United in Defeat: Shared suffering and group bonding among football fans

Purpose: Evidence shows that the least successful clubs have the most committed fans - why? Here, we test the 'shared-dysphoria-pathway-to-fusion' (SDPF) hypothesis that fans of the least successful clubs become irrevocably 'fused' to their club and to each other, as a result of sharing self- and club-defining memories of past defeats.

Design: To assess the SDPF hypothesis, we calculated the most and least successful clubs from the UK's top league, the Premier League, over a ten-year period. We then invited fans of these clubs to complete a survey (*N* = 752), comprising qualitative recollections of football events, quantitative survey measures of identity fusion and psychological kinship, and a trolley dilemma measuring willingness to sacrifice one's self to save fellow supporters.

Findings: Our mediation model supported the SDPF hypothesis. Fans of Crystal Palace, Hull, Norwich, Sunderland, and West Bromwich Albion were more bonded and more willing to sacrifice themselves for other fans of their club than were fans of Manchester United, Arsenal, Chelsea, Liverpool or Manchester City. Across clubs, memories of past football defeats formed an essential part of fans' self-concepts, thus fusing them to their club. Identity fusion in turn predicted a readiness to lay down one's life to save fellow fans, and this relationship was statistically mediated by psychological kinship.

Practical implications: Understanding that shared suffering can lead to extreme bonding may help sports clubs and policy makers manage crowd behaviour. Clubs will benefit from tailoring brand management and fan retainment strategies to the SDPF hypothesis. In addition, these findings provide insight into the motivations of oppressed or persecuted groups, and such others fused through shared sufferings, helping us better understand and manage the psychological processes that can lead to extreme self-sacrifice.

Research contributions: This is the first study to show mediational support for the SDPF hypothesis in relation to football fandom. The psychological mechanism that may have once bonded embattled foraging groups in our ancestral past, now works in the modern world to unite soccer fans, among other kinds of groups, in their millions.

Keywords: group identity, identity fusion, psychological kinship, sport, football fandom

The extent to which humans cooperate with genetically distant individuals is unusual in the natural world (Gintis, 2003). Willingness to assist others without obvious or immediate personal gain presents an evolutionary puzzle, particularly if there are negative consequences for genetic fitness (Hamilton, 1963), as may be the case in many forms of warfare (Choi & Bowles, 2007; McDonald et al., 2012; Tooby & Cosmides, 2010). In the modern world, sports fans sacrifice time, money, and other resources to support a club comprising many thousands of unrelated individuals. For football (soccer) fans such sacrifices can include costly attendance at distant away games or personally risky clashes with rival fans, compounded by hardcore football subcultures.

The long-term sustainability of football clubs depends on their ability to attract and retain supporters who will support their club through thick and thin. Understanding what motivates devoted fans is also key to reducing the prevalence of 'hooliganism' and crowd disorder (Newson et al., 2018). In line with previous research, we argue that the bonds between football fans are rooted in psychology that evolved for coalitional warfare (Deaner et al., 2015; Winegard & Deaner, 2010), hunting (Morris, 1981), and sexual competition (Deaner et al., 2015; Lombardo, 2012).

We conducted a survey-based study to understand how 'identity fusion' develops among football fans in the UK. Identity fusion is a strong form of group alignment in which both personal and group identities are activated, so that threats to the group are taken personally and group action activates an individual's agentic self (Swann et al., 2012). Related to identity fusion, though distinct from it, is group identification. Both are forms of group alignment but, whereas identification entails a hydraulic relationship between personal and group identity, such that making the one salient makes the other less so (Tajfel & Turner, 1979), identity fusion entails a synergistic relationship between self and group, the one strengthening the other (Swann et al., 2009). Identity fusion is a stronger and more reliable predictor of *extreme* self-sacrifice than identification (for a theoretical discussion see Swann et al., 2009 or Swann et al., 2012 and for a more recent empirical discussion see Bortolini et al., 2018). For this reason, identity fusion is particularly relevant to understanding the passions motivating more devoted fans.

Identity fusion and extreme behaviours

Extreme forms of pro-group action, such as dying for one's country or religion, have been reported cross-culturally and throughout history (Mitchell, 2012). Recent research shows that fused individuals express willingness to make personal sacrifices for the group across a variety of populations (Swann et al., 2010), including football fans (Bortolini et al., 2018) and hardcore fans or 'hooligans' (Knijnik & Newson, 2020; Kossakowski & Besta, 2018; Newson et al., 2018). In addition, there is evidence that fusion motivates survivors of terrorist atrocities to donate both blood and money to their group (Buhrmester et al., 2015), trans people fused with their reassignment gender to undergo irreversible surgery (Swann et al., 2015), and actual (rather than merely hypothetical) readiness to sacrifice self for group, for example among Libyan revolutionaries fighting on the frontline (Whitehouse et al., 2014).

Since numerous studies have linked identity fusion to group members' willingness to fight and die in defence of the group (Swann et al., 2009; 2011; Vázquez, et al., 2017b; Bortolini et al., 2017; Newson et al., 2018), it has sometimes been perceived as necessarily linked to outgroup hostility and intergroup violence (e.g., Kiper and Sosis, 2018; Xygalatas, 2018; Hansen, 2018; but see also Whitehouse, 2018, for a response). However, research has shown that identity fusion also causes people to act for the benefit of the group in peaceful ways, depending on a range of mediating and moderating factors (for examples of peaceful applications of identity fusion, see Whitehouse, 2013; Buhrmester et al., 2015; Buhrmester et al, 2018).

Research has also shown that identity fusion has a broad reach and can motivate peaceful forms of prosocial action, extending not only to humanity at large (Whitehouse et al., 2013), but across the species barrier, e.g. monetary donations in the name of Cecil the Lion, who was killed by a trophy hunter (Buhrmester et al., 2018). This suggests that identity fusion may have evolved to be sensitive to conditions in which group interests are best served by regulating, rather than giving vent to, aggression.

Three main ideas have been put forward to explain the evolutionary history of the identity fusion mechanism and the associated willingness to sacrifice self for group (Swann et al., 2012; Whitehouse, 2018a). First, there is considerable evidence linking identity fusion to familial ties and feelings of psychological kinship (Buhrmester et al., 2015; Swann et al., 2014), as well as studies showing a link between identity fusion and perceived degree of genetic relatedness (Vázquez et al., 2017a), all of which suggests that identity fusion may be an outcome of kin selection (Whitehouse & Lanman, 2014). Second, fusion could also have evolved as a form of extreme reciprocity (i.e., 'I'll die for you if you'll die for me, if as a consequence we both stand less chance of dying') or, third, as a consequence of conditioning cooperation based on previous shared experiences (Whitehouse et al., 2017). These evolutionary explanations are not mutually exclusive.

The shared dysphoria pathway to fusion (SDPF)

Although there is an established body of literature concerning the outcomes of fusion (Swann et al., 2009; 2010; Gómez et al., 2011; Whitehouse et al., 2017), its psychological causes have only recently become a focus of sustained research (Whitehouse & Lanman, 2014; Jong et al., 2015; Newson et al., 2016; Whitehouse et al., 2017; Kavanagh et al., 2019; Whitehouse, 2018). This research suggests that highly *dysphoric* experiences serve as an especially strong binding agent in human groups (Whitehouse, 1996; Atkinson & Whitehouse, 2011; Whitehouse & McQuinn, 2012). Dysphoria is an umbrella term for an array of events experienced as distressing, painful, or frightening. The effects of shared dysphoria on group bonding have been quite extensively studied in ritualistic communities and dubbed the 'imagistic mode of religiosity' (Whitehouse, 1996; Whitehouse & Hodder, 2010; Whitehouse & Laidlaw, 2004). The imagistic mode refers to infrequent, highly emotionally arousing collective rituals (e.g. initiation rites), as opposed to the doctrinal mode where high-frequency, low-arousal collective rituals are commonplace (e.g. attending Mass). In more recent years, research on imagistic group bonding has been extended to non-religious ritual contexts, such as military groups (Whitehouse & McQuinn,

2012; Whitehouse et al., 2014), victims of terrorist attacks (e.g. Buhrmester et al., 2015), and martial arts clubs (Kavanagh et al., 2019).

According to the theory of imagistic practices, dysphoric experiences endure in episodic memory (creating intense or traumatic imagery) to form a stable, essential part of one's individual self-concept (Conway, 2013; Richert et al., 2005; Whitehouse, 1996). Such negative experiences are processed more thoroughly than positively-valanced ones (Baumeister et al., 2001). Reflecting on these events (Jong et al., 2015) and believing that one shares harrowing, self-transformative memories with fellow group members (Newson et al., 2016) via a false-consensus bias (Mullen et al., 1985) are thought to fuse the personal and social self, fostering long-term group commitment (Whitehouse, 2018b). The origins of the SDPF have been explored using computer modelling and experimental techniques, with samples who have experienced harrowing, shared group events including war veterans, martial arts practitioners involved in painful belt whipping practices, and fans of football teams who go through bitter defeats (Whitehouse et al., 2017).

Shared dysphoria may help to explain high levels of identity fusion within families, since sharing the most personally salient trials and tribulations of life primes 'psychological kinship', an effective marker that someone belongs to the same family (Whitehouse & Lanman, 2014; Swann et al., 2014). An additional, proximate explanation for high levels of identity fusion within families is that it results from perceptions of phenotypic similarity (Gómez et al., 2011). Thus, it is possible that the fusion mechanism originally evolved under kin selection, though there are many cases where it is effectively hijacked by military groups and other organisations that put their members through painful ordeals, such as arduous initiations. Such practices produce the same effects as long-term shared experience in families, but more efficiently (Whitehouse, 1996). As such, psychological kinship is diagnostic of identity fusion rather than identification. Fused individuals are not merely reciprocators but *are treated as kin*.

Social cohesion in football fans

The present study focuses on a group domain central to modern life for millions of humans across the globe – football fandom. The 2018 World Cup attracted over half the globe, 3.57 billion viewers (FIFA, 2018). Fans can be so heavily invested in football that match results have been associated with circulatory disease death rates in men at both local (Kirkup & Merrick, 2003) and national levels (Witte et al., 2000). Reasons given for such emotional, financial, and physical group commitment are numerous and complex, ranging from socio-political factors (Dunning, 2000; Doidge, 2015), perceptions of masculinity (King, 1997; Spaaij, 2008), a love of the group (Spaaij, 2006; Newson et al., 2018), or sheer escapism (Giulianotti, 2005).

In contrast to the already substantial literature on identification in sports fans (Branscombe et al., 1993; End et al., 2009; Rocca & Vogl-Bauer, 1999; Wann, 2006; Wann & Branscombe, 1993; Wann et al., 2011), relatively little work has focused on identity fusion. Nonetheless, identity fusion has been associated with a willingness to sacrifice oneself for the club (Bortolini et al., 2018; Whitehouse et al., 2017), harm rival fans at a cost to self as evidenced in economic games (Buhrmester et al., 2018), and engage in collective pro-fan action (Besta and Kossakowski, 2018). Fusion amongst fans has also been found to predict physical fighting with rival fans (Newson et al., 2018), lifelong loyalty (Newson et al., 2016), and heightened stress hormone concentrations (cortisol) during international matches (Newson et al., 2020). FMRI studies of fans in both the UK (Apps et al., 2018) and Brazil (Bortolini et al., 2017) likewise provide evidence for the links between identity fusion and willingness to engage in personally costly outgroup hostility.

The potential to exploit a fused person's tendency to take action that best benefits the group could lead to more subtle approaches to the management of football crowds' passions, even reducing violent clashes between rival fans. For instance, Turkish *ultras* – hardcore fans famed for pyrotechnic displays – are often written off as irrational, violent, and wild by mainstream society (and sometimes themselves) (Nuhrat, 2018). However, these fans manage and maintain complex social networks where they regain agency and access to meaningful football identities by selling club merchandise, organising transport to away games, protesting against police restrictions,

putting their club's finances first, and even giving up secure jobs to focus on their passion for the club. Similarly, Doidge et al. (2020) show how the *ultras* movement has become a dominant fan style over the last 50 years and are cultures built not only on a love of the game, but also on the close relationships that are forged by continuous participation in fan communities. By understanding the strong social bonds among fans, clubs will be in a better position to encourage the positive social behaviours that are often overlooked in extreme fandom. In this article, we help unpick the psychological causes of these bonds among fans of the UK's Premier League.

While committed fans are found in the most successful through to the least successful clubs, the long term commitment of fans in the face of adversity warrents special attention. We propose that contact sports, such as football, are ideally placed to tap into our coalitional psychology and the associated potential for lifelong loylaty to the group (Winegard & Deaner, 2010; Newson et al., 2016). For instance, the so-called 'West Ham Syndrome', whereby fans support unpredicitable and inconsistent 'products' (clubs) in ways that would be unheard of for other products has been a curiosity to marketers for many years (Parker & Stuart, 1997). This observation is particularly intriguing given that people tend to be loss aversive, with their participation in live sporting events best predicted by reference-dependent points, or prior expectations (Coates et al., 2014). Furthermore, fans of teams in Germany's Bundesliga were found to BIRG (bask in reflected glory) following relegation, rather than CORF (cut off reflected failure) (Koenigstorfer et al., 2010; Wann and Branscombe, 1990). This suggests that social identities are paramount to particpation in football, rather than vicarious winning; but how far can these experiences go to further glue fans to their group?

Present study

We set out to test the SDPF hypothesis described above by conducting a survey with fans of the five most successful and five least successful clubs from the UK's top football league, the

Premiership[1]. In 2017, Whitehouse et al. showed that fans of losing teams were more likely to report a sense of moral duty to their club and choose to sacrifice themselves for the sake of an ingroup member in the classic trolley dilemma, than fans of winning teams. The effects of team support on self-sacrificial responses and pro-group moral endorsements were both mediated by identity fusion. Here, we again analyse the relationship between identity fusion and team success, but stratify the analysis to provide descriptive information and inferential comparisons between the selected clubs, rather than only comparing 'successful' vs 'unsuccessful' clubs at a group level.

We predicted that fans of unsuccessful clubs would report higher identity fusion than fans of successful clubs (Hypothesis 1). The present paper also extends Whitehouse et al. (2017) with novel analyses of two previously unreported variables: dysphoric arousal and psychological kinship. First, we analyse the dysphoric pathway to fusion using coded, qualitative responses from the dataset. We predicted that dysphoria would mediate the relationship between club performance and fusion (Hypothesis 2).

In addition, we investigated an alternative hypothesis, cognitive dissonance, to explain the high levels of bonding among fans of unsuccessful teams (Newson et al., 2016). Dissonance theory would predict that years of supporting a poor performing team would result in cognitive dissonance between one's past actions and one's current views of the club. Fans of unsuccessful clubs need to rationalize their voluntary, sustained investment involving unpleasant experiences of watching their club lose. One way to achieve this may be by strengthening their current support for the club and their affiliation with their fellow fans (Aronson & Mills, 1959; Festinger, 1962; Gerard & Mathewson, 1966). We thus also include duration of support as a proxy for dissonance, as well as testing the social origins of support (i.e., reduced voluntary support). We predicted that the SDPF would be stronger than a dissonance path (Hypothesis 3).

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[1] Some of the data from the present dataset was previously used in one of Whitehouse et al.'s (2017) empirical studies, but here we report new analyses from this large dataset.

Finally, we explore the relationship between identity fusion and self-sacrifice, as well as one mechanism that may explain why highly fused persons are especially willing to self-sacrifice for the group: believing that ingroup members are like family and thus sacrifice is dutiful (Whitehouse & Lanman, 2014). Past research has shown that highly fused Americans were especially willing to sacrifice for victims of a terrorist attack, a relationship mediated by perceiving fellow Americans as kin (Buhrmester et al., 2015). Here, we build upon this past work and predict that highly fused fans would be significantly more likely to endorse pro-group self-sacrificial behaviour (Hypothesis 4) and that the relationship between identity fusion and self-sacrifice would be mediated by psychological kinship (Hypothesis 5).

Materials and methods

Clubs

A decade of club statistics (2003-2013; statto.com, 2014) was used to select the five most consistently successful and the five least successful clubs in the UK's top football league, the Premiership. Clubs who had played at least two previous seasons in the Premiership were ranked according to total points (provided by the Football Association). Only clubs that counted as Premiership clubs were included to reduce differences in media exposure and fanbase size. These rankings generally corresponded well with rankings of number of relegations, percentage of games won and lost, and total goal difference. The top five clubs selected for analysis were: Manchester United, Arsenal, Chelsea, Liverpool and Manchester City. The bottom five clubs were: Crystal Palace, Hull, Norwich, Sunderland, and West Bromwich Albion. Importantly, although cultural and structural changes can occur rapidly within sport, fans' evolved coalitional psychology is unlikely to alter in a short timeframe. That is to say, while we hope that these clubs are of interest to readers, they are just examples and other clubs with particularly good or poor track records, e.g. from other nations, could be substituted.

Participants

An online questionnaire (*N=752*) was advertised across social media, online fan forum groups, dedicated fan blogs, and student networks in 2014. The online nature of the study allowed the research to reflect the cross-national diversity of the cohort, as teams from across England were included. To prevent the research purpose being revealed, supporters of all teams were given the opportunity to participate, but the relevant teams' fan groups were predominantly contacted to advertise the study. There was variation in response rates and we were concerned that our results may have been unduly influenced by the large number of Sunderland fans in the sample (*N=290*). We therefore re-ran all analyses excluding Sunderland participants and the pattern of results remained consistent. Variation in response rates was largely due to the support of a few popular bloggers who were enthusiastic about our research and advertised it to fellow fans who follow their social media. A £100 prize was offered as an incentive to complete the study. Ethical clearance was granted by the School of Anthropology and Museum Ethnography Research Ethics Committee, University of Oxford.

Twenty-seven participants selected a team other than the 10 focal teams of analysis, and we dropped their responses from the dataset, leaving $N = 725$. Of these participants ($M_{age} = 39.50$, SD = 15.77, range = 18-96), 89.0% were male (11.0% female), which represents trends for football fandom being a more popular pursuit among men in the UK. Educational levels broadly reflected census data for leaving education at or before the age of 16 (16.4%) or gaining an apprenticeship (3.9%), college education (29.76%), an undergraduate degree (30.2%), or postgraduate degree (23.9). The sample's ethnic background also broadly reflected the UK with the majority reporting themselves as Caucasian (91.4%), and a smaller percentage as Black or Mixed Black heritage (1.7%), Asian or Asian heritage (1.7%), or Latin American (0.3%). A further 5% chose not to report this information. In preliminary analyses, there were null or weak zero-order relationships between educational background, age, gender and outcome variables. Controlling for these demographic variables did not significantly affect the pattern of relationships between the reported predictors and outcomes, thus they were dropped from the final analyses.

Measures

Participants were asked which club they supported, their age, how long they had supported their club, and with whom they first shared their passion for their club with (*no-one*, *family*, *friends*, *location*, or '*other*'). Identity fusion was assessed using the 7-point verbal scale developed by Gómez et al. (2011) with 'my club and fellow fans' as the target group ($M = 4.28$, $SD = 1.23$, $\alpha = .89$), including 7 items such as *'[My group] is me'* and '*I am strong because of [my group]*'). Participants were asked to rate psychological kinship on a 7-point scale developed by Buhrmester et al. (2015) using the following 3 items ($M = 4$, $SD = 1.51$, $\alpha = .88$):

My club is like family to me

If a fellow club member is hurt or in danger, it is like a family member is hurt or in danger

I see fellow members of my club as brothers and sisters

Dysphoria was assessed with a composite of a self-reported variable (emotional difficulty) and a coded qualitative response (emotional arousal), with a maximum score of 5. Emotional difficulty was self-reported with the following item on a 5-point scale: '*How emotionally difficult is it to be a fan of your team?*'. Emotional arousal was assessed by first asking participants to write about an 'important or meaningful memory' concerning their club ($n = 474$). These qualitative responses were coded by two independent coders on a 1-5 scale for how emotionally aroused the individual was. A mean score from the two coders was used for analysis ($\alpha = .67$).

Endorsement of self-sacrificial, pro-group behaviour was measured with a modified version of an intergroup trolley dilemma (Swann et al., 2010). Participants were asked to contemplate sacrificing their own life to save the lives of five fellow club members imperilled on tracks with a trolley hurtling toward them. They rated their willingness to lay down their life on a scale of 1-7, then selected 'sacrifice' or 'save' in a second forced-response question.

Home attendance for the 2013-14 season when psychometric data was obtained was used as a proxy for club size. The five clubs were divided into the five top and bottom clubs. In addition, we used continuous 'points' variables, which are awarded by national football bodies and reflect a

season's success. We used all time points for the ten year period of analysis ($points_{total}$) and the points for the season that ended immediately before the 2014 surveys, i.e. 2012-13 ($points_{season}$). Home attendance and points were obtained from online sources specialising in football statistics (statto.com; WorldFootball.net). Numbers of Twitter followers were also included as an alternative proxy of club size. An historic measure was not available, so followers from 2019 were used and while numbers for all clubs were likely to have increased, the ratio should be approximately similar. We also included local socio-economic indicators that could unduly bias results, e.g. by influencing loss aversion. These included unemployment, lack of qualifications, weekly earnings, and mortality rate. These were obtained from the UK's Office for National Statistics for the city or borough of London nearest to the club's stadium.

Analysis

Data were analysed using SPSS v25. Mediation analyses were conducted using Hayes' PROCESS macro for SPSS with 5000 bootstraps. Reported significance is two-tailed in all cases. Adequate sample sizes were determined using *a priori* power analyses in G*power with effect sizes > 0.3, power at .95, and an error alpha rate at .05 (Faul et al., 2009).

Results

Correlations are reported in Table 1 along with means. Q-Q plots suggested near normal distribution for our key variables among fans of both successful and unsuccessful clubs. Skew and kurtosis were less than 2 and greater than -2 in all cases (*SE* = .09 to .18), except for emotional arousal (skew = -1.73, *SE* = .11; kurtosis = 3.56, *SE* = .22). However, as this variable was only used for OLS regressions in mediation analyses, additional non-parametric analyses were not deemed necessary. Stratified psychometric descriptives are provided in Table 2 and economic indicators and fan base descriptives are in Table 3.

[TABLE 1 ABOUT HERE]

[TABLE 2 ABOUT HERE]

[TABLE 3 ABOUT HERE]

Social bonding is significantly higher in fans of consistently unsuccessful clubs than fans of successful clubs

To test whether social bonding was higher among fans of unsuccessful clubs than successful clubs we first compared identity fusion and psychological kinship scores between the two groups. Consistent with the hypothesis, fusion was higher for fans of the five least successful clubs ($M = 4.43$, $SE = 0.05$) compared to fans of successful clubs ($M = 3.94$, $SE = 0.1$), $t(723) = -4.84$, $p < .001$, with a fairly small effect size ($d = .37$). The same was true for psychological kinship ($M = 3.73$, $SE = .12$; $M = 4.12$, $SE = 0.06$), $t(723) = -3.13$, $p = .002$, with a smaller effect size ($d = .26$).

A simple descriptive stratified analysis revealed a trend within the most and least successful groups, such that the more successful the club the less bonded its fans reported feeling (Table 2). Interestingly, Manchester City, a club that has only had recent success compared to the other successful clubs, behaved more like the unsuccessful clubs in terms of group bonding. For instance, these fans scored significantly higher for psychological kinship than their long-term high performing rivals, Manchester United ($M = 4.26$, $SD = 1.42$; $M = 3.26$, $SD = 1.94$), $t(83) = 2.69$, $p = .009$, with a medium effect size ($d = .59$); but were not significantly less fused than the poorest performing club, Hull ($p = .236$)

Dysphoria mediates the relationship between club performance and social bonding

To test the mediational role intense dysphoria might play in the relationship between club performance and fusion we followed the steps for establishing statistical mediation as described by Hayes (2017). In the model, club performance (winners = 0; losers = 1) was the predictor, fusion the outcome, and dysphoria (self-rated emotional difficulty of being a fan of one's club and coded emotional intensity of participants' written memorable club experiences) the mediator. We controlled for club size (home attendance), age and duration of support by entering these variables as covariates. The results supported the hypothesis that fans of the least successful clubs reported more fusion with their club and fellow fans, via having experienced more dysphoria (Fig. 1). Home attendance ($b < .001$, $p = .008$) and age ($b = -.01$, $p = .002$) both predicted dysphoria on the *a* path

but the covariates were *n.s.* at all other points. Replacing home attendance with Twitter followers produced statistically similar results, except that Twitter followers did not predict dysphoria ($p >$ .717). The model was qualitatively the same after removing covariates. Using either emotional difficulty or arousal as mediators rather than the composite dysphoria variable also produced significant mediation models. Finally, using continuous *points$_{total}$* or *points$_{season}$* as independent variables also produced similar results.

[Fig. 1 ABOUT HERE]

We also checked to see if regional differences could explain fusion, e.g. economically deprived regions may experience more loss aversion. However, unemployment, weekly earnings, and mortality rate did not predict fusion, nor did *points$_{season}$* (Table 4).

[TABLE 4 ABOUT HERE]

Dissonance does not result in fusion

To see if a cognitive dissonance explanation was consistent with the data, we looked at the duration of participants' support. We ran a chi-squared test to compare how long fans of successful versus unsuccessful clubs had been supporters and repeated the mediation model but included duration of support as a covariate. Fans of losing clubs were more likely to have supported their club for longer ,$\chi^2(1) = 21.93$, $p < .001$ with a small effect size ($r = 0.17$). For instance, 75.1% of losing fans had supported their club for over two decades, compared to 56.8% of winning fans, though this was not found to contribute to differences in fusion rates when entered as a covariate (duration of support did not predict dysphoria ($p = .649$) or fusion ($p = .687$) after controlling for our variables of interest).

As dissonance is theorised to work under voluntary conditions, we also tested the social origins of participants' fandom, as a proxy of how much choice fans had in selecting their group – see Whitehouse and Lanman (2014). The results suggested that sport fandom in our sample had social origins: 73.4% of fans reported sharing their passion for their club with family members; 32.1% reported their friends; 20.6% reported the local area; and 2.2% selected 'other' (most of

which described specific male relationships, e.g., 'my grandfather' or 'my uncle'). In contrast, 9.8% reported engaging with their club alone. Fans with lone and social origins did not report a difference in fusion scores ($p = .769$), though there were significantly more loners supporting successful clubs compared to unsuccessful clubs with a small effect size ($\chi^2(2) = 12.69$, $p = .002$, $r = .13$). The club reporting the most social ties was the least successful club, Hull (92.2%) whereas the club reporting the fewest social ties was historically highly successful, Chelsea (63%).

Highly fused fans are significantly more likely to endorse pro-group self-sacrificial behaviour, an effect mediated through kinship

To test the relationships between self-sacrificial behaviour, identity fusion and psychological kinship, we conducted another mediation analysis. The mediation model was supported (Fig. 2). Once controlling for psychological kinship, there was no direct effect of fusion on self-sacrifice, suggesting full mediation.

[Fig.2 ABOUT HERE]

Fans of unsuccessful clubs were more likely to endorse self-sacrifice in the forced choice scenario ($M = 2.77$, $SD = 1.96$) compared to fans of successful clubs ($M = 2.25$, $SD = 1.62$), $t(723) = -3.24$, $p = .001$, with a small effect size ($d = .28$). Crystal Palace fans were most likely to report self-sacrifice (34.5% selected 'sacrifice') and Arsenal were least likely (9.4%), see Fig. 3. In this analysis, Manchester City fans appeared to behave more like the less successful clubs (30.4% opted for 'sacrifice'), although they did not significantly differ when compared to fans of more successful clubs, such as Manchester United ($p = .223$).

[FIG. 3 ABOUT HERE]

Discussion

Fans of the most long-suffering clubs were more fused to their clubs and considered their peers to be more like kin than did fans of consistently successful clubs. This is in line with previous research suggesting that intensely dysphoric group experiences lead to a perception that 'what makes me, me' is shared with other group members (Whitehouse & Lanman, 2014). The effect of

club success on identity fusion was mediated by dysphoria. Shared dysphoria was measured using both pre-existing scales and a subjective coder approach, thus producing triangulated evidence. We also found that fusion predicted self-sacrifice on the trolley dilemma, via psychological kinship, in support of previous research (Buhrmester et al., 2015; Swann et al., 2014). The effect sizes were small to medium in a relatively large, natural sample of heterogenous football fans, making them broadly comparable to methodologically similar studies (Bakker et al., 2019).

Football fans tend to be highly loyal to their group (Richardson & O Dwyer, 2003; Newson et al., 2016), just as the territorially-based kin groups of our ancestral past would have been. Group alignment is a strong predictor of how willing fans are to 'go down with the ship' when their team loses (Wann & Branscombe, 1990). However, even when a team wins, there are the nuances of the game to reflect on and become frustrated about, and by the following week or even sooner, the team's fate hangs in the balance once again. Rather than 'cutting off reflected failure' (CORFing) (Snyder et al., 1986), we found that fans of perennially losing teams incorporate group defeat into their personal identities, uniting and fusing them to the collective. This is consistent with the well-evidenced theory that weakly aligned group members tend to CORF in the face of group losses (Kwon et al., 2008). Further research is required to disentangle the relationship between identity fusion, identification and CORFing.

An alternative explanation for the exceptional loyalty of fans of losing teams is provided by dissonance theory (Aronson & Mills, 1959; Festinger, 1962; Gerard & Mathewson, 1966). For cognitive dissonance to occur, one's willingness to suffer for the group needs to be perceived as voluntary (Whitehouse & Lanman, 2014). Our data, however, suggest that most fans are recruited through existing relational ties, rather than by choosing freely which club to support. For such individuals, withdrawing support for one's team, as a result of poor performances on the pitch, would have negative social consequences. Nonetheless, this measure of cognitive dissonance is open to broad interpretation. We therefore included a second test for the cognitive dissonance hypothesis: duration of support as a proxy for magnitude of investment in the club and thus a

potential predictor of dissonance when contemplating disloyalty. In line with Newson et al. (2016), we found that although team fate predicted fusion, duration of support did not.

We explored whether a self-selection account could explain our pattern of results. Specifically, might our sample of fans from unsuccessful clubs be especially highly fused and thus be untypical of the population of fans from that club as a whole? If self-selection were a consistent explanation, we would expect anormal distributions of fusion and kinship scores for fans of unsuccessful clubs relative to successful clubs. This was not the case: an examination of Q-Q plots for both sets of fans revealed close to normal distributions with no discernible systematic deviations. This suggests that the populations of supporters for successful and unsuccessful teams are similarly distributed, but with different overall means.

The selected clubs may also have skewed results. For instance, the most successful clubs were all from large cities (Manchester, London, Liverpool), whereas unsuccessful clubs, though urban, were from smaller towns and cities (three cities, Hull, Sunderland, and Norwich; a borough of London, Croydon; and a town 5 miles North of the large city Birmingham, West Bromwich). It could be argued that larger populations are likely to be more heterogeneous and harder to maintain. However, analyses showed that although fan base was a good predictor of identity fusion (smaller fan bases had higher identity fusion), this variable was non-significant after a club's total points (i.e. their success) was accounted for.

This research was restricted to ten clubs associated with the Premier League. Clubs that did not qualify for analyses, i.e., clubs that had served less than two seasons in the Premier League, were likely to have had more dysphoric match outcomes. However, we would have lost control in terms of media exposure and fan base if sampled clubs spanned multiple leagues, so we chose the league that had the most fans we could collect data from. Future studies could select lower league clubs, where bonds may be even stronger. We acknowledge that testing for statistical mediation with cross-sectional data does not speak directly to issues of causality, which can be addressed with future longitudinal designs. Furthermore, self-reported measures, although useful as indicators,

may not give an accurate representation of the real world (Podsakoff & Organ, 1986; Schwarz, 1999).

Sports Management Implications

In some cases, fusion among fans can turn to hostility and violence, as seen in many football subcultures, such as the hooligan scene in the UK during the 1980s, or current rising rates of Brazilian football violence among *torcidas organizadas,* (Newson, 2017). Whole cultures have developed around football violence and perceived masculinity, epitomised in Millwall's iconic chant of "no one likes us, we don't care" (Robson, 2000). Arguably, however, the extreme, pro-group sentiments of highly fused fans need not be violent. Perhaps the compulsion to act for the group's benefit could even be channelled into self-policing behaviours, whereby fans opt for peaceful behaviours, when it benefits their group. Policing football in London alone costs around £4 million per annum (The London Assembly, 2018). If football environments are set up to be minimally threatening with regards to the positioning of rival fan groups and the presence and behaviour of police, we may see more peaceful expressions of identity fusion (Pearson & Stott, 2016; Reicher et al., 2007; Stott et al., 2008).

Implications for club management include (a) brand management, (b) fan retainment strategies, and (c) community or foundation development. First, clubs could benefit as brands by extracting the best from dysphoric events (e.g., relegations and derby losses) and treating them as opportunities to remind fans that they are 'in it together'. This can be achieved through social media strategizing and other narrative outlets by emphasising that fans have shared unique, group-defining experiences. It is anticipated this will help to cement fan loyalty through the next season and beyond (Newson et al., 2016). Importantly, clubs may benefit from this focus on non-product-related attributes of the brand, which have been found to play a more important role in brand loyalty among German fans, than product-related attributes (Bauer et al., 2005). This is not to downplay the importance of fans' continued need for a club image that resonates with them (Beccarini and Ferrand, 2006).

Next, clubs can use these findings to develop fan retainment strategies. For instance, the top clubs may have high numbers of 'fair-weather' fans or 'glory-hunters', consistent with lower levels of identity fusion. Perhaps these fans are motivated by values linked to achievement, dominance, and competitiveness rather than fusion with the club. Future research could empirically investigate the motivating role of factors other than identity fusion in football fandom. Furthermore, research with French ultras has revealed that committed fans will not necessarily derogate rivals following loss but are rather more preoccupied with the ingroup (Brenache-Assollant et al., 2007). Tapping into ingroup concerns rather than outgroup rivalries, e.g.m working with fans to plan for high risk matches in order to enable self-policing, could help reduce the temptation among less committed fans to CORF.

Finally, football clubs, with their growing and often extensive links to charitable foundations, may use these findings to think about broadening inclusion and diversity. If highly fused fans are willing to sacrifice themselves for five imaginary, anonymous strangers on the merit of them supporting the same club in the trolley dilemma, how far can a shared football identity be taken to promote a sense of kinship? The Twinning Project, which pairs major clubs with their local prison to deliver football-based qualifications in a bid to reduce reoffending, is one example of how clubs' community foundations can help form meaningful football-based bonds that benefit society (Newson & Whitehouse, 2020). How can clubs with high corporate social responsibility implement research-driven policies (Walters & Tacon, 2010) to improve other critical social areas, such as sexism, racial and ethnic relations, or homophobia? Such clubs can draw on fans being united in kit and branding, united in the face of defeat, and ultimately, united in humanity.

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