

Original Article

The Evolutionary Significance of Red Sox Nation: Sport Fandom as a By-product of Coalitional Psychology

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Abstract: Sport fandom has received considerable attention from social scientists, yet few have considered it from an evolutionary perspective. To redress this gap, we develop the hypothesis that team sports exhibit characteristics that activate mechanisms which evolved to facilitate the development of coalitions in the context of small-scale warfare. Based on this by-product hypothesis, we predicted a correlation between fandom and binding (i.e. group-relevant) concerns, especially loyalty. To test this prediction, we administered the Sport Spectator Identification Scale (SSI) and the Moral Foundations Questionnaire (MFQ) to 495 undergraduates. The MFQ measures three binding concerns, including loyalty, and two individualizing ones, harm and fairness. As predicted, fandom correlated significantly with loyalty ($r = .27$) and, within men, the two other binding concerns, authority ($r = .22$) and purity ($r = .24$). By contrast, fandom did not significantly correlate with harm or fairness. In addition, we predicted and found that men reported significantly higher levels of fandom (Cohen's $d = .45$) and loyalty ($d = .27$) than did women. In conclusion, this study presents data supporting the coalitional by-product hypothesis of fandom and should spur further research using fandom as a window into our evolved psychology.

Keywords: sports, coalitions, warfare, morality, sex differences

Introduction

Millions of people passionately follow sports teams to which neither they nor their friends or family belong. Many travel long distances and pay large sums to watch “their” teams play, monitor them obsessively via radio, television and internet, and display team merchandise prominently (Horne, 2006; Smith and Stewart, 2007). Because fans typically realize no material benefits from their investment, this phenomenon seems puzzling from a rational economic perspective. In the last few decades, however, researchers have partially

resolved this enigma by identifying various psychological benefits of fandom, including heightened feelings of social connectedness, increased popularity, and boosted self-esteem, especially after one's team wins (Branscombe and Wann, 1991; Cialdini et al., 1976; End, Kretschmar, Dietz-Uhler, 2004; Wann, 2006). Nevertheless, several issues remain unresolved, including why there is such marked individual variation in fandom (Shank and Beasley, 1998), why men are more likely than women to be fans (Dietz-Uhler, Harrick, End, and Jacquemotte, 2000; Ganz and Wenner, 1991) and to experience their fandom in somewhat different ways (James and Ridinger, 2002; Sargent, Zillman, and Weaver, 1998), and why many people strongly identify with sports teams but far fewer show similar attachments to superficially similar entertainment groups, such as regional orchestras or ballet companies.

We propose that an evolutionary hypothesis—that sport fandom is the by-product of an evolved coalitional psychology—can address these issues and provide a more satisfying account of sport fandom than has been offered previously. More specifically, we hypothesize that although sport fandom may not provide net reproductive benefits in modern environments, it is the by-product of a suite of cognitive and affective adaptations that would have generally increased inclusive fitness during human evolutionary history. These adaptations would allow individuals to effectively form and maintain coalitions with others, especially men, in the context of inter-group conflicts, often based on recurrent episodes of overt aggression (i.e., small-scale warfare, Buss and Duntley, 2008; Keeley, 1996; Kurzban and Leary, 2001; Kurzban, Tooby, and Cosmides, 2001; Pratto, Sidanius, Stallworth, and Malle, 1994; Wrangham, 1999).

The coalitional by-product hypothesis of sports fandom is consistent with several demonstrations that sports fans behave as if they were actual members of “their” team. For example, Wann and Dolan (1994) found that highly identified sports fans evaluate other fans of their team more positively than fans of different teams. This bias has been found to be robust with fans evaluating recruits (i.e. potential future players) of their target team more positively than recruits of rival teams (Wann et al., 2006). Highly identified sports fans also view their team's games in a biased manner and are more likely to report a readiness to engage in aggression against players and coaches of a rival team (Hastorf and Cantrill, 1954; Wann, Haynes, McLean, and Pullen, 2003). Sports fans have even been shown to experience testosterone fluctuations based on their team's performance (Bernhardt, Dabbs, Fielden, and Lutter, 1998) highly similar to those experienced by actual participants in coalitional contests (Wagner, Flinn, and England, 2002).

The claim that much modern group behavior can be understood as a manifestation of a coalitional (or “male warrior”) psychology has been developed and empirically supported in several recent studies (e.g., Bugental and Beaulieu, 2009; Johnson and van Vugt, 2009; van Vugt, De Cremer, and Janssen, 2007; Yuki and Yokota, 2009). We extend this logic to sport fandom and argue that specific aspects of coalitional psychology can yield sport fandom in appropriate contexts.

In brief, our hypothesis is that team sports, especially highly popular ones such as basketball, baseball, hockey, rugby, American football, and football (soccer), exhibit several characteristics (Table 1) that facilitate individuals allying with teams in a manner that is similar to how they would have allied with coalitions during human evolutionary history. In particular, we hypothesize that when individuals perceive that a male group is

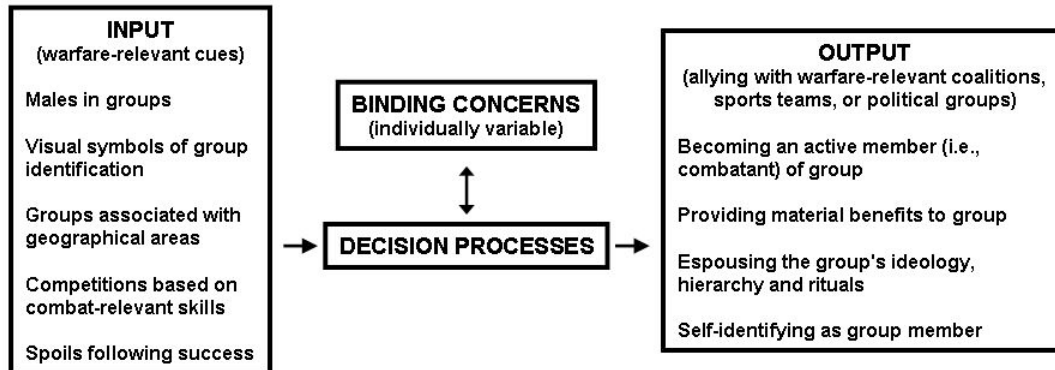
employing combat-relevant skills to compete against another male group for the purpose of gaining status, material benefits, and/or reproductive opportunities, they will frequently ally with one of the groups (Gat, 2006; Geary, 2010; Keegan, 1994; Keeley, 1996; Leblanc and Register, 2003; Otterbein, 2004). Because male mortality due to warfare is estimated at between 13 and 30% in traditional societies (Bowles, 2006; Keeley, 1996), allying with a group would be crucial. Although mortality was generally much lower for females, they too bore significant costs in warfare including frequent capture and rape, meaning that allying with a group would be vital for females as well (Ghiglieri, 1999).

Table 1. Characteristics facilitating allying with war-relevant coalitions and sports teams

1. **Males in groups.** The team sports that are most passionately followed are played by men. Warfare, although having consequences for all individuals in society, is almost universally undertaken by men (Browne, 2007; Gat, 2006; Geary, 2010; Keegan, 1994; Keeley, 1996; Leblanc and Register, 2003; Otterbein, 2004; Tiger, 1969).
2. **Competitions based on war-relevant skills.** Popular team sports (e.g. basketball, baseball, hockey, rugby, American football, and football) differ in many respects, but virtually all depend on war-relevant skills such running, tackling, checking, and throwing or dodging projectiles. Furthermore, all of these sports require the differentiation of individual roles, coordination among teammates, and tactical planning. Relatively little is known about historically popular team sports, but the available information (see Guttman, 1986; 2007) indicates that they also depended on skills and tactics similar to those used in modern sports or else on other skills with clear relevance to warfare (see Geary, 1995 for an example utilizing baseball).
3. **Groups associated with geographical areas.** Most teams are associated with (or “represent”) geographical areas that serve as a regular site of competitions and, often, as a source of players. Warfare generally involves coalitions making claims on, defending, or raiding particular territories (Gat, 2006; Geary, 2010; Keegan, 1994; Keeley, 1996; Leblanc and Register, 2003; Otterbein, 2004).
4. **Visual symbols of group identification.** Teams generally wear distinctive uniforms that feature the team’s name, geographic association, colors, and symbols. Hunter-gatherers frequently display similar visual cues to indicate group membership (e.g. dress, tattoos, jewelry; Dovidio Gaertner, and Validzic, 1998; Kurzban et al., 2001; van Vugt, 2009).
5. **Spoils following success.** Teams that win generally enjoy heightened status and material rewards; this is especially true for the most instrumental team members. Hunter-gatherer coalitions that win battles frequently gain territory, natural resources, material possessions, and women (Betzig, 1986; Chagnon, 1988; Gat, 2006; Geary, 2010; Moore, McEvoy, Cape, Simms, and Bradley 2006; Zerjal et al., 2003).

Allying with a group might entail becoming an active member (i.e., combatant) in the group, encouraging friends or family members to become combatants, providing material benefits or other support to the group, expressing commitment to the group's goals, assessing the potency of the group and particular members, contemplating or suggesting tactics, displaying the group's symbols, observing the group's rituals and social hierarchy, promoting the group's ideology, derogating the potency, symbols, rituals, and ideology of rival groups, and, most crucially, psychologically self-identifying as a member of the group, even if one is not a likely combatant (Haslam, 2006; Tiger, 1969; van Vugt et al., 2007). In modern environments, allying with a sports team would involve many of these, including, of course, self-identification with the team (Figure 1).

Figure 1. Schematic representation of the coalitional by-product hypothesis of sport fandom.



We address this by-product account of sport fandom by testing its claim that a common mechanism or basis underlies the tendency to ally with war-relevant coalitions and sports teams. Although the existence of such a mechanism might be addressed with various approaches, we will test whether individual variation in sports fandom correlates with individual variation in what have been termed “binding concerns” (Graham, Haidt, and Nosek, 2009; Haidt and Kesebir, 2010).

Binding concerns have been characterized in the context of moral foundations theory, which proposes the existence of five universally available psychological systems or concerns that serve as foundations for humans’ “intuitive ethics” or judgments about whether any particular act is right or wrong (Haidt and Kesebir, 2010). The five moral concerns are whether an act (1) causes harm or provides care (harm/care; hereafter “harm”), (2) is unjust or fair (fairness/reciprocity; hereafter “fairness”), (3) shows disobedience or respect of authority (authority/respect; hereafter “authority”), (4) is carnal or pure (purity/sanctity; hereafter “purity”), or (5) shows betrayal or loyalty (ingroup/loyalty; hereafter “loyalty”). The first two concerns apply to all individuals (e.g., you should not harm or treat anyone unfairly) and are thus termed “individualizing” (Graham et al., 2009). The latter three concerns have been called “binding” because they are specific to the ingroup to which a perceiver is typically bound or situated (e.g., you should obey “our” group’s authorities, avoid acts that “our” group deems impure, and put the interests of “our” group ahead of others”; Graham et al., 2009).

Proponents of moral foundations theory have developed psychometric tools for measuring individual and cross-cultural variation in the five moral concerns and demonstrated substantial predictive power. For example, individuals who more strongly endorse the three binding concerns generally support more conservative political parties (Graham et al., 2009; Haidt, 2007; van Leeuwen and Park, 2009). Building on moral foundations theory, we hypothesize that a crucial factor in determining whether an individual will ally with a warfare-relevant group is their valuation of binding moral concerns. In other words, we expect that individuals who more strongly value group interests will be more likely to ally with groups (Figure 1). Of course, the by-product

hypothesis of sports fandom holds that the endorsement of binding concerns will positively correlate with sports fandom.

This prediction is indirectly supported by previous reports that sports fandom correlates with patriotism and favorable attitudes toward war (End et al., 2003; Jansen and Sabo, 1994; Stempel, 2006) as well as political conservatism (Jost, Nosek, and Gosling, 2008). To test this prediction more directly, we will measure sport fandom and the five moral concerns. Although we expect that sport fandom will positively correlate with all three binding concerns, we expect the relationship should be most robust for loyalty because it requires an explicitly between-group context, whereas authority and purity do not. Conversely, we predict that sport fandom should not correlate with the individualizing concerns of harm and fairness. Furthermore, if the correlation between sport fandom and binding concerns is a specific one and not due to a general propensity to vicariously identify with others via television or other media, then the positive correlation with binding concerns should hold for sport fandom but not for other indicators of vicariously identifying with others (e.g., watching television dramas).

We note that we will measure moral concerns with the Moral Foundations Questionnaire (MFQ; Haidt and Graham, 2007) and that its loyalty scale is not, in fact, a pure measurement of ingroup loyalty. In addition to items addressing ingroup loyalty (i.e. those that refer to one's country, group, or team), there is one item that deals with abstract loyalty ("Whether or not someone showed a lack of loyalty.") and one which deals with loyalty toward family members ("People should be loyal to their family members, even when they have done something wrong."). Because the psychological mechanisms involved in ingroup-relevant contexts likely differ from those involved in family attachment (Crittendon and Dallos, 2009), we predict that the family loyalty item will not correlate with sport fandom.

A second set of predictions can be derived from the assumption of variation in endorsement of binding concerns. In particular, because males are the primary combatants in warfare, they can be predicted to more strongly endorse binding concerns, especially loyalty. Moreover, males should be more likely to be sports fans, a prediction for which there is already support (Dietz-Uhler et al., 2000; Ganz and Wenner, 1991; James, 2001; James and Ridinger, 2002), but which we will seek to replicate. In fact, we predict that the sex difference in sport fandom will be mediated by the expected sex difference in binding concerns (see Figure 1).

Materials and Methods

Participants

Participants were 495 (307 females) undergraduates at a Midwestern University. Their mean age was 18.9 years ($SD=2.2$), and they self-identified as White/Anglo-American (85%), African-American (7%), Latino (4%), Asian-American (2%), or Other (2%). Participants completed a set of questionnaires on computer terminals for partial course credit. Data were collected during two semesters (spring 2007; fall 2007). Participants in each semester completed the same basic set of questionnaires. However, only participants in fall 2007 (308 individuals, 180 females) completed the television viewing questionnaire. We pooled the data (sans television viewing) for analyses.

Survey Procedures

In order to ensure that the surveys did not prime the participants, we had them complete the MFQ first, after which they completed several unrelated questionnaires. They then completed a scale to assess their sport fandom (see below). Participants in the second semester lastly filled out a short survey about television genres (see below).

Measures

Moral Foundations Questionnaire

The MFQ (41-item version, Haidt and Graham, 2007) is designed to measure the relative moral concerns of the participants. The first 21 questions of the MFQ asks respondents to indicate how relevant particular factors are to considerations of whether something is right or wrong (e.g., “Whether or not someone was harmed”); participants respond on a 6-point scale with *not at all relevant* and *extremely relevant* as anchors. The second set of 20 questions asks individuals the extent to which they agree or disagree with specific statements (e.g., “Compassion for those who are suffering is the most crucial virtue”); participants respond on a 6-point scale with *strongly disagree* and *strongly agree* as anchors. The MFQ yields separate scores for the five moral concerns described in the Introduction. Evidence for the reliability and validity of the MFQ has been presented elsewhere (Graham et al., 2009).

Sport Spectator Identification Scale

The SSI (Wann and Branscombe, 1993) asks individuals to list their favorite team and then follows with seven questions (e.g., “How important is it to YOU that the team listed above wins?”); participants respond on a 8-point scale, with different items having different anchors (e.g., *not important/very important, never/always*.) Evidence for the reliability and validity of the SSI has been presented previously (Wann and Branscombe, 1993; Wann, Hunter, Ryan, and Wright, 2001).

Identification with television genres

To address the specificity of the relation between sport fandom and binding concerns, participants in the second semester responded to four questions regarding the extent to which they monitored four television genres (sports, news, drama, reality). For example, the drama genre was addressed with the question, “To what extent do you monitor or regularly watch a particular dramatic television program (e.g., *Desperate Housewives*, *Gray's Anatomy*, *24*, *CSI*)?” Participants rated their monitoring for each genre on a 4-point scale with *not at all* and *a great deal* as anchors. We asked the question about monitoring a particular sports team on television despite anticipating that it would be highly correlated with the SSI, which it proved to be ($r = .55$; $p < .001$). Asking this question allowed us to make a fair comparison (i.e., one question representing each genre) among the four viewing genres in the extent to which they correlated with moral concerns.

Statistical Procedures

We conducted all analyses with SPSS, with two exceptions. First, to test whether correlations differed significantly, we used SAS software, version 9.1 (SAS Institute Inc., Cary, NC). Second, to test for mediation we used software developed by Jose (2003).

Results

As predicted, SSI (sport fandom) was significantly correlated with loyalty and authority, although not purity (Table 2).

Table 2. Correlations between Sports Spectator Identification (SSI) and Kinds of Television Viewing and Moral Foundations

	Harm	Fairness	Loyalty	Authority	Purity
SSI all	-.06	.01	.27***	.13**	.07
male	.05	-.01	.25***	.22**	.24***
female	-.01	.04	.25***	.08	.02
Sports all	-.16**	-.05	.24***	.05	-.08
male	.08	.03	.27**	.16	.12
female	-.12	-.01	.16*	-.06	-.11
Drama all	.12*	.07	-.04	.01	.03
male	.09	.14	.07	.08	.02
female	.01	-.03	-.06	-.07	-.04
Reality all	.23***	.06	.07	.07	.13*
male	.22*	.05	.15	.03	.03
female	.05	-.03	.10	.08	.10
News all	-.01	.01	.03	.00	-.01
male	-.01	.02	-.10	-.10	-.10
female	.13	.21**	.10	.10	.13

Note: *: $p < .05$; **: $p < .01$; ***: $p < .001$

Also, as predicted, SSI was not significantly correlated with fairness or harm. We repeated these analyses separately for each sex and found that among males SSI was significantly correlated with all three binding moral concerns (loyalty, authority, and purity) but with neither of the individualizing ones (fairness and harm). Among females, SSI significantly correlated with loyalty but not with the other binding concerns or the individualizing ones. We next tested whether the correlations between binding concerns and SSI differed significantly between males and females. We found no significant differences regarding loyalty or authority, but the correlation between purity and SSI was significantly greater for men than for women ($p = .01$). Finally, we found no correlation between the family loyalty item and sport fandom ($r = .01$, $p = .84$). Indeed, with this item removed the correlation between the loyalty scale and SSI increased from .27 to .29.

Supporting the first prediction regarding sex differences, and consistent with previous research, males scored significantly higher on the SSI than did females.

The predicted sex difference in binding moral concerns was partially supported: males scored significantly higher in loyalty, but there was no sex difference in authority,

and females actually scored significantly higher in purity. Females also scored significantly higher in harm and fairness (Table 3).

Table 3. Male and Female Moral Foundations and Sports Spectator Identification

	Male	Female	<i>p</i> -value	Cohen's <i>d</i>
Harm	34.39 (5.01)	38.19 (4.65)	<.001	-.79
Fairness	34.84 (4.40)	35.93 (4.08)	.006	-.26
Loyalty	28.59 (4.72)	27.34 (4.69)	.004	.27
Authority	32.44 (4.21)	32.49 (3.57)	.906	-.01
Purity	28.42 (5.84)	30.29 (5.90)	.001	-.32
SSI	38.78 (12.02)	33.41 (11.69)	<.001	.45

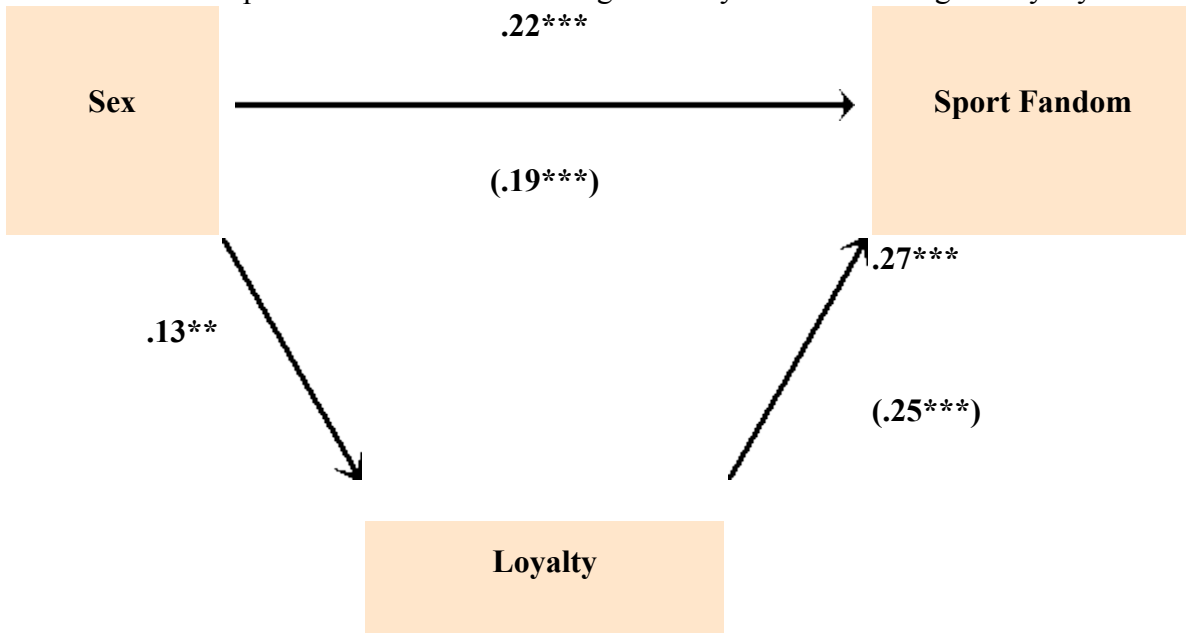
Note: Table entries denote means and (standard deviations).

To explore whether the sex difference in sports fandom was mediated by loyalty (Baron and Kenny, 1986), we obtained zero order correlations between loyalty and sport fandom (see Table 2), sex and loyalty ($r = .13, p < .01$), and sex and sport fandom ($r = .22, p < .001$). These results demonstrated that sex had a significant effect on loyalty and sport fandom. We then entered our data into a program developed by Jose (2003) to test for mediation. The results of Sobel's test confirmed significant partial mediation ($z = 2.55, p = .01$) (see Figure 2 for a summary of the analysis).

We next entered all predictors into a simultaneous equation to explore the relative contributions and potential explanatory overlap among sex and the three binding concerns in predicting sports fandom. The model was significant [$F(4, 490) = 14.67, R^2 = .11, p < .001$] and revealed that neither authority ($p = .78$) nor purity ($p = .81$) explained unique variance in SSI, while both sex and loyalty did (see parenthetical β weights in Figure 2).

Corroborating our initial results regarding the importance of binding concerns, reports of closely monitoring sports teams on television were positively and significantly correlated with loyalty, although not with authority or purity (Table 2). Also supporting our previous results, watching sports teams on television did not positively correlate with fairness or harm. Supporting the prediction of a specific link between sport fandom and coalitional mechanisms, we found that reports of monitoring other genres of television were not significantly correlated with loyalty or the other binding concerns. Moreover, the correlation between watching sports and loyalty was significantly stronger than the correlation between watching any other television genre and loyalty (all $ps < .05$). Monitoring drama and reality television positively and significantly correlated with harm, but these results do not bear directly on the by-product hypothesis.

Figure 2. Summary of mediation analysis with β weights in parentheses. The relationship between sex and sport fandom was reduced significantly after controlling for loyalty.



Note: *: $p < .05$; **: $p < .01$; ***: $p < .001$

Discussion

We derived the hypothesis that sport fandom is a by-product of coalitional psychology and tested two corresponding predictions. First, we found that, across individuals, sport fandom correlated with concerns about loyalty, and that, among males, it also correlated with authority and purity, two other binding or group-relevant concerns. By contrast, individuals' concerns about harm and fairness, two individualizing concerns, were unrelated to sport fandom.

Second, we replicated the finding of greater sport fan identification among males (Dietz-Uhler et al., 2000; Ganz and Wenner, 1991; James, 2001; James and Ridinger, 2002) and reported sex differences in moral concerns. Most crucially for the by-product hypothesis, males indicated significantly greater concerns about loyalty. This finding complements previous work showing that males possess stronger social dominance orientation (Sidanius, Levin, Liu, and Pratto, 2000), a measure of preference for between-group dominance hierarchies (Pratto et al., 1994). We note that the finding of a sex difference in loyalty also supports more general versions of the coalitional psychology hypothesis (Bugental and Beaulieu, 2009; van Vugt et al., 2007; Yuki and Yokota, 2009).

Our finding that females scored higher in harm and fairness concerns was not predicted by the by-product hypothesis, yet it is consistent with many studies which demonstrate greater empathy among females (Baron-Cohen, Knickmeyer, and Belmonte, 2005; Geary, 2010; Hoffman, 1977). The finding that females scored higher in purity was also not predicted, and we have difficulty explaining it. Nonetheless, the finding that authority and purity were correlated with sport fandom across males, but not females,

suggest that these binding concerns may have somewhat different bases in men and women. We speculate that in war-relevant contexts, the need to uphold one's group's organization (authority) and practices (purity) is more crucial for males, the likely combatants.

Finally, we predicted that the previously documented sex difference in sport fandom would be substantially mediated by individual differences in loyalty. Although we found evidence of significant mediation, sex remained a significant predictor of sport fandom. In fact the ratio of variance explained indirectly (i.e., mediated by loyalty) to directly (i.e., by sex) was .147, about 1 to 7, indicating only modest mediation (see Jose, 2003). Thus, the sex difference in sport fandom must be largely due to variables that were not measured in this study. One possibility is that males are more sensitive to war-relevant cues (Table 1), such as visual symbols of group identification (cf. Appendix of Kurzban et al., 2001) or the display of combat relevant skills, which most popular team sports emphasize (Sargent et al., 1998).

Alternative Explanations

Although the by-product hypothesis is supported by the correlation between sport fandom and loyalty, we must consider the possibility that this linkage could be caused spuriously, by a third variable. We certainly cannot rule out all candidates but some obvious ones are contradicted by the finding that loyalty correlates with monitoring sports teams on television but not monitoring other television genres and the finding that loyalty to one's family is not correlated with sport fandom whereas loyalty to one's group is.

A more general point is that, by its nature, the by-product hypothesis allows that many variables are likely be correlated with both sport fandom and ingroup loyalty. War movies, for example, will include nearly all war-relevant cues (Table 1) and, as a consequence, viewers with high ingroup loyalty will identify with the protagonists. These individuals are also likely to be sports fans, meaning that all three variables are likely to be inter-correlated. Clearly, though, it would be incorrect to claim that the tendency to identify with fictional characters causes the correlation between sport fandom and ingroup loyalty.

Another possibility is that "socialization", broadly conceived, could cause the correlation between sport fandom and ingroup concerns. In particular, children, especially boys, who are highly encouraged to play team games thereby learn to appreciate sports, value group loyalty, and adopt masculine dispositions (cf. Hartmann, 2003; James, 2001; Lever, 1978; Messner, Dunbar, and Hunt, 2000; Messner, 2002; 2007). Indeed, environmental factors, including media, family and peers, probably do play a major role in producing inter-sexual and inter-individual variation in binding concerns. Nevertheless, several lines of evidence indicate that an extreme version of the socialization hypothesis is almost certainly false. For example, many studies have demonstrated that biological factors (e.g. prenatal hormones) can contribute directly to the production of sex-typed behaviors (Auyeung et al., 2009; Geary, 2010; Hines, Brook, and Conway, 2004). Moreover, many sex-typed behaviors, such as the spontaneous creation of competitive play groups among boys, cannot be readily attributed to socialization practices (Campbell, 2002; Geary, Byrd-Craven, Hoard, Vigil, and Numtee, 2003).

This discussion of third variables, although not undermining our conclusions, highlights the need for future studies to formulate and probe additional predictions of the

coalitional by-product hypothesis. These might include experimentally manipulating endorsement of binding concerns to test if this increases sport fandom, testing whether sports that include more war-relevant cues evoke greater fandom, and testing whether sports fans tend to be especially interested in and knowledgeable about warfare. We suspect that additional predictions could also be developed regarding sex differences in sport fandom, particularly about the kinds of sports information that male and female fans preferentially attend to (i.e., outcomes or tactics) and the nature of their team loyalty. It is highly desirable, of course, that future studies do not exclusively depend on self-reports or focus on American undergraduates, two limitations of the present study.

Conclusion

The results of this paper are consistent with both a large body of research on sports fandom and coalitional psychology (e.g., Bernhardt et al., 1998; Geary, 2010; Wann and Dolan, 1994). However, this paper is the first of which we are aware to make predictions based on the explicit hypothesis that sports fandom is the by-product of human coalitional psychology. This claim might seem surprising given that journalists, coaches, and athletes frequently employ war analogies to describe modern sporting events (End et al., 2003; Tannenbaum and Noah, 1959), and numerous scholars have drawn connections between sports and warfare (Guttman, 1986, 2007; Holt, 1981; Sipes, 1973). To our knowledge, however, there have been few attempts to relate sport fandom, rather than participation, to warfare (Barash, 2009; Lee and Smith, 2008). In fact, in reviewing scores of studies concerning the psychology of sport fandom (for a review, see Wann, 2006), we have found none that employ an evolutionary perspective or that discuss warfare, except metaphorically (e.g., End et al., 2003).

In conclusion, this paper has made the first attempt to formally apply evolutionary theory to sport fandom, a topic which has received relatively little scholarly attention, apparently because it is considered too trivial to contribute to our understanding of important mental processes (for a discussion of “domain denigration,” see Rozin, 2006). Nevertheless, if the coalitional by-product hypothesis is correct, then sport fandom should instead be considered the modern embodiment of our evolved tribal psychology. Given the practical importance of better understanding this coalitional psychology, sport fandom may warrant more scholarly attention especially among those with an interest in evolutionary psychology.

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