try new skills.", "Players like playing good teams.", "All players have an important role.", "Most players get to play in the games." Responses were indicated on a 5-point Likert-type scale anchored by *strongly disagree* (1) and *strongly agree* (5). Responses showed a response distribution ranging from 1.00 to 5.00, that was relatively normally distributed, with a mean of 3.91, *SD* = 0.71, α = .89. Confirmatory factor analysis for the nine item model confirmed the hypothesis that the factor was unidimensional and flat (chi-square = 134.27, *df* = 35, $p < .000$). Cronbach's alpha for the nine item scale was α = .89.

CHAPTER 3: RESULTS

Analysis Plan

The results analysis contains three sections. 1) Differences between the constrcuts of interest by various demographic variables. These differences are used to inform which variables are included as control variables in the second section. Only demographic variables that demonstrated statistically significant differences were used in the regression analysis for the hypothesis tests. 2) Hypothesis-testing. Hypothesis testing was conducted by using correlation, partial correlation, and finally regression analysis. Finally 3) the model testing section integrates statistically significant findings from the hypothesis testing section to compare two potential causal models.

Differences Between Constructs of Interest

An initial set of analyses examined whether any of the constructs of interest differed by general demographic variables that might be relevant in subsequent analyses (i.e., sex and type of town). For example, there is evidence that sports experience and morality strategies differ for men and women (e.g., Stephens & Bredemeier, 1996), so there is a possibility that men and women differ on acceptance of cheating. Type of town or city (rural, urban, or suburban) may be related to the amount of sports available, which could impact the total number of years played, therefore it was included as a potential confound and examined for differences among the constructs of interest.

A secondary set of analyses examined whether constructs of interest differed by sports-related experiences that may act as confounding variables (i.e., high or low contact sports and whether participants were current collegiate athletes). Contact level of sports was examined in line with Bredemeier et al. (1986) who found that those athletes who played more contact sports reported they were more likely to aggress at an opponent on the field. Participants were asked their perceptions of whether they played no sports, low-or-no contact sports, high contact sports, or both high and low contact sports. Other studies categorize sports into high or low contact categories, but in this study participants were asked their perceptions of their participation in sports in general. In analysis using contact sports, only those who indicated low-or-no contact or high contact were used. Additionally, whether participants were current collegiate athletes was examined. Current collegiate athletes may have more sports experience in general, and due to playing at a higher level of sports than most high school sports, may have different experiences that impact the constructs of interest.

Sports experience. There were no statistically significant differences between potential confounds regarding sports experience (see Tables 4-10).

Acceptability of cheating. Among general demographic variables, there were statistically significant differences between men (n = 68) and women (n = 106) on acceptance of cheating (range = 1.00-3.88, M_M = 2.03, SD = .79, M_W = 1.72, SD = 0.64, t = 2.79, df = 122, p = .01) where men were more accepting of cheating than women (see Table 4). The distribution of acceptability of cheating was positively skewed (.97) with a range of 1.00-3.88. The relative frequency of

such messages was a mean of 1.83 on a 1-5 scale, where 1 was *Strongly Disagree* and 5 was *Strongly Agree*.

There were also statistically significant differences between rural (n = 21) and urban (n = 40) participants on acceptance of cheating (range = 1.00-3.88, M_R = 1.58, SD = 0.51, M_U = 2.11, SD = 0.88, t = -2.55, df = 59, p = .01), and between suburban (n = 113) and urban (n = 40) participants on acceptance of cheating (range = 1.00-3.88, M_S = 1.79, SD = 0.65, M_U = 2.11, SD = 0.88, t = 2.09, df = 55, p = .04) where urban subjects were more accepting of cheating than both rural and suburban subjects (see Table 5).

Among sports experience variables, there were statistically significant differences between no-or-low contact (n = 65) and high contact (n = 23) athletes on acceptance of cheating (range = 1.00-3.88, M_L = 1.66, SD = 0.55, M_H = 2.03, SD = 0.69, t = 2.57, df = 86, p = .01) where those who had only played high contact sports were more accepting of cheating than those who had only played no-or-low contact sports (see Table 6).

Interpersonal communication constructs. Among general demographic variables, there were statistically significant differences between men (n = 68) and women (n = 106) regarding how many messages about cheating they heard from teammates (range = 1.00-4.00, M_M = 2.00, SD = 0.68, M_W = 1.78, SD = 0.58, t = 2.27, df = 162, p = .03 where men heard more messages about cheating from teammates than women (see Table 4). The distribution of teammate cheating messages was positively skewed (0.81) with a range of 1.00-4.00. The relative

frequency of such messages was a mean of 1.86 on a 1-5 scale, where 1 was *None of my teammates* and 5 was *All of my teammates*.

There were also statistically significant differences between men (n = 68) and women (n = 106) regarding messages about cheating they heard from coaches (range = 1.00-3.86, M_M = 1.76, SD = 0.83, M_W = 1.44, SD = 0.63, t = 2.64, df = 104, p = .01), where men heard more messages about cheating from coaches than women (see Table 4). The distribution of coach cheating messages was positively skewed (1.44) with a range of 1.00-3.86. The relative frequency of such messages was a mean of 1.56 on a 1-5 scale, where 1 was *Strongly Disagree* and 5 was *Strongly Agree*.

There were also differences between rural (n = 21) and urban (n = 40) participants on whether the team climate focused on mastery (range = 1.00-5.00, M_R = 4.19, SD = 0.58, M_U = 3.79, SD = 0.82, t = 2.01, df = 57, p = .05) where rural subjects indicated higher focus on mastery climate than urban subjects. There was also a difference between rural and suburban participants on whether the team climate focused on performance (range = 1.00-5.00, M_R = 3.77, SD = 0.67, M_S = 3.39, SD = 0.71, t = 2.28, df = 128, p = .02) where rural subjects indicated higher focus on performance climate than suburban subjects (see Table 5). Both mastery and performance sections of the team motivational climate scale had a slight negative skew with mastery skewness = -1.01 and performance skewness = -0.77, and both sections of the scale had a range of 1.00-5.00. The relative frequency of that scale was a mean of 3.91 for the mastery section and a

mean of 3.43 for the performance portion, where 1 was *Strongly Disagree* and 5 was *Strongly Agree*.

Among sports experience variables, there were statistically significant differences between no-or-low contact (n = 65) and high contact (n = 23) athletes on how many messages about cheating they heard from teammates (range = 1.00-4.00, M_L = 1.68, SD = 0.50, M_H = 2.24, SD = 0.56, t = 4.38, df = 83, p = .00), and messages about cheating they heard from coaches (range = 1.00-3.86, M_L = 1.36, SD = 0.57, M_H = 2.16, SD = 0.89, t = 2.60, df = 84, p = .01). Those who had only played high contact sports heard more messages about cheating from teammates and coaches than those who had only played no-or-low contact sports (see Table 6).

There were statistically significant differences between current collegiate athletes (n = 16) and nonathletes (n = 148) on how many messages about cheating they heard from teammates (range = 1.00-4.00, M_C = 2.30, SD = 0.91, M_N = 1.81, SD = 0.57, t = 2.20, df = 17.47, p = .04), messages about cheating they heard from coaches (range = 1.00-3.86, M_C = 2.03, SD = 0.87, M_N = 1.50, SD = 0.69, t = 2.44, df = 18.35, p = .03), and whether the team climate focused on performance (range = 1.00-5.00, M_C = 3.72, SD = 0.44, M_N = 3.40, SD = 0.75, t = 2.64, df = 27.80, p = .01) where current collegiate athletes heard more messages from teammates and coaches about cheating, and indicated higher focus on performance climate than noncurrent collegiate athletes (see Table 8).

Media communication constructs. Among general demographic variables, there were statistically significant differences between men (n = 68) and women (n = 106) regarding how interested they were in sports media (range = 1.00-6.45, M_M = 3.40, SD = 1.60, M_W = 2.78, SD = 1.42, t = 2.52, df = 154, p = .01) where men were more interested in sports media than women (see Table 4). Sports media interest was measured using 47 items which were summed and averaged to create a sum total sports interest score. The distribution of sports media interest was positively skewed (0.44) with a range of 1.00-6.45. The relative frequency of the sports interest scale was a mean of 3.00 on a 1-7 scale where 1 was *Less than kids my age* and 7 was *More than kids my age*.

Among sports-related experience variables, there were statistically significant differences between no-or-low contact (n = 65) and high contact (n = 23) athletes on messages they heard on television about cheating (range = 1.00-3.71, M_L = 1.82, SD = 0.64, M_H = 2.16, SD = 0.77, t = 2.02, df = 85, p = .05) where those who played high contact sports heard more messages about cheating on television than those who played no-or-low contact sports (see Table 6). The distribution of television commentary cheating messages was positively skewed (0.46) with a range of 1.00-3.71. The relative frequency of such messages was a mean of 1.96 on a 1-5 scale, where 1 was *Strongly Disagree* and 5 was *Strongly Agree*.

There were statistically significant differences between current collegiate athletes (n = 16) and nonathletes (n = 148) on how interested they were in sports media (range = 1.00-6.45, M_C = 4.07, SD = 1.51, M_N = 2.90, SD = 1.48, t = 2.92,

df = 155, *p* = .00), and messages they heard on television about cheating (range = 1.00-3.71, M_C = 2.34, *SD* = 0.85, M_N = 1.92, *SD* = 0.71, *t* = 2.22, *df* = 169, *p* = .03) where current collegiate athletes were more interested in sports media and heard more messages from television about cheating than noncurrent collegiate athletes (see Table 8).

Hypothesis tests

Direct sports experiences and acceptability of cheating. The first set of predicted relationships state that individuals with more sports experience will be more accepting of cheating in sports. The hypothesis tested the prediction by conducting a Pearson's *r* correlation between the reported total number of years playing sports and an individual's average score on the acceptability of cheating scale. The Pearson's *r* correlation (*r* = .06, *p* = .21, one-tailed) shows a trivial relationship between total years played and acceptability of cheating.

One possible reason for the lack of relationship between acceptance of cheating and total years played is that the type of messages received during sports experience differs. Research question one probes this possibility and asks how teammate messages influence individuals' acceptability of cheating in sports. A Pearson's *r* correlation was conducted between a participant's averaged score on the teammate cheating messages scale and a participant's averaged score on the acceptability of cheating scale. Results show that *r* = .50, *p* = .00 (two-tailed) where those who heard more teammates advocating cheating were more accepting of cheating.

To test the impact of teammate cheating messages on the relationship between total years played and acceptability of cheating, a partial correlation was conducted between the reported total number of years playing sports and subjects' averaged score on the acceptability of cheating scale, adjusted for subjects' averaged score on the teammate cheating messages scale. The partial correlation $r_{ab.c}$ = -.03, p = .75 (two-tailed) shows that when controlling for the effect of teammate cheating messages there is still no relationship between total years played and acceptability of cheating.

Another possible source for sports messages is coaches. Research question two asks how coach messages influence individuals' acceptability of cheating in sports. A Pearson's r correlation was conducted between subjects' averaged score on the coach cheating messages scale and a subjects' average score on the acceptability of cheating scale. Results show that r = .51, p = .00 (two-tailed) where those who perceived greater coach advocacy of cheating were more accepting of cheating.

To test the impact of coach cheating messages on the relationship between total years played and acceptability of cheating, a partial correlation was conducted between the reported total number of years playing sports and subjects' averaged score on the acceptability of cheating scale, adjusted for subjects' averaged score on the coach cheating messages scale. The partial correlation $r_{ab.c}$ = .01, p = .91 (two-tailed) shows that when controlling for the effect of coach cheating messages there remains no relationship between total years played and acceptability of cheating.

An additional interpersonal influence of sports was explored using the team motivational climate questionnaire (Seifriz, Duda, & Chi, 1992). Seifriz, et al. (1992) proposed that a group-level focus on outcomes of performance vs. mastery of skills created differences in expectations and enjoyment of playing. They found that higher perceptions of skill mastery climate led to more enjoyment of playing while higher perceptions of a performance climate led to greater tension while playing the sport. Following this line of thinking, research question four asks how team climate influences individuals' acceptability of cheating in sports. This question was explored with a Pearson's *r* correlation between subjects' averaged score on the acceptability of cheating scale and subjects' averaged score on the performance motivational climate scale ($r = -.00$, $p = .97$, two-tailed); the results show no relationship between acceptability of cheating and performance. The question was also explored by conducting a Pearson's *r* correlation between subjects' averaged score on the acceptability of cheating scale and subjects' averaged score on the mastery motivational climate scale ($r = -.27$, $p = .00$, two-tailed) where those who perceived greater mastery climate on a sports team were less accepting of cheating.

To test the impact of motivational team climate on the relationship between total years played and acceptability of cheating, a partial correlation was conducted between the reported total number of years playing sports and subjects' averaged score on the acceptability of cheating scale, adjusted for subjects' averaged score on mastery portion of the motivational team climate scale. The partial correlation $r_{ab.c} = .04$, $p = .60$ (two-tailed) shows that when controlling for

the effect of mastery team climate there remains no relationship between total years played and acceptability of cheating.

Additional analysis of the interpersonal sports experience constructs on acceptability of cheating were conducted to determine which constructs were useful predictors of acceptability of cheating. Subjects' averaged score on the acceptability of cheating scale was regressed onto sex, whether subjects played contact sports, subjects' averaged score on the teammate cheating message scale, averaged score on the coach cheating messages scale, and averaged score on the mastery portion of the motivational climate scale. Correlations between variables used in the regression analysis can be found in Table 9. There were acceptable levels of colinearity between variables with tolerance for all variables above .47, which is above the accepted minimum of .1, and variance inflation factors (VIF) were all below 2.1, which is below the accepted maximum of 10 (Hair, Black, Babin, Anderson, & Tatham, 2005). Subjects' averaged score on the teammate cheating message scale was found to be the sole statistically significant predictor of acceptability of cheating ($\beta = 0.40$, $p = .01$). Interpersonal sports experience constructs explained 21% of the variance in acceptability of cheating (adjusted $R^2 = .21$, $p < .01$).

Hypothesis one predicts a relationship between sports experience and acceptability of cheating. The data show that the total amount of sports experience is not a factor in acceptability of cheating, but whether a person heard messages about cheating from teammates is a factor. The hypothesis receives tentative support in that the direct experiences one has with sports do impact

one's acceptability of cheating, but only in regard to hearing more or less messages about cheating from teammates.

Media sports experiences and acceptability of cheating. Another factor that was thought to lead to acceptance of cheating in sports was the amount of exposure to sports-related media. Hypothesis two predicts a positive correlation between interest in sports-related media and acceptability of cheating in sports. This prediction was tested with a Pearson's *r* correlation between subjects' averaged score on the sports media exposure scale and subjects' averaged score on the acceptability of cheating score $r = .27$, $p = .00$ (one-tailed) where those who indicated they spent more time with sports-related media were more accepting of cheating.

Additional correlations were calculated to explore the relationship among each subset of media type making up the media interest scale (e.g., television, radio, live, print, and online) and acceptability of cheating. Sports media interest from each school age group was also examined (see Table 3).

Another possible source for sports messages is television sports commentary. Research question four asks how television sports commentary messages influence individuals' acceptability of cheating in sports. A participant's averaged score on the television commentary cheating messages scale was correlated with a participant's averaged score on the acceptability of cheating scale. Results show that $r = .38$, $p = .00$ (two-tailed) where those who perceived greater television sports commentary advocacy of cheating were more accepting of cheating.

To test the impact of television sports commentary cheating messages on the relationship between total years played and acceptability of cheating, a partial correlation was conducted between the reported total number of years playing sports and subjects' averaged score on the acceptability of cheating scale, adjusted for subjects' averaged score on the television sports commentary cheating messages scale. The partial correlation $r_{ab.c}$ = -.03, p = .68 (two-tailed) shows that when controlling for the effect of television sports commentary cheating messages there remains no relationship between total years played and acceptability of cheating.

To test the impact of television sports commentary cheating messages on the relationship between sports media interest and acceptability of cheating, a partial correlation was conducted between subjects' averaged score on the sports media interest scale and subjects' averaged score on the acceptability of cheating scale, adjusted for subjects' averaged score on the television sports commentary cheating messages scale. The partial correlation $r_{ab.c}$ = .18, p = .03 (two-tailed) shows that when controlling for the effect of television sports commentary cheating messages there is a positive relationship between sports media interest and acceptability of cheating, such that those who are more interested in sports media are more accepting of cheating.

Additional analysis of sports media experience constructs on acceptability of cheating were conducted to determine which constructs were useful predictors of acceptability of cheating. Subjects' averaged score on the acceptability of cheating scale was regressed onto sex, whether subjects played contact sports,

subjects' averaged score on the television commentary cheating message scale, and subjects' averaged score on the sports media interest measure. Correlations between variables used in the regression analysis can be found in Table 9. There were acceptable levels of colinearity between variables with tolerance for all variables above .80, which is above the accepted minimum of .1, and variance inflation factors (VIF) were all below 1.2, which is below the accepted maximum of 10 (Hair et al., 2005). The control variable, whether subjects played contact sports, was found to be the sole statistically significant predictor of acceptability of cheating (β = -0.30, p = .01). High contact sports were coded as "2" and low-or-no contact sports were coded as "3", thus the negative relationship shows that subjects who played high contact sports had higher acceptability of cheating than those who played no-or-low contact sports. Sports media experience constructs, including control variables, explained 13% of the variance in acceptability of cheating (adjusted R^2 = .13, p < .02).

Hypothesis two predicted that subjects who indicated they were more interested in sports-related media would be more accepting of cheating in sports. When controlling for no-or-low contact vs. high contact sports experience, the effect of sports interest and television commentary cheating messages on acceptability of cheating became trivial. The data do not provide support for the hypothesis.

Direct and media sports experiences and acceptability of cheating. Further regression analyses using sports experience variables to predict acceptability of cheating are not necessary as the media sports experience

variables did not contribute predictive power to the model, and were therefore dropped from the model.

Direct sports experiences and fairness. Experiences in childhood and adolescence are thought to be related to development of moral foundations, and, specifically for this study, sports experiences should be related to the fairness moral foundation. The primary prediction hypothesized in hypothesis three is that sports experience is negatively related to the importance of a person's fairness foundation, such that the more sports experience one has, the less important fairness is to the person. A Pearson's *r* correlation was calculated between subjects' total reported number of years playing sports and subjects' averaged score on the fairness portion of the MFQ30 scale (r = -.05, p = .26, one-tailed). There was no relationship between reported total number of years playing sports and fairness score.

Similar to acceptance of cheating, a possible reason for the lack of relationship between total number of years playing sports and the fairness score is that the type of messages received during sports experience differs. Post hoc analysis examines how direct sports experiences might be related to a person's importance of fairness moral foundation. A Pearson's *r* correlation was conducted between subjects' averaged score on the teammate cheating message scale and subjects' averaged score on the fairness portion of the MFQ30 scale (r = -.23, p = .00, two-tailed). Results show that subjects who heard more messages from teammates advocating cheating had lower fairness scores.

To test the impact of teammate cheating messages on the relationship between total years played and fairness moral foundation, a partial correlation was conducted between the reported total number of years playing sports and subjects' averaged score on the fairness portion of the MFQ30 scale, adjusted for subjects' averaged score on the teammate cheating messages scale. The partial correlation $r_{ab.c}$ = -.04, p = .58 (two-tailed) shows that when controlling for the effect of teammate cheating messages there remains no relationship between total years played and the importance of the fairness moral foundation.

Another possible reason for the lack of a relationship between total number of years playing sports and the fairness score is that coach messages received during sports experience differs. A Pearson's r correlation was conducted between subjects' averaged score on the coach cheating message scale and subjects' averaged score on the fairness portion of the MFQ30 scale (r = -.17, p = .03, two-tailed). Results show that subjects who heard more messages from coaches advocating cheating had lower fairness scores.

To test the impact of coach cheating messages on the relationship between total years played and fairness moral foundation, a partial correlation was conducted between the reported total number of years playing sports and subjects' averaged score on the fairness portion of the MFQ30 scale, adjusted for subjects' averaged score on the coach cheating messages scale. The partial correlation $r_{ab.c}$ = -.05, p = .51 (two-tailed) shows that when controlling for the effect of coach cheating messages there remains no relationship between total years played and the importance of the fairness moral foundation.

A team's general motivational climate may also confound the relationship between the total reported years subjects played sports and the fairness moral foundation. A Pearson's *r* correlation was conducted between subjects' averaged score on the performance portion of the team motivational climate scale and subjects' averaged score on the fairness portion of the MFQ30 scale ($r = .12$, $p = .13$, two-tailed). Results show no relationship between performance motivational climate and the importance of the fairness moral foundation.

The other half of the motivation climate scale, the mastery portion, may also confound the relationship between total number of years a participant played sports and their fairness score. A Pearson's *r* correlation was conducted between subjects' averaged score on the mastery portion of the team motivational climate scale and subjects' averaged score on the fairness portion of the MFQ30 scale ($r = .19$, $p = .02$, two-tailed). Results show that as subjects indicate higher levels of mastery climate, they put greater importance on the fairness moral foundation.

To test the impact of a mastery climate on the relationship between total years played and fairness moral foundation, a partial correlation was conducted between the reported total reported number of years playing sports and subjects' averaged score on the fairness portion of the MFQ30 scale, adjusted for subjects' averaged score on the mastery portion of the team motivational climate scale. The partial correlation $r_{ab.c} = -.07$, $p = .41$ (two-tailed) shows that when controlling for the effect of a mastery team motivational climate there remains no relationship between total years played and the importance of the fairness moral

foundation. For a summary of correlations between importance of fairness and direct sports experience variables see Table 11.

Additional analysis of direct sports experience constructs on importance of fairness were conducted to determine which constructs were useful predictors of importance of fairness. Subjects' averaged score on the fairness portion of the MFQ30 scale was regressed onto subjects' averaged score on the teammate cheating message scale, subjects' averaged score on the coach cheating message scale, and subjects' averaged score on the mastery portion of the team motivational climate scale. Correlations between variables used in the regression analysis can be found in Table 9. There were acceptable levels of colinearity between variables with tolerance for all variables above .49, which is above the accepted minimum of .1, and variance inflation factors (VIF) were all below 2.1, which is below the accepted maximum of 10 (Hair et al., 2005). No individual variable was found to be a statistically significant predictor of fairness. Direct sports experience constructs explained 7% of the variance in importance of fairness (adjusted $R^2 = .07$, $p < .01$).

Hypothesis three predicts a negative relationship between sports experience and importance on the fairness moral foundation. The data show that the total amount of sports experience is not a factor in importance of fairness, and while several relationships exist between direct sports experiences and fairness, none individually provide predictive power for a regression model. Combining teammate cheating messages, coach cheating messages, and mastery climate does provide a statistically significant model predicting an individuals' fairness

importance, however the adjusted R^2 is very small and can also be explained by the large sample size. The hypothesis is not supported.

Media sports experiences and fairness. Hypothesis four predicts that sports media experience is negatively related to a person's importance on the fairness moral foundation, such that the more sports media experience one has, the less important fairness is to the person. A Pearson's *r* correlation was calculated between subjects' averaged score on the sports media interest measure and subjects' averaged score on the fairness portion of the MFQ30 scale (r = -.08, p = .17, one-tailed). There was no relationship between sports media interest and importance of the fairness moral foundation.

One possible reason for the lack of a relationship between sports media interest and fairness is that specific media sources are more powerful than others. To explore this possibility, each subset of the sports media interest measure (television, print, live, radio, online) was examined as a potential correlate of the fairness moral foundation.

For sports television interest, results of the Pearson's *r* correlation between subjects' averaged score on the television portion of the sports media interest scale and subjects' averaged score on the fairness portion of the MFQ30 scale was r = -.01, p = .89 (two-tailed). There was no relationship between sports television interest and importance of the fairness moral foundation.

For sports print media interest, results of the Pearson's *r* correlation between subjects' averaged score on the print portion of the sports media interest scale and subjects' averaged score on the fairness portion of the MFQ30 scale was

r = -.09, p = .25 (two-tailed). There was no relationship between sports print media interest and importance of the fairness moral foundation.

For live sports interest, results of the Pearson's r correlation between subjects' averaged score on the live sports portion of the sports media interest scale and subjects' averaged score on the fairness portion of the MFQ30 scale was r =.05, p = .52 (two-tailed). There was no relationship between live sports interest and importance of the fairness moral foundation.

For sports radio interest, results of the Pearson's r correlation between subjects' averaged score on the radio portion of the sports media interest scale and subjects' averaged score on the fairness portion of the MFQ30 scale was r = -.10, p = .20 (two-tailed). There was no relationship between sports radio interest and importance of the fairness moral foundation.

For online sports media interest, results of the Pearson's r correlation between subjects' averaged score on the online portion of the sports media interest scale and subjects' averaged score on the fairness portion of the MFQ30 scale was r = -.05, p = .48 (two-tailed). There was no relationship between online sports interest and importance of the fairness moral foundation.

An additional construct that may explain the lack of relationship between sports media interest and the fairness of moral foundation is the type of sports media content that people consume. To explore this possibility, a correlation was calculated between subjects' perceptions of whether they heard television sports commentary advocating cheating and subjects' importance of the fairness moral foundation. Results of the Pearson's r correlation between subjects' averaged

score on the television commentary cheating message scale and subjects' averaged score on the fairness portion of the MFQ30 scale was r = -.10, p = .20 (two-tailed). There was no relationship between television sports commentary advocating cheating and the importance of the fairness moral foundation. For a summary of correlations between importance of fairness and sports media experience variables see Table 12.

No additional analysis of media sports experience constructs on fairness were conducted to determine which constructs were useful predictors of fairness as there were no substantial correlations between media sports experience variables and importance of the fairness moral foundation.

Hypothesis four predicted that individuals with more experience watching sports media would demonstrate lower importance of the fairness moral module. The lack of a correlation between sports media interest and importance of the fairness moral module, as well as the lack of relationship between any media experience variables and subjects' fairness scores provide no support for the hypothesis.

Fairness and acceptability of cheating. Hypothesis five predicts a negative correlation between the fairness moral module and acceptability of cheating such that those who place more importance on fairness are less accepting of cheating. This prediction was tested with a Pearson's r correlation r = -.32, p = .00 (one-tailed) meaning that those who place more importance on fairness are less accepting of cheating.

Relationships within social contract cue stimuli. Social exchange theory predicts that in the presence of a social exchange violation scenario subjects should score better on a conditional logic test. The present study utilized this logic to predict that exposure to a social contract violation would sensitize people to other violations with social contract-related elements, namely acceptance of cheating in sports. Specifically, hypothesis six predicts that subjects in the social contract cue condition will be less accepting of cheating than those in the descriptive condition. An independent samples *t*-test was used to evaluate this prediction. Participants in the social contract condition (n = 88, M = 1.75, SD = 0.63) were no different than participants in the descriptive condition (n = 89, M = 1.91, SD = 0.78, t (166.36) = 1.50, $p > .05$, Cohen's d = 0.23), therefore the data not support the hypothesized prediction.

The social contract condition was also predicted to work as a replication of Cosmides (1989). In the presence of a social contract cue it was hypothesized (H7) that participants in a social contract context condition will be more accurate at identifying a correct conditional logic solution than those in a descriptive condition. Accuracy was measured out of four possible correct responses. An independent samples *t*-test was used to evaluate this prediction. Participants in the social contract condition (n = 92, M = 2.39, SD = 1.13) scored higher on the conditional logic task than participants in the descriptive condition (n = 92, M = 1.67, SD = 0.98, t (182) = -4.59, $p < .01$, Cohen's d = 0.68), therefore the data support the hypothesized prediction. The social contract condition did elicit the responses predicted by social exchange theory.

Cosmides (1989) and subsequent work on social exchange theory use the fully correct score on the conditional logic task as a measure of success versus failure (Cosmides et al., 2010). A chi-square test was calculated as a replication of the social exchange theory literature. Participants in the social contract condition (n = 92, perfect score = 21) scored perfectly on the conditional logic task more than participants in the descriptive condition (n = 92, *perfect score = 3*, $X^2 = 15.53$, $df = 4$, $p < .01$, $\phi = .29$), therefore the data support the social exchange prediction. The social contract condition did elicit more fully correct responses as predicted by social exchange theory. Additionally Cosmides et al. (2010) report similar phi coefficient effect sizes for their experiments—$\phi = .28$ and $\phi = .40$ for social exchange versus descriptive condition comparisons, which is in line with the finding in the present study of $\phi = .29$.

When comparing the percentage correct of other social contract studies with the present study, there is a notable difference. Cosmides et al. (2010) report that 80% (20/25) of the social contract condition achieved a fully correct response, and 48% (24/50) scored correct in the two conditions that did not contain a social contract, while Cosmides (1989) found a 75% (SCC) vs 21% (non-SCC), and Gigerenzer and Hug (1992) found 94% (SCC) vs 44% (non-SCC). The present study found 23% (SCC) achieved a fully correct response condition and 3% (non-SCC) achieved a fully correct response in the conditon that did not contain a social contract. The results show a substantially lower percentage of respondents who gained a fully correct score on the conditional

logic task in both of the conditional logic conditions as compared to other studies using a social exchange framework.

Hypothesis eight predicted that the influence of the social contract cue would impact the relationship between the importance of fairness and acceptance of cheating. A social contract cue should moderate the effect of a person's importance of fairness on acceptability of cheating such that subjects in the social contract condition subjects would indicate less acceptability of cheating, even if they indicated lower importance of fairness, while in the descriptive condition the relationship between fairness and acceptance of cheating would remain negative with those indicating less importance of fairness being more accepting of cheating. A partial correlation was calculated between subjects' averaged score on the fairness portion of the MFQ30 scale and subjects' averaged score on the acceptability of cheating scale, adjusted for what condition the subject was assigned to (SCC = 1, descriptive = 0). The partial correlation $r_{ab.c}$ = -.33, $p <$ .01 (two-tailed) shows that when controlling for the effect of the social contract condition there remains a negative relationship the importance of the fairness moral foundation and acceptability of cheating. The zero-order correlation between subjects' averaged score on the fairness portion of the MFQ30 scale and subjects' averaged score on the acceptability of cheating scale was r = -.32 ($p <$ .01). There is practically no difference between the zero-order correlation between importance of fairness and the partial correlation. These results do not provide support for hypothesis eight, the prediction that the social contract

condition would moderate the relationship between importance of fairness and acceptability of cheating.

Model Testing Social Exchange, Fairness, and Acceptability of Cheating

The hypothesized predictions form a causal model where our direct and media experiences predict our importance of fairness moral foundation, which in turn predicts our acceptability of cheating (see Figure 3). There were no experience variables, either direct or media, that predicted the importance of fairness moral foundation, thus the model was not supported.

However, importance of fairness and teammate cheating message independently predicted acceptability of cheating. Thus, a new model was proposed where importance of fairness moral foundation and teammate cheating messages are proposed as separate predictors of acceptability of cheating. Subjects' averaged score on the acceptability of cheating scale was regressed onto subjects' averaged score on the teammate cheating message scale and subjects' averaged score on the fairness portion of the MFQ30 scale. There were acceptable levels of colinearity between variables with tolerance for all variables above .94, which is above the accepted minimum of .1, and variance inflation factors (VIF) were all below 1.1, which is below the accepted maximum of 10 (Hair et al., 2005). Averaged score on the teammate cheating messages scale was found to be a statistically significant predictor of acceptability of cheating (β = 0.42, p = .00), meaning that subjects who indicated they heard more messages about cheating from teammates were more accepting of cheating. Importance of the fairness moral module was found to be a statistically significant predictor of

acceptability of cheating (β = -0.24, p = .00), meaning that subjects who indicated they placed lower importance on the fairness moral module were more accepting of cheating. Teammate cheating messages and importance on the fairness moral module together explained 27% of the variance in acceptability of cheating (adjusted R^2 = .27, p < .01).

Simple causal string model test. The subjects' averaged score on the teammate cheating messages scale is correlated with subjects' averaged score on the fairness portion of the MFQ30 scale (r = -.23), which in turn is correlated with subjects' averaged score on the acceptability of cheating scale (r = -.32). This is a model that is testable as a simple causal string. The model also follows the logic of the literature presented. Experiences (teammate cheating messages) impact moral foundations from a relevant domain (fairness), which in turn impact acceptance of cheating.

A post hoc model test was conducted using subjects' averaged score on the teammate cheating messages scale, subjects' averaged score on the fairness portion of the MFQ30 scale, and subjects' averaged score on the acceptability of cheating scale. The zero-order correrlations in Table 13 were used to assess the fit of the *teammate cheating → fairness → acceptability of cheating* model (see Figure 4). Upon examination of the local fit indices, a large departure from the predicted relationship between teammate cheating messages and acceptability of cheating was identified (i.e., z = 3.49). Furthermore, the error in predicting the acceptability of cheating was large and outside of sampling error of zero (X^2(df =

1 , N = 160) = 12.20, p < .00). Given the test of fit indices, the data are inconsistent with the proposed causal model.

CHAPTER 4: DISCUSSION

The research reported here examined messages and individual difference factors that influence people's moral judgments of cheating in sports. Three primary theoretical perspectives were examined—sports experience and cheating messages, moral foundations theory, and social exchange theory. In this discussion section, I will summarize the major findings, evaluate each of the theoretical perspectives, and recommend new directions for research using these theoretical perspectives in regards to sports messages.

Findings

One of the primary investigations in the present study was to determine predictors of acceptance of cheating. Though direct sports experience messages and sports media experiences were both considered as potential predictors of acceptance of cheating, only teammate messages advocating cheating predicted acceptance of cheating in a causal model. There were important patterns within direct experience. Direct experience messages from coaches were not significant predictors, nor was the team climate, or years spent playing sports. Only peer influence was a significant predictor of individuals' acceptability of cheating.

None of the sports media exposure variables, including media messages that advocate cheating, were statistically significant predictors of participants' acceptance of cheating scores. Whereas prior sports commentary studies typically measured reactions and attitudes about violence or cheating directly after exposure to a sports commentary induction (e.g. Comisky et al., 1977; Bryant et

al., 1982; Beentjes et al., 2002), this study asked participants for an autobiographical recall and perception of their exposure. There is a substantial difference in time and memory that may have occurred that makes a poor comparison of these two types of measurement.

The first main theoretical investigation in the study was media and message predictors of the fairness moral module and impact of the fairness moral foundation on individuals' acceptability of cheating in sports. Importance given to fairness predicted acceptance of cheating in sports, however experience and message constructs that should have predicted importance of the fairness moral foundation did not do so. Thus, the causal model in which childhood and adolescence cheating experiences should predict importance of fairness, which in turn predicts one's acceptability of cheating did not fit the data. Teammate cheating messages and fairness accounted for significant variance in acceptability of cheating in sports, without fairness mediating.

The third theoretical investigation of the study predicted that experience with cheating media and experience messages would influence how context featuring a social exchange violation would activate a cheating detection algorithm. Indeed, a powerful social exchange effect was observed, and with the same magnitude found in typical social exchange results. The study presented the social exchange task using a different context, and online instead of in a lab. This is a drastic departure from traditional social exchange methods, which left substantial room for more error to enter into the results. However, even through these differences, the social exchange effect was replicated. This robust

theoretical perspective extends into the sports realm and functions online as well. There was no support for the predictions that the cheating detection algorithm would extend beyond the conditional logic task and impact participant responses to the acceptability of cheating scale and the fairness moral foundations scale. The social exchange scenario appears to be a domain-specific effect in that it works if, and only if, very specific message features are present.

The results of the conditional logic task also show an interesting departure from the traditional social exchange results in the percentage of correct answers. Social exchange findings show 70%-90% of respondents scoring perfect on the conditional logic tasks in social exchange conditions, while in the present study, only 23% of respondents in the social exchange condition scored perfectly. Reasons for, and implications of, this result will be discussed in the subsequent section of the paper.

Overall, the findings call into question the role of experience, media, and moral modules relative to sports-specific reasoning. While some message effects appear to function as expected, these drop out in more complex models. There are more substantial effects from interpersonal teammate messages than any other source on an individuals' acceptability of cheating in sports.

Further Insights and Limitations

Teammates matter. One particularly interesting finding was that teammate cheating messages were a useful predictor of one's acceptability of cheating, while other experience-related constructs, such as coach cheating

messages and media cheating messages, were not. Why teammates and not other experience-related messages?

This result supports research on sports experience and morality. Stephens and Bredemeier (1996) found that teammate norms were a more powerful predictor ($\beta = 0.54$) of one's likelihood to aggress against an opponent than coach messages ($\beta = 0.15$). Teammate influence is typically included as one of many sociocultural elements that influence moral behaviors in sports, but the results in the present study suggest that teammate influences should be treated as more important constructs than they have been treated in the past.

The focus on peer influence in sports is an important consideration that may be overlooked by the literature. Moral atmosphere is considered to be constructed by coaches, teammates, rules, and parent influences, but the perspective does not account for the difference in the sizes between teammate influences ($\beta = 0.54$) and coach influences ($\beta = 0.15$) as found in Stephens and Bredemeier (1996) and the results of the present study. In one study, Kavassanu, Roberts, and Ntoumanis (2002) did not differentiate coach from teammate messages, instead summing coach and teammate message scores together for an index of total messages. Even when Stephens and Bredemeier (1996) found that teammate messages were a more powerful predictor of likelihood to aggress, they focused on coaching and parenting as influential areas in their conclusion.

One explanation for the power of teammate messages is that the participants in these studies are in a developmental stage where peer influence is a major, if not the most important, influence on their lives. Teammates are peers,

while coaches, media, and parents are less important forces in late childhood and adolescence. Child development scholars argue that, for adolescents, peer socialization is a powerful influence on attitudes and behavior, and that inter- and intragroup processes involving peers and various social groups are a critical domain in which to examine youth and adolescent development (Harris, 1995). For example, Minoura (1992) found that children around 9 years old begin to pick up on social and cultural cues from their peers, and that this is a critical juncture for learning about social rules. Ellis and Zarbatany (2012) write that peer group influences, especially peer groups with high social status such as athletic peer groups, are significant predictors in adolescents' likelihood to engage in aggressive, deviant, or prosocial behavior. This being the case, future studies need to examine the role of peer influence in more detail. Perhaps media influence in sports morality is a two-step process, like that observed by Katz and Lazarsfeld (1955), in which a small number of opinion leaders are influenced by media, then spread those views to their teammates. This type of effect could be masked in the present study by data with, as a memory, is an amalgamation of past experiences instead of an accurate snapshot of the most prevalent, or most current experience actually is.

To better detect teammates' influence on sports morality, a first step would be to measure messages received during the focal developmental period. The present study relied on distant autobiographical recall, but human memory is often poor and revisionary (Schwarz, 1999). For example, post sports viewing and practice diaries could record youth players' exposure to messages over the

course of a season. Insights gained from these more accurate estimates of the prevalence and distribution of acceptance of moral or immoral behaviors in sport will give researchers a better understanding of the types of messages heard and how they are being interpreted. For example, are children hearing media messages that suggest cheating and aggression are acceptable? Or are there just a few "bad apples" that contribute to a general climate of moral behavior? Who is the most credible source of message interpretation (opinion leaders) and does this change across time? Such an approach would give insight into the dynamics of morality development relative to sports media messages.

Research could also compare media and teammate influences outside the moral domain (e.g., playing sports as fun versus work, discipline to a program of practice, or expectations of benefits from playing sports) to that within the moral domain. Are individuals differentially influenced in other domains (e.g., work ethic) as compared to the moral domain? Comparing the prevalence and influence of other general sports participation constructs in media and real life to moral behaviors would provide perspective on the relative power of media and teammates on morality. Additionally, one could use the diary data to compare teammate influence with coach, media, and parental influences in an attempt to replicate the findings in the present research.

The origin of fairness. Another curious finding was that no sports experience variables, direct or media, predicted the fairness moral foundation. Moral foundations are cognitive structures that provide intuitive moral judgments. They are thought to be developed during critical developmental ages, primarily

during youth and adolescence, and are thought of as cultural knowledge structures (Haidt, 2001). Moral foundations are thought to be a part of our evolutionary makeup, with people being born with foundations that are then revised and adjusted to be more or less important, each according to the experiences, culture, and society in which one is raised.

A rationale for the present study was that fairness-relevant media and interpersonal sports messages in youth and adolescence would influence the importance of the fairness moral foundation for individuals. The data did not support the prediction. Why don't sports-related messages, which are particularly fairness-relevant (Haidt, 2001), influence the importance of the fairness moral foundation?

One possible reason may be that sports messages and experiences are not particularly germane in the formation the fairness domain. Bredemeier and Shields' (1984;1986) concept of bracketed morality may provide some insight into the role of sports in morality development. Bracketed morality is "a legitimated, temporary suspension of the usual moral obligation to equally consider the needs and desires of all persons," (Bredemeier & Shields, 1986, p. 257-258). In interviews of people reasoning through moral choices, Bredemeier and Shields (1986) found that sports moral situations were judged with a different set of standards than life moral situations. If moral reasoning about sports falls under a different set of rules than other moral reasoning situations, then it is possible that sports experiences are not domain-relevant when it comes to fairness situations. According to a bracketed morality perspective, selecting sports media

content would also bring about a suspension of non-sports moral rules, and individuals would interpret messages without the usual moral obligation of considering all people as equal. When considering a message from a sports media source, instead of considering reciprocity and fairness, individuals would be more attentive to sports-relevant violations (e.g. player skill or benefit to a favorite team). Thus, considerations of morality by typical standards would be ignored.

Further complicating interpretation of the data is the lack of conceptual clarity in moral foundations theory. In particular, the process by which various moral foundations are developed is not adequately explicated. Haidt (2001) writes about developmental factors termed "custom complexes", but fails to define the term. Custom complexes appear to be a culmination of all experiences one has in youth and adolescence. For example, Haidt states that moral modules are developed "primarily through participation in custom complexes involving sensory, motor, and other forms of implicit knowledge shared with one's peers during the sensitive period of late childhood and adolescence" (p. 828). However, this idea of custom complexes is undefined, unwieldy, and large—too large to use as a predictive construct as it includes virtually every stimulus one encounters, consciously or unconsciously, in youth and adolescence as a potential influence on moral foundations. The concept is further complicated when Haidt and Joseph (2004) write that "cultures can create variable actual domains that are much broader than the universal proper domains for each module" (p. 63). It is difficult to categorize and define each behavior or set of behaviors into a single moral module domain, as cultures have developed a multitude of interpretations of each

behavior and where it might fit. Unfortunately, work that synthesizes literature explicating the development of moral foundations has not been presented with the moral foundations research.

If moral foundations are impacted by the culture in which one is raised, empirical studies should show that external stimuli impact foundation importance. This could be demonstrated by showing that different cultural upbringing will produce systematic differences in moral foundation importance. However, when looking at moral foundation scores across international data sets, foundation scores remain consistent from culture to culture. Graham et al. (2011) show that people from different world regions (i.e. United States, United Kingdom, Western Europe, Eastern Europe, Latin America, Africa, Middle East, South Asia, East Asia, and South East Asia) responded such that their moral foundation importance was positively correlated with their political ideology (liberal or conservative). All correlations were in the same direction, and nearly all correlations were of similar size. The result presented in Graham et al. (2011) does not demonstrate variance across cultures, but suggests that foundations may be similar across cultures. Another data set from Graham et al. (2009) shows that respondents from various international regions answered similarly, but upon closer inspection the three international regions were the United States (n = 695), the United Kingdom (n = 477), and Other (n = 417), which included Canada (n = 44), Argentina (n = 61) and other countries (not reported). While there could be methodological reasons for the lack of variance in moral foundation across cultures (e.g., translation, English-only surveys, or systematic sampling), the data presented thus

far do not present empirical evidence that adequately answers the question of whether cultural upbringing impacts moral foundation importance.

A final possible reason that there was a nonsignificant correlation between experiences and importance of the fairness moral foundation could be measurement error. The fairness portion of the MFQ30 demonstrated a Cronbach's alpha of $\alpha = .65$, which is consistent with other studies (e.g. Eden, n.d; Graham et al., 2009; Graham et al, 2011; Tamborini et al, 2009a; Tamborini et al 2009b). While a confirmatory factor analysis did support the six item solution, the low reliability suggests that the fairness portion of the MFQ30 is not adequately understood in terms of measurement. There is a correction for attenuated correlations resulting from measurement error (Spearman, 1904). However, even after correcting for measurement error, relationships between the importance of fairness and other variables increased slightly, but did not reach the statistical significance criterion. The first order correlation between subjects' importance of fairness score and number of years played, controlling for coach cheating messages score ($r_{ab.c} = -.05$) increased just slightly to $r_{ab.c} = -.09$ when corrected for measurement error.

Measurement error may be another symptom of conceptual clarity issues in that the construct is not adequately understood. To address the problems of conceptual clarity in moral foundations theory, future research in moral foundations should focus on:

1. Improving moral foundations conceptual clarity by explicating moral foundations with attention to relevant theory that explains formation and

development. For example, what kind of cultural messages and reinforcement should create a lower importance of fairness?

2. Observing how importance of moral foundations develop over time. If development in childhood and adolescence is the critical time in which individuals come to understand their moral positions, then it would be useful to see patterns of importance and how they relate to culture and developmental stage.
3. Using data from observations to provide suggestions for what kinds of sociocultural stimuli, if any, influence moral foundations. Perhaps different kinds of stimuli prompt differential effects. There is some scholarship in this area regarding media processes and content selection (Tamborini, 2011).
4. Hypothesizing what types of sociocultural differences should result in differences across cultures. If there are specific stimuli that are more powerful in certain developmental stages, then how do those stimuli manifest across cultural boundaries? Examining research using a cultural anthropology perspective may shed light on how different cultures understand the five moral domains differently.

Social contracts and low scores. Social exchange theory predicts that within the social exchange context, humans perform consistently better on a conditional logic task than within a context that does not feature a social contract. The theory was supported with the results of the present research. However, while the effect was the same size as that of the social exchange theory body of

research, the percentages correct were vastly lower than in previous social exchange studies (see Table 14). For example, in one typical experiment (see Table 14) Gigerenzer and Hug (1992) found that 94% of the participants in the social contract condition scored a fully correct answer on the conditional logic task; in the present study the corresponding value was 23%. Two potential reasons for the low scores in the conditional logic task include: (a) sports may be its own domain that prompts different response patterns from the social exchange domain or (b) there may have been testing differences in the survey procedure.

Does the sports moral domain differ in significant conceptual ways from domains used in the social exchange literature? A domain is a collection of functionally specialized cognitive mechanisms that are activated in specific situations (Cosmides and Tooby, 1992). But how narrow are these domains? Cosmides and Tooby (1992) argue that these collections of mechanisms allows human cognition to be specialized for recurrent tasks, enabling evolutionary fitness for recurrent adaptive challenges. Other examples of likely domains are "threat, coalitional relations, and mate choice," (p. 166, Cosmides & Tooby, 1992). Cosmides and Tooby (1992) argue that each domain should have design features that mesh with problem types found in early Pleistocene conditions (p. 166). By this requirement, it is difficult to place sports morality into its own domain. However, Bekoff and Byers' (1998) idea of "play-as-rehearsal" may be a starting point to explore a sports-related cognitive domain, which may provide insight into how people process morality under sport, or play conditions.

Sport or play as a cognitive domain is consistent with the bracketed morality concept discussed by Bredemeier and Shields (1984). Bracketed morality is "a legitimated, temporary suspension of the usual moral obligation to equally consider the needs and desires of all persons," (Bredemeier & Shields, 1986, p. 257-258). In other words, it may be possible that sports situations activate a different kind of reasoning cognition than non-sports situations. Bredemeier and Shields (1984; 1986) present bracketed morality as a more egocentric moral reasoning style when it comes to what is permissible in sports. The evidence for bracketed morality in sports stems from divergences in moral reasoning styles between life and sports situations (Kavassanu, Roberts, & Ntoumanis, 2002). The authors term this special case of sports morality "game reasoning", and suggest that in sports contexts people adopt a special perspective where there is more acceptance of behaviors traditionally considered less moral such as aggression, intentional rule violation, and selfishness. A play domain in which play-as-rehearsal is the dominant cognitive mechanism, rehearsal for successful self-preservation would require individuals to default to selfishness and rule breaking in order to benefit one's own chances of survival. Game reasoning may be a cognitive mechanism that mimics a domain that we might call "survival reasoning".

Alternatively, individuals may be sensitive to the volitional nature of sports rule infractions. Many people may assume that most sports rule violations are accidental. Infractions are also just a part of gameplay whether or not they are intentional. Most team-based organized sports are filled with infractions, and the

punishment for infractions typically doesn't hinge on intentionality. Many rules infractions are regulative rules, which act to modify the game as it is meant to be played[1] (Fraleigh, 2007), and can be accidental or intentional. The question of intent has been explored by some social exchange research. Cosmides et al. (2010) report that in a situation where the rule is broken accidentally, without intent to cheat, there was a lower percentage correct in the conditional logic task. The results of Cosmides et al.'s (2010) high school placement experiment show that the highest frequency of correct responses occurs when there is possible cheating with a clear benefit and clear intent to cheat. When the benefit for the cheater is removed, accuracy drops; when intent is also removed accuracy drops further. If the rule violation is not intentional, then the situation does not activate the specific cheating detection mechanism. Consistent with the findings of the Cosmides et al. (2010) study, if sports rule infractions are assumed to be unintentional, then the results of a conditional logic task involving sports would be attenuated, as in the present study. Because there is not specific language in the text of the social contract condition that specifies that holding in football is intentional, and in fact in American football holding is not always intentional, it is possible that most participants were unable to note the intent in the sports cheating scenario. If it is the case that participants were unable to note intentionality from the social exchange context, then a lower percentage correct, like Cosmides et al.'s (2010) results (27%) would be a comparable result to those found in the present study (23%). To answer this question, a follow-up study could use a description where intentionality is emphasized. Another possibility is

to change from a regulative rule violation to a constituative rule violation, making the intent more pronounced.

Another reason there may have been differences in the percentage scores is that the conditional logic task is confusing. In previous research the conditional logic task was conducted as a paper and pencil measure with a research assistant administering the measures. The present study used online data collection with no assistant to field questions from participants. In pretesting the conditional logic task measure, subjects often had questions when presented with the conditional logic task. The task is confusing, and it is possible that given an online measure, participants skipped over it quickly to receive credit for their participation instead of giving it critical thought. One factor that could lead to confusion is if participants think that not getting caught equates to not cheating. In that case, the choices on the conditional logic task will not make sense because options one and three would be interpreted as the same thing. The options were (a) committed holding, (b) did NOT commit holding, (c) was penalized, (d) was NOT penalized. It's possible that participants saw no distinction between the two "committed" and two "penalized" options. Individuals high in importance of fairness should be more likely to be concerned with reciprocity and rules violations, so a post hoc analysis was conducted using the high and low thirds of the sample after a tertiary split on the importance of fairness moral foundation comparing participant responses from the social contract condition. Responses on the conditional logic task from the social contract condition show that individuals in the high third of fairness were more likely to attain a perfect score (39%) than

those in the low third (11%) and select at least the two cards needed (53%) more frequently than those in the low third (18%). This suggests that those individuals who consider the fairness moral foundation to be more important were more likely to indicate both a committed and penalized option—a response pattern that indicates understanding a distinction between the two. Those low in fairness provided responses that showed selecting either penalized or committed (57%) versus both options (36%). These response patterns suggest that a subset of the sample did not perceive a substantial difference between response options on the conditional logic task.

Future research on sports and social exchange requires more precise explication of the suggested sports reasoning domain. First, there must be an evolutionary basis for a sports domain (Cosmides & Tooby, 1992). Literature examining moral philosophy of sport fits sports into a category of play-type behaviors (Feezell, 2004; Fraleigh, 2007). There is an established body of research examining the evolutionary roots of play (e.g. Bekoff & Byers, 1998). Evolutionary play researchers theorize that play serves a fitness function in that it allows for practice behaviors in less threatening survival situations (Fagen, 1974; Smith, 1982), particularly for unexpected survival threats. Spinka, Newberry, and Bekoff (2001) argue that play is made up of activities where players switch between control and loss of control, where the goal of the activity is mastery over the loss of control. The authors argue that play is practice for real life threats so that individuals can react and respond to novel threats in order to survive. If play is a version of practice self-preservation, then the goal of play is to practice

benefiting oneself first. As previously discussed, this aligns with Bredemeier and Shields' bracketed morality concept. Sports are a version of play wherein individuals' self-preservation is more important than other concerns, thus the findings that players are more aggressive, commit more intentional rule violations, and are more selfish in sports situations as opposed to non-sports, or non-play situations may be due to rehearsing for successful self-preservation in order to benefit one's own chances of survival.

Second, the boundaries of the domain must be established. If there is an evolutionary basis for a specialized play domain, how does the morality of sport fit into the specialized play domain? Are play, games, and sports equivalent? When the question of professionalizing sports is added how does that impact a specialized play cognitive reasoning domain? If some combination of play, games, and/or sports do seem to belong within a specialized domain, how would people react to moral violation situations from sport versus non-sport situations? One possible method of testing play domain predictions might be to compare differences between sports or life message situations on scores on self-preservation psychometric measures (e.g. egocentrism [Cohn, Millstein, Irwin, Adler, Kegeles, Dolcini, Stone, 1988]; self-preservation-self-destruction [Brown, Dahlen, Mills, Rick, Biblarz, 1999]). Scenarios could be constructed with minimal differences to contain the difference to a sports scenario versus a life scenario. Other cross domain comparisons could be made by measuring moral reactions or self-preservation reactions to commentary or analysis of televised news versus sports news that focuses on a moral situation.

Cases of extreme means. Several of the variables in the study displayed skewness and extreme cases. The acceptability of cheating scale was skewed positively (range = 1.00 to 3.88, skewness = 0.97, mean = 1.83, *SD* = 0.71, α = .88), indicating that most participants responded that cheating was not acceptable, and that they heard little advocacy of cheating from teammates (range = 1.00 to 4.00, skewness = 0.81, mean = 1.86, *SD* = 0.62), coaches (range = 1.00 to 3.86, skewness = 1.44, mean = 1.56, *SD* = 0.73, α = .90), and television commentary (range = 1.00 to 3.71, skewness = 0.46, mean = 1.96, *SD* = 0.73, α = .86).

There are two possible reasons for the extreme cases in this study. First, there could be a social desirability effect where people are less willing to indicate that they condone or participate in activities such as cheating. The anonymity of the survey instrument was designed to prevent a social desirability effect, but people may respond to questionnaires in the best possible light they wish to see themselves in. To test for this possibility, future research should include social desirability measures and see if participants are concerned about other socially taboo topics. Another possible reason for extreme cases in the data set are that there are actually few occurrences of people who are accepting of cheating and who perceive that messages from their social environment are supportive of cheating behaviors. It's possible that there are very few people who advocate cheating.

Future Directions

The possibility that there are a few prolific cheaters, a "bad-apple" individual difference, may be an important construct in future studies. The

influence of teammate cheating messages was the most powerful predictor of acceptability of cheating. If there are a few vocal teammates who support and encourage cheating on a team, perhaps they are the ones who carry the influence for future acceptability of cheating.

There was no support for the overall prevalence of sports media exposure on acceptability of cheating, however, the literature on sports commentary shows a clear pattern of effects where the commentator messages dramatically impact viewers. Time may be a main reason for the differences between the experimental commentary studies and the present survey—the commentary literature generally asks individuals their perceptions of a specific event immediately after exposure, while the present study asked them more general autobiographical memory questions. Perhaps a middle ground between these approaches is necessary to determine the long term impact of sports commentary media content on perceptions and attitudes. This would require future studies to examine sports media content more closely. Some questions that should be explored are: What is the prevalence of pro- or anti-cheating messages by commentators? What kinds of infractions or rules violations do commentators discuss? Do commentators discuss dirty plays that are within the rules? All of these questions could be addressed with a content analysis on sports media coverage. A content analysis would give context to the effects found in the early sports commentary literature.

Conclusion

This research makes a contribution to the media effects literature concerning sports commentary, as well as posing questions for moral foundations theory work in media. Beyond understanding what influences impact people's acceptance of cheating, this work has a number of applications in other areas of communication study. For example, this study compares media effects to interpersonal effects on attitudes. In addition, it brings a new body of work, sports experience and moral stages, to the communication field, and adds a message and media consideration to the sports experience body of literature. In addition to the theoretical questions this work raises, the study serves as a practical reminder to counselors, coaches, and teachers with information about the influence process in youth sports, namely, that peer influence is a key component in influencing young people for their future.

APPENDICES

Appendix 1: Figures

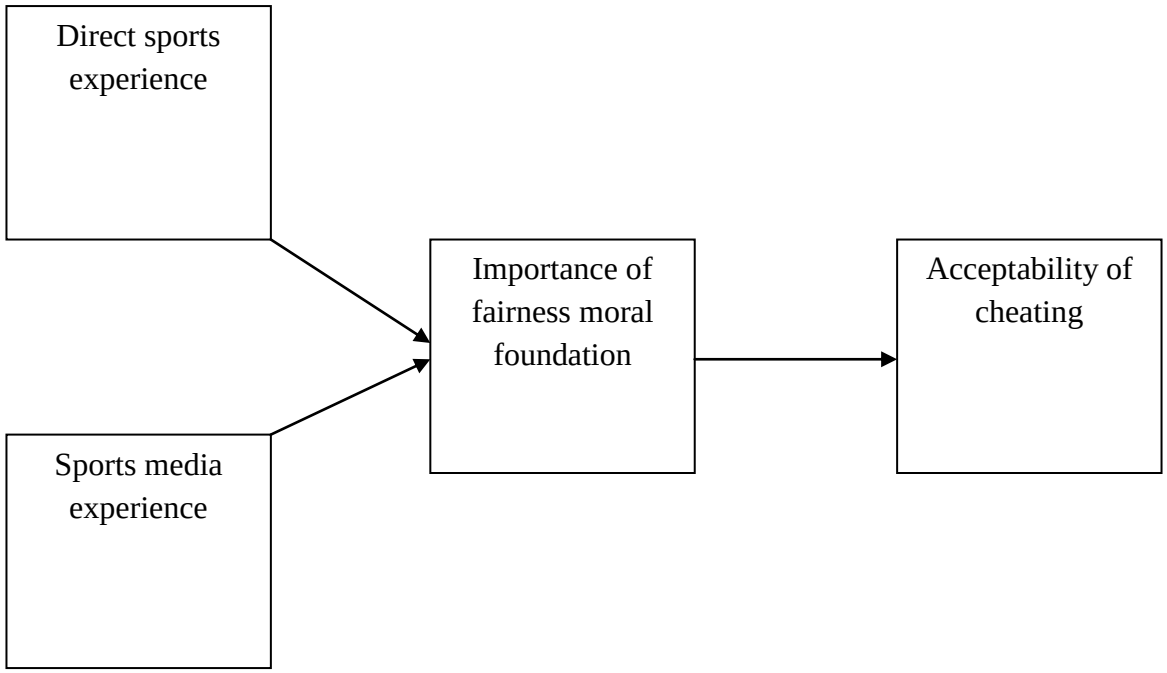
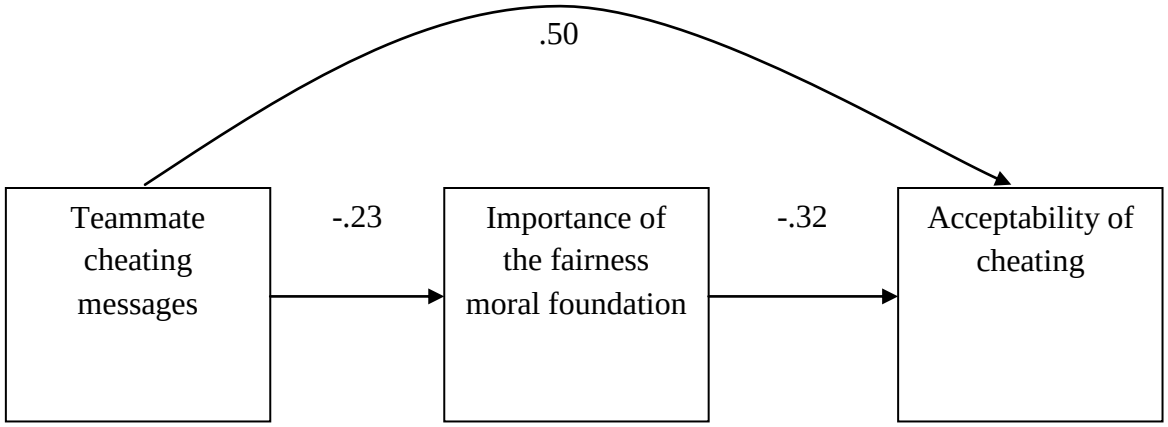


Figure 3. The sports experience and moral foundations model



Corrected: $e = 0.41$, X^2 ($df = 1$, $N = 160$) = 12.20, $p < .00$

Figure 4. The teammate messages and moral foundations model

Appendix 2: Tables

Table 1: *Self and Parent Education*

	Self	Parent 1	Parent 2	Parent 3	Parent 4
	n = 179	*n* = 180	*n* = 190	*n* = 113*	*n* = 112*
Ph. D.	--	4	1	--	--
	--	2.2%	0.6%	--	--
Master's or professional	2	45	25	--	--
	1.1%	25%	14.3%	--	--
Some graduate school	6	5	5	1	2
	3.4%	2.8%	2.9%	--	--
Bachelor's degree	38	57	48	3	5
	21.2%	31.7%	27.4%	--	--
Some 4 year college	104	17	24	5	5
	58.1%	9.4%	13.7%	--	--
Community college diploma	4	4	5	1	--
	2.2%	2.2%	2.9%	--	--

Table 1 (cont'd)	Self *n* = 179	Parent 1 *n* = 180	Parent 2 *n* = 190	Parent 3 *n* = 113*	Parent 4 *n* = 112*
Some community college	3	7	5	3	1
	1.7%	3.9%	4.6%	--	--
Trade school diploma	1	4	38	--	--
	0.6%	2.2%	2.9%	--	--
Some trade school	1	1	--	--	--
	0.6%	0.6%	--	--	--
High school diploma	20	28	38	3	3
	11.2%	15.6%	21.7%	--	--
Some high school	--	4	10	1	--
	--	2.2%	5.7%	--	--
Elementary school	--	3	4	--	--
	--	1.7%	2.3%	--	--
None	--	1	2	54	56
	--	0.6%	1.1%	--	--

*Percentages not included for Parents 3 & 4 due to high occurrence of participants noting "None" on education.

Table 2: *Sports Media Use*

		Television	Print	Live	Radio	Online	Total
		n = 177	*n* = 176	*n* = 179	*n* = 176	*n* = 172	*n* = 159
College	*Mean*	4.43	3.08	3.84	2.62	3.21	3.32
	SD	2.04	1.81	1.88	1.75	1.77	1.65
	Skewness	-0.30	0.47	-0.01	0.81	0.36	0.25
	Kurtosis	-1.08	-0.97	-1.04	-.055	-0.96	-1.11
High School	*Mean*	4.11	3.00	3.82	2.48	2.85	3.12
	SD	2.14	1.92	1.92	1.70	1.68	1.62
	Skewness	-0.01	0.48	0.00	0.86	0.60	0.35
	Kurtosis	-1.36	-1.11	-1.20	-0.47	-0.70	-1.12
Middle School	*Mean*	3.52	2.68	3.21	2.37	2.31	2.65
	SD	2.11	1.86	1.87	1.63	1.50	1.51
	Skewness	0.29	0.76	0.48	0.99	0.94	0.70
	Kurtosis	-1.21	-0.70	-0.92	-0.02	-0.12	-0.67

Table 2 (cont'd)		Television	Print	Live	Radio	Online	Total
		n = 177	*n* = 176	*n* = 179	*n* = 176	*n* = 172	*n* = 159
Elementary School	*Mean*	3.26	2.47	2.99	2.27	2.16	2.43
	SD	2.13	1.76	1.88	1.62	1.45	1.45
	Skewness	0.50	1.01	0.65	1.18	1.14	0.92
	Kurtosis	-1.06	-0.11	-0.79	0.43	0.30	-0.18

Table 3: *Sports Media Use and Acceptability of Cheating Correlations*

	Television	Print	Live	Radio	Online	Total
	n = 172	*n* = 170	*n* = 173	*n* = 170	*n* = 167	*n* = 155
Acceptability of Cheating	.19	.31	.21	.30	.26	.27
College	.15	.25	.15	.29	.22	.24
High School	.09*	.28	.16	.29	.23	.25
Middle School	.21	.32	.22	.28	.32	.31
Elementary School	.22	.29	.25	.27	.29	.31

*All correlations were statistically significant at $p \leq .01$ (one-tailed) except for this correlation between high school television sports media use and acceptability of cheating.

Table 4: *Unstandardized Difference Between Male and Female Subjects on Constructs of Interest*

Constructs of Interest	Target Sex	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Sports Experience (total years played)	Male	68	18.49	15.08	1.52	108	.13	-0.97	7.31
	Female	111	15.32	10.64					
Acceptance of cheating	Male	68	2.03	0.79	2.79	122	.01	0.09	0.54
	Female	106	1.72	0.64					
Teammate cheating messages	Male	64	2.00	0.68	2.27	162	.03	0.03	0.42
	Female	100	1.78	0.58					
Coach cheating messages	Male	63	1.76	0.83	2.64	104	.01	0.08	0.56
	Female	104	1.44	0.63					
Interest in sports media	Male	59	3.40	1.60	2.519	154	.01	0.13	1.11
	Female	97	2.78	1.42					

Table 4 (cont'd)

Constructs of Interest	Target Sex	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Television commentary cheating messages	Male	62	2.10	0.73	1.87	1.68	.06	-0.01	0.44
	Female	108	1.88	0.73					
Mastery team climate	Male	61	3.80	0.78	-1.44	162	.15	-0.40	0.06
	Female	104	3.97	0.67					
Performance team climate	Male	64	3.53	0.74	1.45	166	.15	-0.06	0.39
	Female	104	3.37	0.72					
Importance of the fairness moral foundation	Male	67	4.53	0.77	-1.20	173	.23	-0.36	0.09
	Female	108	4.67	0.69					
Score on conditional logic task	Male	68	2.10	1.15	0.60	177	.55	-0.24	0.44
	Female	111	2.00	1.10					

Table 5: *Statistically Significant Differences Between Rural, Urban, and Suburban Subjects on Constructs of Interest*

Constructs of Interest	Type of City or town	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Acceptance of cheating	Rural	21	1.58_a	0.51	-2.55	59	.01	-0.95	-0.11
	Urban	40	2.11_b	0.88					
	Suburban	113	1.79_a	0.65	2.09	55	.04	0.01	0.62
Mastery team climate	Rural	21	4.19_a	0.58	2.01	57	.05	0.00	0.81
	Urban	38	3.79_b	0.82					
Performance team climate	Rural	21	3.77_b	0.67					
	Urban	38	3.37_a	0.79	1.97	57	.05	-0.01	0.81
	Suburban	109	3.39_a	0.71	2.28	128	.02	0.05	0.71

Note. Only constructs that demonstrated a statistically significant difference or confidence intervals that did not include zero were included in this table. Parameters for each construct of interest means that share subscripts do not differ significantly.

Table 6: *Unstandardized Difference Between High Contact and Low-or-No Contact Sports Players Subjects on Constructs of Interest*

Constructs of Interest	Contact Level	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Sports Experience	Low	66	15.26	9.76	1.87	87	.07	-0.31	9.88
	High	23	20.04	12.72					
Acceptance of cheating	Low	65	1.66	0.55	2.57	86	.01	0.08	0.65
	High	23	2.03	0.69					
Teammate cheating messages	Low	63	1.68	0.50	4.38	83	.00	0.31	0.81
	High	22	2.24	0.56					
Coach cheating messages	Low	64	1.36	0.57	2.60	84	.01	0.10	0.76
	High	22	2.16	0.89					
Interest in sports media	Low	56	2.81	1.29	1.61	73	.11	-0.14	1.28
	High	19	3.38	1.49					

Table 6 (cont'd)

Constructs of Interest	Contact Level	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
TV commentary cheating messages	Low	65	1.82	0.64	2.02	85	.05	0.01	0.67
	High	22	2.16	0.77					
Mastery team climate	Low	60	3.97	0.70	0.07	78	.94	-0.33	0.35
	High	20	3.98	0.61					
Performance team climate	Low	64	3.35	0.66	0.56	83	.58	-0.24	0.43
	High	21	3.98	0.69					
Importance of the fairness moral foundation	Low	66	4.69	0.66	-0.07	86	.95	-0.36	0.34
	High	22	4.68	0.85					
Score on conditional logic task	Low	66	2.06	1.09	-0.65	87	.95	-0.54	0.51
	High	23	2.04	1.07					

Table 7: *Unstandardized Difference Between Former College Athlete and Nonathlete Subjects on Constructs of Interest*

Constructs of Interest	Athletes	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Sports Experience (total years played)	Former College Athlete	20	20.20	11.31	1.85	131	.07	-0.37	11.21
	Nonathlete	113	14.78	12.21					
Acceptance of cheating	Former College Athlete	20	1.73	0.70	-0.94	129	.35	-0.52	0.18
	Nonathlete	111	1.90	0.71					
Teammate cheating messages	Former College Athlete	20	2.00	0.71	1.31	120	.19	-0.10	0.51
	Nonathlete	111	1.80	0.62					
Coach cheating messages	Former College Athlete	20	1.86	0.98	1.92	125	.06	-0.01	0.72
	Nonathlete	107	1.51	0.71					

Table 7 (cont'd)

Constructs of Interest	Athletes	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Interest in sports media	Former College Athlete	18	3.51	1.46	1.60	114	.11	-0.15	1.40
	Nonathlete	98	2.88	1.53					
Television commentary cheating messages	Former College Athlete	18	1.98	0.85	0.03	125	.98	-0.38	0.39
	Nonathlete	109	1.97	0.75					
Mastery team climate	Former College Athlete	18	4.06	0.69	0.84	121	.17	-0.12	0.66
	Nonathlete	105	3.90	0.76					
Performance team climate	Former College Athlete	18	3.64	0.57	1.37	123	.17	-0.12	0.66
	Nonathlete		3.36	0.81					

Table 7 (cont'd)

Constructs of Interest	Athletes	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Importance of the fairness moral foundation	Former College Athlete	9	4.80	0.62	104	127	.30	-0.16	0.52
	Nonathlete	110	4.62	0.71					
Score on conditional logic task	Former College Athlete	20	2.25	1.12	19	131	.20	-0.17	0.83
	Nonathlete	113	1.92	1.04					

Table 8: *Unstandardized Difference between Current College Athletes and and Non-Athlete Subjects on Constructs of Interest*

Constructs of Interest	Are you a current College athlete?	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Sports Experience (total years played)	Current	17	21.06	16.41	1.58	178	.12	-1.26	11.30
	Not Current	163	16.04	12.03					
Acceptance of cheating	Current	16	2.22	0.99	1.66	16.40	.12	-0.12	0.96
	Not Current	159	1.80	0.67					
Teammate cheating messages	Current	17	2.30	0.91	2.20	17.47	04	0.02	0.97
	Not Current	148	1.81	0.57					
Coach cheating messages	Current	17	2.03	0.87	2.44	18.35	.03	0.07	0.99
	Not Current	151	1.50	0.69					

Table 8 (cont'd)

Constructs of Interest	Are you a current College athlete?	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Interest in sports media	Current	15	4.07	1.51	2.92	155	.00	0.38	1.97
	Not Current	142	2.90	1.48					
TV commentary cheating messages	Current	16	2.34	0.85	2.22	169	.03	0.05	0.80
	Not Current	155	1.92	0.71					
Mastery team climate	Current	17	3.89	0.70	-0.13	163	.90	-0.39	0.34
	Not Current	148	3.91	0.72					
Performance team climate	Current	17	3.72	0.44	2.64	27.80	.01	0.07	0.57
	Not Current	152	3.40	0.75					
Importance of the fairness moral foundation	Current	17	4.44	0.55	-1.04	174	.30	-0.56	0.17
	Not Current	159	4.63	0.74					

Table 8 (cont'd)

Constructs of Interest	Are you a current College athlete?	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Score on conditional logic task	Current	17	1.77	1.25	-1.07	178	.27	-0.86	0.26
	Not Current	163	2.07	1.10					

Table 9: *Correlation Matrix of Predictors Used in all Regression Analyses*

	Acceptability of cheating	Sex	Contact Sports	Teammate messages	Coach messages	Mastery Climate	TV messages	Interest in sports media
Acceptability of cheating								
Sex	-.22*							
Contact Sports	-.30*	.17						
Teammate messages	.50*	-.18*	-.45*					
Coach messages	.51*	-.22*	-.22*	.66*				
Mastery Climate	-.27*	.11	-.00	-.24*	-.33*			
TV messages	.38*	-.14	-.21*	.59*	.60*	-.20*		
Interest in sports media	.27*	.20*	-20*	.43*	.32*	.12	.31*	
Fairness	-.32*	.09	.06	-.23*	-.17*	.19*	-.10	-.08

*$p < .05$; *Notes:* Sex male = 0, female = 1; Contact sports 0 = high contact; 1 = low-or-no-contact

Table 10: *Unstandardized Difference Between Current Professional Athletes and Non-Professional Athlete Subjects on Constructs of Interest*

Constructs of Interest	Are you a current professional athlete?	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Sports Experience (total years played)	Current Athlete	4	13.00	11.17	-0.57	178	.57	-16.12	8.94
	Nonathlete	176	16.59	12.58					
Acceptance of cheating	Current Athlete	4	2.59	1.13	1.36	3.05	.27	-1.02	2.57
	Nonathlete	171	1.82	0.69					
Teammate cheating messages	Current Athlete	4	2.64	1.26	1.27	3.03	.29	-1.19	2.80
	Nonathlete	161	1.84	0.60					
Coach cheating messages	Current Athlete	4	2.96	1.16	4.12	166	.00	0.75	2.13
	Nonathlete	164	1.52	0.68					

Table 10 (cont'd)

Constructs of Interest	Are you a current professional athlete?	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Interest in sports media	Current Athlete	3	4.55	1.95	1.80	155	.07	-0.15	3.30
	Nonathlete	154	2.98	1.50					
Television commentary cheating messages	Current Athlete	3	2.57	1.25	1.47	169	.14	0-.21	1.47
	Nonathlete	168	1.95	0.72					
Mastery team climate	Current Athlete	3	4.04	0.53	0.31	163	.76	-0.69	0.95
	Nonathlete	162	3.91	0.72					
Performance team climate	Current Athlete	3	3.82	0.55	0.93	167	.36	-0.44	1.23
	Nonathlete	166	3.43	0.73					

Table 10 (cont'd)

Constructs of Interest	Are you a current professional athlete?	*n*	Mean	*SD*	*t*	*df*	*p*	95% Confidence Interval of the Difference	
								Lower	Upper
Importance of the fairness moral foundation	Current Athlete	4	5.15	0.76	1.51	174	.13	-0.17	1.28
	Nonathlete	172	4.60	0.72					
Score on conditional logic task	Current Athlete	4	2.00	1.15	-0.07	178	.94	-1.15	1.07
	Nonathlete	176	2.04	1.11					

Table 11: *Correlations between importance of fairness and direct sports experience variables*

	Total Years Played Sports	Teammate Cheating Messages	Coach Cheating Messages	Performance Motivational Climate	Mastery Motivational Climate
Importance of Fairness	r = -.05	r = -.23*	r = -.17*	r = .12*	r = .19*

*Correlations are statistically significant at $p < .05$

Table 12: *Correlations between importance of fairness and sports media experience variables*

	Sports Media Interest	Television Sports Media Interest	Print Sports Media Interest	Live Sports Media Interest	Radio Sports Media Interest	Online Sports Media Interest	Television Commentary Cheating Messages
Importance of Fairness	r = -.08	r = -.01	r = -.09	r = .05	r = -.10	r = -.05	r = -.10

Note: No correlations were statistically significant ($p < .05$)

Table 13: *Correlation Matrix of the Sports Experience Moral Foundations Model*

	Amount of teammate cheating messages	Importance of Fairness	Acceptability of cheating
Amount of teammate cheating messages			.41
Importance of Fairness	-.23 (-.29)		
Acceptability of cheating	.50 (.53)	-.32 (-.42)	

Note: Correlations are presented in the bottom triangle and error is in the upper triangle. Correlations corrected for measurement error are in parentheses.

Table 14: *Differences between fully correct response rate among social exchange studies*

	Cosmides et al. (2010)	Cosmides et al. (2010)	Gigerenzer & Hug (1992)	Gigerenzer & Hug (1992)	Gigerenzer & Hug (1992)	Cosmides (1989)	Present Study
Experiment Number	1	3	1	3	6	1	
Social contract condition % correct	80%	68%	94%	89%	77%	75%	23%
Non-SSC conditions % correct	48% 44%	45% 27% 10% 6%	21%	53%	38%	44%	3%

Appendix 3: Sports experience questionnaire

Ok, now we'd like to ask you to think about your experience playing sports. First, please concentrate on your experience in college. We're interested in what organized sports you played and when you played them.

In the boxes below, we'd like you to write the names of the organized sports you played in college.
List as many organized sports as you played, and if you run out of room please continue listing sports below the allotted space.

Sport	**Fresh man**	**Sopho more**	**Junior**	**Senior**
Basket ball	*X*	*X*		

Ok, now we'd like to ask you to think about your experience playing sports. First please concentrate on your experience in high school. We're interested in what organized sports you played, and when you played them. We're not interested in playground sports, but sports that are coached and have an official competitive league of some kind.

In the chart below we'd like you to write the name of the sport you played in the first column. An example is there for you to follow. Next, check the box for the year in high school that you played that sport. In the example below, the participant played basketball for their first two years of high school.

List as many organized sports as you played, and if you run out of room please continue listing sports below the allotted space.

Sport	**9th Grade**	**10th Grade**	**11th Grade**	**12th Grade**
Basketball	*X*	*X*		

For this next section we'll do the same thing, but this time the focus will be on middle school or junior high. Again, we're interested in what organized sports you played, and when you played them. We're not interested in playground sports, but sports that are coached and have an official competitive league of some kind.

In the chart below we'd like you to write the name of the sport you played in the first column. An example is there for you to follow. Next, check the box for the year in school that you played that sport. In the example below, the participant played basketball for their last year of junior high school.

List as many organized sports as you played, and if you run out of room please continue listing sports below the allotted space.

Sport	**6th Grade**	**7th Grade**	**8th Grade**
Basketball			*X*

Now let's focus on elementary school years. About first grade to fifth grade. We're still interested in the organized sports you played and when you played them. Again, sports where you play in some kind of competitive league is what we'd like to know about, not playground or pick-up sports.

In the chart below we'd like you to write the name of the sport you played in the first column. An example is there for you to follow. Next, check the box for the year in school that you played that sport. In the example below, the participant played basketball for the last three years of elementary school.

List as many organized sports as you played, and if you run out of room please continue listing sports below the allotted space.

Sport	**1st Grade**	**2nd Grade**	**3rd Grade**	**4th Grade**	**5th Grade**
Basketball			*X*	*X*	*X*

Appendix 4: Sports media questionnaire

In this next section we'd like to ask you about the sports you watched in your youth.

We want to know about how much you watched sports on TV, went to live games other than your own, or followed sports or athletics.

It can be a little hard to remember how many games you watched on TV in your entire childhood, so we're going to ask you about your interest in more general terms.

All questions are your own opinion of yourself. Did you watch more or less than other people your age? Your answers are important to us, so please do your best to remember as well as you can.

How often did you watch sports on TV?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

How much did you go to watch live local sports that you weren't playing?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

How much did you go to watch live professional sports?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

About how much did you read about sports in magazines?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

How often did you read about sports in newspapers?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

How much did you read about sports online?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7

Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

About how often did you listen to sports broadcasts on the radio?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

How often did you listen to sports talk-shows on the radio?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

How often did you read about sports on Facebook?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

How much did you read about sports from Twitter?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

About how often did you watch sports news or clips on YouTube?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

How often did you read about sports from other social media sites?

	Less than kids my age			The same as kids my age		More than kids my age	
College	1	2	3	4	5	6	7
High School	1	2	3	4	5	6	7
Middle School	1	2	3	4	5	6	7
Elementary School	1	2	3	4	5	6	7

Appendix 5: Moral foundations questionnaire

When you decide whether something is right or wrong, to what extent are the following considerations relevant to your thinking? Please rate each statement using this scale:

[0] = not at all relevant (This consideration has nothing to do with my judgments of right and wrong)

[1] = not very relevant

[2] = slightly relevant

[3] = somewhat relevant

[4] = very relevant

[5] = extremely relevant (This is one of the most important factors)

_____Whether or not someone suffered emotionally

_____Whether or not some people were treated differently than others

_____Whether or not someone's action showed love for his or her country

_____Whether or not someone showed a lack of respect for authority

_____Whether or not someone violated standards of purity and decency

_____Whether or not someone was good at math

_____Whether or not someone cared for someone weak or vulnerable

_____Whether or not someone acted unfairly

_____Whether or not someone did something to betray his or her group

_____Whether or not someone conformed to the traditions of society

_____Whether or not someone did something disgusting

_____Whether or not someone was cruel

_____Whether or not someone was denied his or her rights

_____Whether or not someone showed a lack of loyalty

_____Whether or not an action caused chaos or disorder

_____Whether or not someone acted in a way that God would approve of

Please read the following sentences and indicate your agreement or disagreement:

[0] Strongly disagree

[1] Moderately disagree

[2] Slightly disagree

[3] Slightly agree

[4] Moderately agree

[5] Strongly agree

_____Compassion for those who are suffering is the most crucial virtue.

_____When the government makes laws, the number one principle should be ensuring that everyone is treated fairly.

_____I am proud of my country's history.

_____Respect for authority is something all children need to learn.

_____People should not do things that are disgusting, even if no one is harmed.

_____It is better to do good than to do bad.

_____One of the worst things a person could do is hurt a defenseless animal.

_____Justice is the most important requirement for a society.

_____People should be loyal to their family members, even when they have done something wrong.

_____Men and women each have different roles to play in society.

_____I would call some acts wrong on the grounds that they are unnatural.

_____It can never be right to kill a human being.

_____ I think it's morally wrong that rich children inherit a lot of money while poor children inherit nothing.

_____ It is more important to be a team player than to express oneself.

_____ If I were a soldier and disagreed with my commanding officer's orders, I would obey anyway because that is my duty.

_____ Chastity is an important and valuable virtue.

Appendix 6: Acceptability of cheating questionnaire

It is acceptable to bend rules in order to win.

1	2	3	4	5
Strongly disagree				Strongly agree

It is acceptable to break rules in order to win.

1	2	3	4	5
Strongly disagree				Strongly agree

It is acceptable to teach other teammates to break rules in order to win.

1	2	3	4	5
Strongly disagree				Strongly agree

It is acceptable to never break the rules if possible.

1	2	3	4	5
Strongly disagree				Strongly agree

It is acceptable to break the rules in order to gain an advantage over the other team.

1	2	3	4	5
Strongly disagree				Strongly agree

It is acceptable to encourage cheating.

1	2	3	4	5
Strongly disagree				Strongly agree

It is acceptable to focus on playing fairly more than winning?

1	2	3	4	5
Strongly disagree				Strongly agree

Appendix 7: Social exchange reasoning social contract condition

You are a football penalties analyst, an employee of the National Football League (NFL). The NFL has many strict policies which must be enforced, and upper management has entrusted you with enforcing them. To fail would disgrace you and your department.

In the NFL, when a lineman player engages with an opponent, he often commits a holding penalty. Holding penalties are only caught in the most obvious and egregious cases by the referees on the field.

Holding is a highly beneficial strategy--players who hold without getting caught consistently give their team an advantage in yards, which lead to scoring points. Moreover, it is often less physically demanding for the player who commits the penalty, and more demanding for the player who is held.

If a player is caught, they are assigned an onfield penalty, removing yards from the team's progress, and making it more difficult to score points. The penalty research committee that you are a part of is in charge of assigning penalties to players who were not caught during the game. After the game, your analysis will determine which players gained the benefits of holding without paying the price. Offending players will be fined up to $30,000 per penalty.

Although every player would like to receive the benefits of holding, successfully accomplishing it is a privilege. Teams compete for major financial benefits, and players on teams that win make much more money from sponsorships deals and merchandise sales--even linemen. However, the NFL tries to be very strict about following the rules. The NFL strongly disapproves of giving one team an advantage over another by allowing penalties, and they are highly suspicious of linemen in particular.

Therefore, the upper management has made policies governing holding penalties. The one you have been entrusted to enforce is as follows:

"If a player commits holding, then he must be penalized."

Holding is such a useful technique, that many players are tempted to cheat on this rule whenever the officials are not looking. The options below are information about four players' actions during a recent football play.

You only know one thing about each player. You only know if he has been penalized **OR** whether or not he committed holding.

Your job is to catch players who broke the rules, but were not caught by the officials on the field--if any get past you, you and your employees will be

disgraced. Indicate only those players that you definitely need more information about to see if they are breaking the rule.

Was NOT penalized	Was penalized	Did NOT commit holding	Committed holding

Appendix 8: Social exchange reasoning descriptive condition

You are a researcher studying professional football behavior. Your main area of focus is the National Football League (NFL) in the U.S. Your colleagues have recently reported a situation involving holding penalties.

The author of the report, who was not familiar with American football, said the following relation seemed to hold:

"If a player commits holding, then he must be penalized."

You decide to investigate your colleague's claim. In your background research, you learn that holding is a rule violation that occurs when a player grabs onto another player to impede their progress. Penalties are called when referees see the grabbing, and the holding player's team is given a penalty of negative ten yards, a somewhat small setback in the game.

You also learn that holding can be accidental, and it is often hard for the referee to tell if a player intentionally holds or if the holding is accidental. Football is a rough sport, so often things get confusing in the middle. When a lineman makes contact, he can sometimes accidentally get tied up in another player's jersey. A player who might commit holding is always in contact with another player. Perhaps players are simply accidentally holding.

The options below are information about four players' actions during a recent football play.

You have reviewed each player's behavior in single football play. Each player may or may not have committed holding, or may or may not have been penalized for holding. Each player is represented in the choices below. You only know one thing about each player. You only know if he has been penalized **OR** whether or not he committed holding.

The rule laid out by your colleague may not be true; you want to see for yourself. Indicate only those players that you definitely need more information about to see if they are breaking the rule.

Was NOT penalized	Was penalized	Did NOT commit holding	Committed holding

FOOTNOTES

[1]Philosophical scholarship on cheating in sports has defined three types of rules: constituative rules, regulative, and restorative. Constituative rules provide the boundaries that define a unique game. For example, the most basic constituative rule in soccer is the rule against using one's hands during open play. Skilled players tend not to intentionally break constituative rules accidentally, because their training has focused on that sport specifically. To intentionally break constituative rules is generally considered cheating, because it violates the essential principles that make the specific game unique. Regulative rules provide a frame in which the constituative rules are applied. For example, in basketball fouling is against the rules, but incidental physical contact is within the rules. The specification of what is incidental contact and a foul regulates the type of contact allowed in basketball. Oftentimes regulative rules are accidental, and occur often in the course of sports. Intentional regulative rules violations are often used for strategic value in sports, such as fouling near the end of a basketball game to stop the game clock. Finally, restorative rules are instructional rules in place to return stoppages in game play to the constituative state. For instance, throw-ins in soccer are not part of the specified constituative rules that make soccer unique (other sports have throw-ins), but they serve the purpose of returning the game to its playable state (Fraleigh, 2007). Moral philosophers from the "broad internalism" perspective consider breaking constituative rules as violating the spirit of the game as it is meant to be played, while breaking regulative rules as within the spirit of the game (Feezell, 2004). They argue that aficionados (athletes, coaches, fans) of the sport know the true spirit of the game, and

understand some rules violations to be part of the expected gameplay because many of the violations are necessities designed to maintain a basic playable game. This contrasts with social exchange violations, which specify specific reciprocity requirements that hinge on no party gaining an unearned advantage. Regulative rules violations can lead to an advantage, but are a necessity in order for games to be played in their constituative state.

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